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**EXPLICIT SYNTACTIC  
TREATMENT OF RELATIVE  
AND PASSIVE  
CONSTRUCTIONS:**

A case study on a sequential  
bilingual Romanian- and Italian-  
speaking child.

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## Introduction

From March to June 2015 I did my internship in two structures: “Aldo Moro” Primary School in Boara Polesine (RO) and “Frazione Granzette” Primary School in Granzette (RO). They were both part of Istituto Comprensivo 4 in Rovigo.

The intent of doing an explicit teaching of syntactic movement for my degree dissertation already existed when the internship started, but I did not know yet what the addressee of the intervention would have been like. During this period I would have had the opportunity to meet, observe and choose one or more children to work with. I followed Italian lessons in two or three classes per school.

Before the internship started, it was important to explain to teachers what my intent was: it was crucial for me to observe every student in order to be able to recognize a child with a different linguistic background with respect to his/her peers, and with whom the project I thought of would have been worth doing.

Teachers, therefore, indicated me some classes in which, according to my requests, there were children I could have observed and, eventually, worked with.

It was only after a few weeks that I thought it would have been interesting to see if a treatment similar to that of Levi and Friedmann (2009) could be possible and effective even having as receiver a child speaking Italian as second language (L2).

No previous work has been done on this specific topic, so my intuition was actually not based on any existing data. I focused therefore on two children in particular: PL (8;0) and JM (7;4).

PL is a Chinese child, born in Italy. Despite his birth nation, his Italian language knowledge was so scarce that, after having done the testing I had planned to do - whose results were extremely low- I had to abandon the project with him, since even the simplest communication between us was really costly.

I therefore continued the treatment with JM, a Romanian child, born in Italy as well. After her birth, she lived in Romania for almost three years, and then came back to Italy at the proper age for kindergarten.

My theory was that her linguistic experience could have had crucial implications on some aspects of Italian acquisition, especially as far as some structures were concerned.

A child who experiences his/her second language acquisition in a context like that of the kindergarten is exposed to different stimuli, if compared to those received by a child



who gets in touch with a language through parents and relatives in general.

The former, actually, gets “poorer” stimuli from his/her peers, whereas the latter is exposed from his/her birth to the “richer” adult-like speech. Having therefore in mind the steps that characterizes typically-developing children's language acquisition, what would the acquisition of complex structures, such as relative clauses and passives, be like, in a situation like JM's?

With this intuition in mind, I thereafter started the experimental project with the child.

Studies on sequential bilingualism provide different opinions about times and modalities that characterize second language acquisition. More recent research support the view of bilingualism as an extremely precious and resourceful condition, being it consecutive or sequential. Indeed, also a child exposed to a L2 after some years of life can achieve a full competence in it, and can benefit of several advantages from social, cognitive and linguistic perspectives.

An enormous role, however, is played by the quality and the quantity of input to which children are exposed to, and by several other factors (economical, personal, social, among others) that can deeply influence the children from a linguistic point of view.

JM, indeed, experiences the particular condition of a bilingual child, well integrated in her host country, but born from immigrant parents, who speak almost exclusively the Romanian language at home.

On the basis on these assumptions, testing JM on some complex structures of the Italian language and carrying an attempt of explicit syntactic teaching with her would have been interesting in order to shed light both on bilingual issues and on the effectiveness of metalinguistic treatment on a different kind of addressee.

Following the method adopted in Levi and Friedmann's study (2009), JM was tested on relative and passive constructions, and on her general level in Italian. Thence, an explicit teaching of the syntactic movement involved in the aforementioned structures has taken place, followed then by a final re-testing of her achieved abilities.

I could however refer to Levi and Friedmann's only for the structure of the whole project, since, as regards to allocation of time and activities, all I could do was just “build” my plan step by step and accommodate, adapt and review the scheme according to JM's and context's requirements. Indeed, I had, during these months, to step back several times, to change initial designs in favour of other ones, to find compromises with the child's family, and so on. A treatment experience, thus, is something one has to build, shape, and mould, according to the addressee and to the context in which he/she

lives.

The main goals of the experiment consisted in understanding if some affecting factors in a child's bilingual experience could manifest themselves also through non-standard performances on specific structures of the L2, and, especially, verifying whether an explicit syntactic teaching would have had positive results also on this participant.

The work is divided as follows: chapter 1 provides a general description of the steps characterizing language acquisition (1.1) and an analysis of bilingualism, especially the sequential one, presenting also a brief observation about the status of the bilingual experience of immigrants' children (1.2). In chapter 2 and 3 we will see a syntactic analysis, both in Italian and, more briefly, in Romanian, of the structures involved in the experiment: relative clauses and passive sentences. Chapter 4 provides a report of the main cases of syntactic treatment carried out on different kinds of populations, namely people affected by syntactic specific language impairments, hearing deficits or Broca's aphasia, and typical-developing children at very early ages. Chapter 5 and 6 are the core of the work, as they present the experiment: in chapter 5, the pre-teaching testing phase is described, while chapter 6 analyzes the teaching activities which have been done during the treatment and shows the post-teaching performance of the child.

# Chapter 1

## The Acquisition of Language and the Bilingualism

### 1.1 Language acquisition steps

#### 1.1.1 Introduction

Language is a human-specific feature, a natural system of communication which people use to convey messages, emotions, thoughts, and opinions.

The means through which language can be spread are different according to whether we are dealing with oral or sign languages, however every structure constituted by codified symbols and governed by specific rules, which allows humans to communicate, be in a society and act into it, is considered a language.

The principal characteristic which makes language “*one of the wonders of the natural world*” (Pinker, 1995:7) is the fact that, despite its enormous complexity, it evolves naturally and effortlessly in the human mind since, and even before, birth. It is a biological part of our brain, which we acquire without explicit teaching.

Actually, if we think about it, every animal species has a natural capacity, which belongs to its biological equipment. Let us think about spiders and their ability to build perfectly geometrical webs, about bees and their dance, about the exceptional capacity of birds to sing or to orientate and migrate by keeping precise and coordinated flocks. Humans, in their turn, have the exceptional prerogative of language (Pinker, 1994; Guasti, 2007).

Since 1960 the theory which has caught on and has been accepted by the majority of scholars is the one based on *Innatism* (Chomsky, 1957). It states that all people since birth already have in their mind a set of universal rules, called *principles* which compose the Universal Grammar (UG). UG constitutes the basis for everyone to acquire any type of language, it represents the totality of innate intuitions that people have and that allow one to develop a linguistic competence effortlessly, namely acquire language and maturate a critical approach to it, e.g. be able to make judgements on one's mother tongue(s). Every language, in fact, is composed of universal principles, which are common to all languages, and a set of *parameters*, language-specific characteristics which change according to the idiom.

To make an example, *recursiveness* is a principle which is found in every language. It

is the possibility to potentially build up a sentence within another sentence, therefore creating a structure formed by a subordinate clause depending from another clause, which in its turn depends on another clause and so on, as I said, potentially endlessly. The only limit is, indeed, memory. (Haegeman, 1996)

- (1) a. John brought a book to Mary.
- b. Bill said that [John brought a book to Mary].
- c. I heard that [Bill said that [John brought a book to Mary]].

To give an example about parameters, instead, languages distinguish between the possibility of having or not the *pro*-drop feature. Some idioms can in fact omit the subject in temporalized sentences (e.g. Italian), while for others this possibility gives place to ungrammaticality (e.g. French or English).

The existence of UG, associated with an exposure to a specific language, builds the linguistic competence of people. The stimulus is, in fact, an important part in language acquisition, since it is the combination of UG and language-specific input that allows one to acquire a language. There are, in fact, important documented cases of people who, deprived from any contact with other human beings and therefore from any possibility to experience language, could not actually develop any kind of real communication (see, for example, the famous case of Génie, analyzed by Curtiss in 1977).

An important distinction to be done in this domain is the one between *acquisition* and *learning*. We have said that all people, in normal conditions, acquire their mothertongue(s) without any need in special education or cognitive efforts. Actually, this biological attitude of recurring to UG to set the parameters for the proper language is an ability which is limited to a period of time, which still today is widely debated, but which more or less it has been agreed it corresponds to the time between birth and beginning of puberty. The existence of a *critical period* is firmly supported by Lennenberg (1967), and is based on the assumption that, in case of cerebral damages, language recover is more successful and easier among children than among adults.<sup>1</sup>

Moreover, let us just think about the fact that we are able to learn new languages during our whole life, no matter how old we are. However, it is far simpler for a child to

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1 Actually, it has been proposed that more critical periods influence the acquisition of a language, according to the linguistic component taken into consideration. For example, the end of the critical period for the phonetic acquisition comes before the closure of the critical period for the acquisition of syntax (Guasti, 2007:49).

acquire a new language, than it is for a 50-year-old person. That is why a distinction has been done between *acquisition*, characterized by lack of effort and natural and spontaneous processes, and *learning*, namely a different situation of acknowledgment of a new idiom, done through teaching sessions, training, exercise, explicit thinking and dedication (Guasti, 2007; Bhatia and Ritchie, 1999).

The various stages of acquisition of a language have been widely studied and tend to respect more or less the same phases, regardless of the language taken into consideration. In the next sections, we will see all these steps.

### **1.1.2 First approach to language (0 - 5 months)**

The fact that children start to produce their first linguistic expressions around the age of 10-12 months does not mean that their linguistic competence begins only at that point. Just after few days of life, and studies show that this happens even before, in the mother's womb, infants can discriminate between sounds which are linguistic and those which are not. This happens because, as we said, there is a biological and innate predisposition to language which allows them to recognize meaningful stimuli from other ones, and, just after birth, infants could potentially become speakers of any language(s).

Already around the 4th day of life, babies can discriminate between the language, or the languages, which characterizes their environment, and those which do not, namely they are able to notice their mother tongue and distinguish it from other idioms (Guasti, 2002).

This amazing capacity that newborns have has been documented in several studies carried on infants after few days or few months of life. The first one is due to Mehler et al. (1988), who assessed the level of discrimination capacity between French and Russian performed by a sample of 4-day-old French babies.

The main technique which has been used in order to carry on these experiments is called HAS (*high-amplitude sucking procedure* - Jusczyk, 1997). Measuring infants' sucking rate, while being exposed to their mothertongue, to foreign language and neutral stimuli, has made possible to determine, by detecting when the sucking frequency changed, whether or not did infants perceive any difference among the received inputs. This ability, moreover, does not depend on the voice that produces the input: babies are able to discriminate their native language's stimuli even if produced by a non-familiar

person.

Being impossible that infants could discriminate languages according to lexical cues, how are they able to do so? After many studies, scholars have joined the conclusion that babies recognize languages according to their *rhythm*. Languages, indeed, can be classified by reference to their rhythmic features (Pike, 1945; Abercrombie, 1967; Ladefoged, 1975):

- i. Stress-timed languages (Dutch, English, Russian, Swedish);
- ii. Syllable-timed languages (Italian, French, Greek, Spanish);
- iii. Mora-timed languages (Japanese, Tamil).

Evidences to this hypothesis have been found in the results of some studies which have verified that, actually, babies can discriminate between two languages from different rhythmic classes, but not from the same rhythmic category (Nazzi et al., 1998; Christophe and Morton 1998).

From the 4th or 5th month of life, however, children are able to discriminate also between languages belonging to the same rhythmic class, but only for the fact that they have been exposed to their native tongue for a longer time and have become more familiar with it (Nazzi et al., 2000).

### **1.1.3 First linguistic production (6 – 10/12 months)**

When the child has focalized on his/her mothertongue, and starts maturing the phonological apparatus, i.e. between the 6th and the 8th month, *babbling* phase begins. In this period the baby produces the first sounds which resemble those of language, namely sequences of repeated syllables, usually respecting the structure CVCV and without explicit meaning ([bababa], [mamama]).

Initially, infants do not set their babbling according to their native language: it is, in fact, a not-language-specific phenomenon, since the rules it follows refer to UG.

The first stage of babbling is called *canonical*, and identifies the period in which the sequence CV is always the same ([dadada]); it turns into *variegated*, instead, when CV structures change and prosody and rhythm modify more towards the native idiom's features ([tada]).

Babbling is a crucial milestone in language acquisition, since, if considered abnormal or delayed, it is a mean to detect if any language impairment or delay may exist (Guasti, 2002; Guasti, 2007).

Petitto and Marantette (1991), moreover, found that even deaf infants exposed to sign language begin a *manual babbling*, which presents all features and phases of the vocal one.

These findings talk us a lot about the beautiful process which is language acquisition, and the full spontaneity and instinctiveness by which it takes place. A study which gives even more confirmation to this theory, is the one carried on by Goldin-Meadow and Mylander (1998). It showed that a sample of deaf American and Chinese children, who had not been exposed to any sign language, were able to build a language-typical featured gesture system on their own, in order to communicate.

At the age of 10-12 months, there is a period (more or less 4 or 5 months) in which babbling and *first words* productions overlap. Boysson-Bardies and Vihman (1991) found that there actually is a continuity between babbling and first produced words: it is not a coincidence, therefore, if, in the majority of cases, at least for what Italian toddlers are concerned, the first words to be pronounced are *mamma* and *papà* (*mum* and *dad*).

#### **1.1.4 Lexical development (10/12 – 18 months)**

Infants, as we said, start producing their first words already during the babbling phase. They are however all restricted to concreteness, always referring to something which is present and specific in child's mind. There is not a referential use of words yet.

First words usually display as *protowords* (or *invented words*) which the child uses in order to refer to specific objects, as *context-bound words*, which are usually understood only by those who spend more time with the baby, and as *real words*, called this way since they resemble adults' words and are used in different context in order to vehiculate messages (Guasti 2007).

Comprehension precedes production: between 8 and 17 months, the child is able to understand from 26 to 186 words on average, whereas he/she can produce between 1 and 32 words (Caselli and Casadio, 1995).

Since about the 18th month, it takes place what is known as *vocabulary explosion*. “*Kids discover things have names, they switch to using more efficient mechanisms and they use their first words to help discover new ones*” (McMurray, 2007).

During this stage, they are able to acquire even 10 words a day. McMurray, who is very concerned in this issue and studied a mathematical model to describe vocabulary explosion, states that in order this phase to have place, two conditions have to be true:

(1) children have to learn more than one word a time and (2) they have to experience a greater number of difficult or moderate words than easy ones.

### **1.1.5 Morphosyntactic development (19-36 months)**

*“It seems that the attempt to write a grammar for a child raises all of the unsolved problems of constructing a grammar for adult speech, multiplied by some rather large factors.”* (Chomsky 1964, quoted in Bellugi and Brown, 1993:35).

It has been argued that children acquire their grammar through imitations of adult-speech. This hypothesis, however, is far from being true since, as Chomsky in more than one occasion states, children can produce and understand sentences that they have never heard or produced before. Another one of the best evidences to the fact that children already possess constructing rules in their mind is based on the occurrence of systematic errors, which, moreover, are not random ones but explicitly derives from a process of over-generalization of some regularities, e.g. *“Johnny hurt hissself”* (Brown and Fraser, in Bellugi and Brown, 1993). It is evident that, when children do this type of errors, they are overcoming the stage during which main utterances derive from memorized items, while they are starting to build their own grammar by setting all the parameters valid for their native language.

Morphosyntax development has been observed to respect more or less analogous phases across languages.

Between 18 and 24 months children start to combine words, beginning with 2-word utterances, then 3-word ones and so on. Functional elements (articles, clitics, copulas, prepositions, auxiliaries) are omitted at first, but word order parameter, gender and number features demonstrate to be correctly set since first words combinations take place.

A way to measure children's development from a quantitative, but not qualitative, point of view, and to detect if there is an impairment, is *Mean Length of Utterance* (MLU) computation. It was Brown who inaugurated in 1973 this measure of syntactic development and stated it to be a better mean of detecting improvement or impairment than was age. More syntactic development variation, in fact, was found according to age than according to MLU among preschoolers (Paul and Norbury, 2012).

According to Klee and Fitzgerald's (1985) findings, based on a study carried out with a small sample of children aged between 2;1 and 3;11, the mean MLU sets between 2.50



and 3.99 morphemes. However, given the homogeneity of their study participants, they also agree with Miller and Chapman (1981), stating that, taking into consideration a sample of 100 utterances, there actually is not a consistent relationship between MLU and 2;0 to 4;0 age range (Conant, 1987).

According to Leonard and Sabbadini (1995) if MLU is <3 at the age of 38 months, it means that a language impairment occurs.

Cipriani et al. (1993), analyzing 6 Italian children (19 – 38 months), identify four main stages which compose children's morphosyntactic development:

- i. *pre-syntactic phase* (slow MLU increase, 80% of utterances are still one-word ones, sporadic memorized expressions, such as past participles, imperatives, 3rd person verb forms and copulas, sporadic use of articles and prepositions in a primitive form);
- ii. *primitive syntactic phase* (MLU between 1.7 and 2.3, copulas and 3rd person verb forms production, increase of articles, prepositions and copulas, clitics appearance, few auxiliaries);
- iii. *nuclear sentence completion* (MLU between 2.3 and 3.0, plural verb forms, past verbs, auxiliaries and copulas production, regularization errors – ex: *è tutta lompata* (=rotta), free morphology established);
- iv. *rules establishment and generalization in complex and combinatorial structures* (MLU between 3 and 3.4, enrichment of competences which had been acquired in the previous phase, more complex structures appear).

Also for what morphosyntactic acquisition is concerned, comprehension precedes production: even if, for example, functional categories are not produced at early stages, they are however processed at comprehension level.

## 1.2 The Bilingualism

### 1.2.1 Introduction

In concomitance with the cognitive revolution of the 60s, a lot of research has been carried out as regards child language acquisition. The main focus has been, though, predominantly monolingual acquisition, while less attention has been given to bilingual or multilingual one. The common idea was that, according to Bhatia and Ritchie (1999), a proper study dealing with bilingualism had to be done only after a clear understanding of monolingualism had been achieved. Given that by that time, researchers had not developed yet any satisfying theory about monolingual child acquisition, the general belief was that no instruments existed in order to understand bilingualism.

However, over the past twenty years, many findings have enhanced the knowledge on monolingual and bilingual acquisition processes. More specifically, as regards to bilingualism, the research conducted by Sorace and collaborators has provided a lot of clarifications and innovative perspectives.

Bilingualism is, still today, very hard to define and measure: many distinctions related to its definitions, ways and time of development exist, since researchers have not managed yet to find a common path to deal with this phenomenon.

However, given that up to the 90s, out of six hundred studies related to monolingual child acquisition, only about ten were devoted to bilingualism, the idea that studying the latter may have been actually an exceptional way to shed light on the former had not joined many scholars yet (De Houwer, 1990; Romaine, 1989).

Another reason which clearly supports the importance of studying bilingualism is the fact that, especially in our modern society, multilingualism is not the exception, but the unmarked case (Bhatia and Ritchie, 1999; Doughty and Long, 2003; Grosjean, 1982; Sorace, 2011).

There is great difficulty in finding a common accepted definition for the word “bilingualism” and in agreeing in defining it. Bloomfield (1933) considered bilingualism as a *native-like control* of two (or more) languages. This definition actually represented an ideal situation which is almost never achieved: perfect balance among the languages that a person speaks is very hard or rather impossible. Grosjean (1989, 1992) and Cook (1992, 1993, 1995) criticized indeed the *monolingual prejudice* or

*monolingual view of bilingualism* claimed by those researchers who thought that bilingual competence should be considered “[...] *as simply the sum of two monolingual competencies [...]*” (Cenoz, Genesee, 1998:18). Multilingual competence is a dynamic phenomenon (Jessner, 1997): a language can prevail on the other, but many influencing factors – which we will further see – can also change or reverse the situation.

According to Sorace (2011), being bilingual does not mean to know two languages perfectly, but means to use more than one languages regularly. The attitude of the author towards bilingualism is rather positive since, on her view, besides providing advantages from social, linguistic and cognitive perspectives, bilingualism constitutes a proper investment for all people and, in general, for the society. All opinions which label this phenomenon as “costly”, “source of confusion or of retard” or “useful only in some conditions” are considered by the author as “myths” without any grounding.

### **1.2.2 Factors influencing second language acquisition**

Bhatia and Ritchie (1999) detected four main features which deeply influence bilingual language acquisition:

- i. amount and type of input from the languages: the typical bilingual environment is featured by a heterogeneous linguistic input. The main characteristics of this input are *division*, which lets the child be exposed to intermittent and therefore less amount of input of each language, and the distinction between *separate* (the mother speaks one language while the father speaks another one, or two groups speak different idioms) or *mixed input source* (the parents or the groups which the child belongs to alternate between two or more codes).
- ii. asymmetry between languages, or dominance of one of them over the other(s): inevitably, no matter which the causes are (socio-psychological factors, temporal or input differences), one system becomes dominant over the other(s). This situation, however, can change over time, e. g. owing to changes in the amount or in the type of input exposure.
- iii. interaction or separation between the linguistic systems: bilingual situations can give rise to phenomena of *code mixing* or *code switching*.
- iv. socio-psychological factors: they can deeply influence the participation of the linguistic systems that the bilingual person possesses. To give an example, especially in the case of migrant people, extreme culture shocks can even totally

turn off one language.

The process of second language acquisition is therefore deeply conditioned by several factors that can be related either to the individual sphere or the surrounding context: we can in fact talk about *internal* and *external* factors (Paradis et al., 2004).

Internal factors can be identified with personality, motivation, one's aptitude to learn languages, cognitive maturity; external factors may refer to L1 and L2 structure, L1 and L2 input quantity and quality, quality and quantity of language interactions between the parents and the child, language used in the social milieu (e.g. school).

In an early (or later) second language acquisition perspective, however, many other conditions can sharply affect one's performance in L2. An important role in fact is played by economic circumstances, race, immigration status, health, educational environment, geographic location, parents' (especially mother's) grade of education, level of integration achieved by the child's family, or only by the child, with respect to the L2 speaking community (Genesee et al., 2006).

Especially these last factors are the ones which most represent the condition of immigrants, a huge part of society which almost entirely, especially for what children are concerned, make experience of at least two languages. We will see this issue more in detail in section 1.2.3.

### **1.2.3 The bilingual experience of immigrants' children**

Despite being the phenomenon of immigrant people a highly present-day issue, very few light has been shed so far onto the linguistic aspect of it.

The linguistic experience of especially those immigrant people's children who either are born in their host country or come there with their parents at a very early age, is however very interesting. Adults who have to migrate from their native country, usually for economic or socio-political unfavourable reasons, reach the host country with a solid native language, and rarely are able to acquire the language of the host community at a high level. What happens, instead, to the children who still have to acquire completely their L1?

Studies on this phenomenon are very scarce and subdued to critics: they lack longitudinal research programs, standardized instruments, reliable comparison with monolingual speakers and usually involve a limited section of participants (e.g. people with linguistic impairment).

According to Verhoeven et al. (2007) bilingualism's effects could not have rise in economical disadvantaged situations; Pàez et al. (2007), moreover, claim that children of immigrants can perform even 2 standard deviations below with respect to their monolingual peers in their general linguistic abilities.

Anyway, different opinions like Chomsky's (1959) demonstrate that a lot of debate can be raised when it comes to talk about this issue. He cites in fact the example of the immigrant child who has no difficulty acquiring the language of the new country, whereas the child's parents, despite their motivation, cannot manage to achieve a high L2 competence, being it deeply influenced by L1's syntax and phonology.

There is then no stable truth which defines whether or not immigrants' children can achieve a native-like proficiency in their new country's language, since all internal, external, cultural, political, economical factors play a crucial role in the child's whole life and, inevitably, linguistic experience. Cultural shocks, as we said, can be highly affecting and lead even to the total turning off of one linguistic system.

Relatively recent studies, carried out by Spiess et al. (2003) for German, Hyltenstam and Abrahamsson (2003) for English, reported also by Genesee (2008) and a study on Italian language conducted by Beltrame for her PhD dissertation in 2010 and 2011, demonstrate the critical role played by the child's attending to kindergarten, or any kind of preschool programs, in order to develop his/her second language. Data demonstrate in fact that those who attended in their early years preschool structures, not only experienced an effortless and fully successful second language acquisition, but had also more positive outcomes in their later school experiences. In Spiess et al. (2003) study, data report that 51% of immigrants who had previously attended kindergarten went to Realschule or Gymnasium, compared to the 21% who did not experienced preschool activities.

Since the majority of children of immigrant people speak their own language at home, kindergarten attendance has been identified as a crucial propeller towards the use and the acquisition of the second language (Beltrame, 2010-2011).

#### **1.2.4 Sequential bilingualism: age of onset and critical period**

As we said above, many definitions and distinctions within bilingualism have been and are still being made. Many words should be written on this topic, so much so that one dissertation would not be enough. Given that bilingualism is an important aspect of this

work, some definitions and issues concerning it need to be taken into consideration, namely the so called *sequential* (or *successive*) bilingualism, which is in its turn opposed to the *simultaneous* one.

As is inferable from the words themselves, sequential and simultaneous bilingualism distinguish the one from the other according to the age of onset (AO) of each linguistic system. Even for what this distinction is concerned, the opinions related to it are not unanimous. Most researchers, though not all of them, as we will further see, generally agree with an arbitrary cut off age, namely 3 years old (McLaughlin, 1978), beyond which a situation of simultaneous bilingualism switches to sequential. Age 3 refers actually to the AO of one of the two languages: if acquisition of another language starts at a point which lays between birth and this age, we deal with a case of simultaneous bilingualism, while, if second language acquisition begins at or after the 3rd year of life, but before puberty, it is a sequential bilingualism situation.

As I already said, these time-limits are only arbitrary, as no concordant empirical data have allowed yet to set a scientifically-based and unanimously accepted description of this phenomenon (Genesee, 2008).

Sequential bilingualism is therefore a fascinating phenomenon, due also to the mystery it carries with it.

Also the notion of critical period in sequential bilingualism still today divides many researchers. The general accepted theory is the one which poses the threshold between acquisition and learning around the beginning of puberty; however, several studies that challenge this theory are documented.

A child usually experiences a situation of sequential L2 acquisition when he is exposed to only one language, the one spoken by his/her parents and relatives, from birth, and starts later experiencing a second language in kindergarten or in pre-school day care environments (Genesee, 2008; Lesaux et al., 2007). This is usually the case of migrants' children, who are born either in their native or in their host country, but, even in this second option, make a nearly exclusive experience of their L1 until they start attending child programs. It is hardly possible, indeed, as we saw previously, that these children's parents use their non-native language to speak to them from their birth.

Some studies detect a sharp difference between simultaneous and sequential second language acquisition, while other scholars claim that, no matter what the AO is; if the first exposure to the second language is before the closure of the critical period, the child can attain a native-like proficiency in his/her L2.

Bak et al. (2008) claim that the best period to acquire a L2 is early childhood, but however it is also true that second language acquisition during the first years of schooling provides more outcomes than does L2 acquisition during puberty or adulthood. Consecutive bilingualism too is therefore an advantageous situation for the cognitive system. A study carried out by the authors in 2008 demonstrated indeed that cognitive effects were sharper, in a positive way, among bilinguals with respect to monolinguals, but no significant difference was found between bilinguals who had been exposed to their L2 before the 3<sup>rd</sup> year and those who had acquired it between the 4<sup>th</sup> and the 15<sup>th</sup> year.

As we said previously, AO is a very debated issue. The common accepted idea is the one sustained by McLaughlin (1978) which sets the cut off age at 3. However, many different options have been presented.

Padilla and Lindholm (1984) do not accept 3 years old as the minimum age for a consecutive bilingualism: simultaneous language acquisition has as unique starting point birth, and any other exposure to a second language beyond birth-time is to be identified as sequential.

Hyltenstam and Abrahamsson (2003) seem to agree with Padilla and Lindholm, as they claim that language learning ability is a mechanism which unavoidably and quickly decreases from birth and that a native-like proficiency in a L2 is far from attainable. Referring to a study carried out by Scovel (1988), they howsoever consider early AO of L2 acquisition as a necessary but not sufficient condition to native-like L2 attainment. Native-like proficiency in a L2 with early age of onset is indeed less common than it was assumed to be.

Unsworth (2005) and Meisel (2009) pose as cut off AO 4 years old, while De Houwer (2009) refers to the different types of acquisition we have seen so far in a slightly different way. The author refers to a monolingual situation as Monolingual First Language Acquisition (MFLA), a case of simultaneous acquisition is referred to as Bilingual First Language Acquisition (BFLA), while a situation of sequential bilingualism is identified as Early Second Language Acquisition (ESLA). In this latter case, De Houwer sets the typical time for a natural L2 acquisition to have place between 1;6 and 4 years old, namely the pre-literacy period. If a child starts being exposed to a L2 in the years when literacy starts, i.e. ages 5 or 6, it can no more be referred to as ESLA but rather as formal L2 acquisition.

According to the critical period limits, even for what this issue is concerned, many

theories can be taken into consideration.

Long (1990) and Ruben (1997) detect different critical periods according to the different aspects of the language to acquire. The former, indeed, states that an exposure to the L2 before the 15th year of age is a sufficient condition to acquire morphology and syntax; the latter, more precisely, identifies the 12th month as the cut off point for phonetics and phonology acquisition, the 4th year as the limit for syntax acquisition and the 15th or the 16th year of age as the threshold for the acquisition of L2 semantics.

According to Scovel (1988), certain linguistic features, phonetics, among others, are subdued to a critical period, while morphosyntax and vocabulary acquisition are not (Hyltenstam and Abrahamsson, 2003).

We have seen, thus, that it is still very hard to find an agreement in order to establish the proper age which delimits early second language acquisition.

### **1.2.5 Sequential language acquisition modality**

Many studies, documented since 1907, have compared the pattern demonstrated by children acquiring a second language at an early age in a natural milieu, to monolingual or simultaneous bilingual children. One of the main issues faced in these studies was that of understanding the way sequential bilinguals acquire their L2: are the phases and the strategies similar to L1 acquisition or do they differ to some extent? Do L1 and L2 interfere between them in a positive or in a negative way?

McLaughlin (1984) collected many studies, done since the first years of the XX century (only a few of them are Volz, reported by Stern and Stern, 1907; Kenyeres, 1938; Malmberg, 1945; Tits, 1945; Valette, 1964; Klima and Bellugi, 1966; Ravem, 1968; Francescato, 1969; Hernandez, reported by Ervin-Tripp, 1970b; Dato, 1970; Politzer and Ramirez, 1973; Milon, 1974; Ervin-Tripp, 1974; Cancino et al., 1974-1975; Hakuta, 1974a; b-1975; Kessler and Idar, 1977; Lightbown, 1977; Felix, 1978; Wode, 1978; Keller-Cohen, 1979). The main positive outcome of the panoramic view made by McLaughlin is doubtlessly the fact that it is possible, through the several results achieved by these studies, to shed light on the processes involved in early second language acquisition.

The author firmly claims that *“the similarities in first and second-language development are more striking than the differences”* (McLaughlin, 1984: 106).

The study by Dato (1970), involving 7 English children aged 4 – 6;6 acquiring Spanish,



demonstrated that the general pattern by which these subjects acquire their L2 is the same as monolinguals' one: there is indeed a shared *increasing complexity* which characterizes the acquisition of both languages, namely children always first acquire base structures and then transformed ones.

Word-order parameter is also for these subjects one of the first rules to be acquired, since errors on this ground are very rarely attested.

As regards to semantic processing, like monolingual children, early bilinguals too produce as first words those related to familiar contexts, such as greetings, interactions with peers and family members and words related to the self-sphere.

Moreover, early L2 learners recur to some strategies which are found also in monolingual acquisition. As we have just seen, in addition to their preference for simpler items than more complex ones, they show to acquire meaningful words and expressions before functional words or before processing and producing sentences with meaning on their own. We can say therefore that “[...] *the children, like children acquiring a first language, remember best the items they understand*” (McLaughling, 1984: 109).

Many authors, however, are against the view we have presented so far. Let us see only a few of them.

The study carried out by Ravem (1968), who assessed a Norwegian 6 and a half-year-old child acquiring English, brought evidences both for differences and similarities between L1 and L2 acquisition. The researcher observed that, for example, modal “do” and Wh-questions acquisition followed the typical monolingual development pattern, while sentences such as “*Like you ice cream?*”, which retained the typical Norwegian inversion rule, were produced during acquisitional stages by sequential bilinguals but not by English-monolingual children.

Meisel (2008), according to a comparison between young L2 learners of French and French age-matched BFLA children, stated that the former made errors that were not found in the latter's productions. These errors involved saying non-finite verbs where finite forms were required. No suspects were pinned on L1 influence, as children produced finite forms correctly in their first language, i.e. German. (De Houwer, 2009)

Also Hakuta (1974a; b -1975) agrees with the position in favour of a difference between L1 and L2 development, reposing on data collected from a study involving a sample of Japanese children aged 5 acquiring English. The researcher supported the idea that, even for very young children, it can take between three and five years to acquire and achieve

a native-like proficiency in a L2: they do not “soak language up like a sponge” (Hakuta et al., 2000).

More recent studies conducted by Sorace et al (2009) and Serratrice et al. (2009) on a conspicuous number of bilingual children, aged between 6 and 10, compared both to monolingual peers and adults, demonstrated that monolingual and bilingual children made the same developmental errors. The studies focused mainly on the abilities to judge the grammaticality of some structures, to see whether the L2 influence could affect to some extent bilinguals' performance. As regards bilinguals, the most recurrent errors were due to a difficulty in handling the possessed linguistic systems, and not to an imperfect knowledge of one of the languages. The bilingual children assessed in these studies, however, had been exposed to both languages from birth, and used them regularly every day.

It is important, indeed, that children be exposed to both idioms in a regular way, in order to have a balanced bilingualism, and this requires therefore commitment from the family and the school environment.

Grandfeldt et al. (2007) compared some aspects of French morpho-syntax acquisition in three groups of Swedish-speaking children: monolinguals, simultaneous, and consecutive bilinguals: the latter group had an age of onset of exposition to the second language between 3 and 6 years old. Results showed that, while simultaneous bilinguals showed a pattern comparable to monolinguals' one, consecutive bilinguals resembled more in their errors to adults acquiring a second language.

Rothweiler (2006) and Chilla (2008) assessed German word-order acquisition performed by Turkish-speaking children. Chilla observed that, while bilingual children being first exposed to their L2 around 6 years old made errors similar to adults' ones (e.g. they produced nonfinite verb forms in verb-second position), children with an age of onset around 3 showed a typical monolingual or simultaneous bilingual performance (namely, they had a correct verb-form and verb-placement pattern).

The same phenomenon observed by Chilla (2008) has been demonstrated also in a study carried out by Unsworth et al. (2012), assessing Greek and Dutch gender features in bilingual children, who had English as their first language. The two variables taken into consideration by the experimenters were amount and type of input and age of onset.

Despite being the latter a significant variable in this context, the authors concluded by affirming that a great role is also played by the nature of the feature assessed in the study and the way by which it is acquired by monolinguals. Considering AO as the only

variable to compare bilinguals between them may be therefore too simplistic.

Moreover, Unsworth et al. (2012) firmly state that a complex interplay between amount of input and age of onset influences the way children acquire their second language.

To sum up, if we had to pay attention to each one of these authors' views, read their experiments, analyze their data, we would probably agree with every single study and therefore continually confute our hypothesis and our ideas. The main differences between these findings are caused in fact by the different modalities by which the studies have been carried out and, as Unsworth et al. (2012) pointed out, by the different linguistic aspects that have been investigated.

Different participants, different parameters of evaluation, different activities in order to assess (different) competences, different judgements about what to take into consideration, inevitably lead to different results. The real nature of L2 acquisition, then, is far from being understood if the parameters used to investigate it are always dissimilar in every study.

Another very interesting observation, in my opinion, is the one made by Kenyeres (1938), reported by McLaughlin (1984: 118): “[...] *her daughter's development did not simply recapitulate early first language development; nor did the child learn language as an adult would. Instead, she worked at the level of a child of her age, and her sentences were of the type spoken by children her age.*

*This, however, does not contradict the hypothesis that first- and second-language acquisition involve similar processes. It is certainly the case that second-language acquisition makes use of the cognitive abilities of the child, [...]*”.

We understand therefore that, from a cognitive perspective, the experiences are obviously different.

A classification of the main stages children meet during their second language acquisition has been made by Tabors (2008). She identifies four stages through which the child experience his/her L2, from the first exposure to the attainment of a full competence:

**Stage 1** – The child uses his/her L1 in the L2 environment, even though no one else speaks it. It is a generally brief period;

**Stage 2** – Non-verbal period. The child is accumulating receptive knowledge of the L2, but produce no or very few words. (S)he may recur to gestures. This is the period subjected to more variability, since its length can vary from few weeks to few months. During this time child's interaction with peers is a crucial factor, in order to let the child

being exposed to more L2 and becoming more motivated to speak it;

**Stage 3** – Formulaic language. The child starts producing first L2 expressions, which are short, imitative and with little original content, such as “*I don't know know*”, “*Excuse me*”, “*So what*” or “*What's happening?*”. Filmore (1979) identifies two strategies which can be associated with this phase, namely (1) giving other people the impression that you can speak the language and (2) acquiring some understood expressions and start talking. We see therefore that even according to these ideas, every first production is conveyed by meaning comprehension;

**Stage 4** – It is usually achieved after a year of exposure (in a preschool environment) and it corresponds to the production of the first processed constructions. It is a telegraphic language, characterized by functional words and morphemes omission, and which follows the same steps of a monolingual development. Before the achievement of Stage 4, however, children undergo a middle phase in which they start uttering the first productive sentences, including also memorized words sequences, integrated by nouns, verbs, adjectives that children have acquired. Some beginner sentences in L2 English can be simple utterances such as “*I do + noun*” or “*I want + noun*”, in which the child does not use pronouns or complex verb forms, but just adds the name of the thing (s)he does or wants: “*I do a ice cream*” or “*I do letter B*” (Paradis et al., 2010:112).

These stages are in line with what Wode claimed in 1978, namely that children acquiring a L2 may superficially show to be a step backward in their development, but actually such apparent delays are the result of the activation of principles that may (or may not) be the same as those governing L1 acquisition.

### **1.2.6 L1 interference and the role of UG**

The period between the attainment of stage 4 and the reaching of a native-like competence (if this one is ever achieved) is called *Interlanguage* (Selinker, 1972).

Interlanguage is the dimension in which developmental and transfer errors give place to some patterns that are common across learners despite their L1: there are in fact some features in the way L2 learners acquire language regardless of their first language, leading thus to the conclusion that L1 interference is not the only source of their errors. Children with different L1 backgrounds acquiring English, for example, tend to overuse *do* as a “general all-purpose (GAP) verb”. Some examples of this pattern are taken from Goldberg et al. (2008:13):

- (2) *He do ribbit, ribbit (say)*
- (3) *I do the bigger one (want)*
- (4) *We do our name (write)*
- (5) *[A nurse] do needles (give)*

It is at this point that an observation about the roles of L1 and UG is necessary. The positions regarding these issues are, predictably, far from being unanimous.

For many years bilingualism has been considered an insidious and unfavourable situation, since the general thought was that the linguistic competence could have been divided across the languages, creating a setting of *negative* or *subtractive* bilingualism, leading therefore the child to have no full competence in any of the possessed languages. Moreover, influence from L1 in order to acquire a L2 was seen as a source of confusion and as an obstacle, more than a resource (Butler and Hakuta, 2004).

According to McLaughlin (1984), after the general belief that interference from L1 was the main obstacle in the acquisition of a second language, it turned out that interference cases documented in the literature are very few. Huntsberry (1972) reports that children who showed the higher number of interference cases were either too young or had too little exposure to the L2. Influencing phenomena between languages, indeed, are strictly situational specific (Ervin-Tripp, 1974).

Similarities or differences between the target languages can lead either to positive or negative consequences.

According to some authors (Zobl, 1980), being two languages very similar can cause confusion and difficulty to distinguish between them, possibly giving rise to cases of *code switching* or *mixing*.

The opposite view, however, has also been presented by other scholars, according to which similarities between L1 and L2 cannot but favour the second language acquisition. The child acquiring a L2, in fact, may get more into trouble when having to cope with two highly dissimilar languages, since (s)he would have to re-discuss and re-set those parameters that had been already established during his/her first language acquisition.

An important and striking observation made by Schachter (1974) and Paradis et al. (2004) is that early L2 learners, especially in situations of great difference between the target languages, may manifest this influence phenomenon in some more subtle ways: either by choosing some structures which are less frequent in L2 (but, for example,

resemble more the L1 pattern) or by even *avoiding* some structures considered maybe too complicated.

Up to now we have taken for granted that it is only the L1 that can exert influence, being it positive or negative, onto the L2. However, since there are many factors which affect bilingual acquisition, the reverse pattern is highly possible. “[...] *ESLA children might also show systematic influence in their first language from their second language if their second language is prominently present and they speak it well.*” (De Houwer, 2009: 290).

Thus, we have seen that even for what this issue is concerned, no unitary idea has been achieved yet. We should however take into consideration also the fact that a general tendency is to highlight the transfer between languages only when it results in errors, giving therefore to it an inevitable negative judgement. We should know however that when transfer helps to facilitate the L2 acquisition, namely it does a good job, it is invisible (Paradis et al., 2004).

### **1.2.7 Benefits of the bilingualism**

Today the general opinion has switched towards a more positive view of bilingualism. Bialystok (2007), a supporter of the benefits derived from bilingual situations, claims that knowing more than one language has positive outcomes mainly for two reasons.

First, reading skills and other competences related to it, which are important in children's literacy program, and that they have already acquired in one language, can be transferred and applied to the second language. Even if such a transfer is neither automatic nor assured, it happens. Its consequences can only be positive.

Secondly, differences between monolinguals and bilinguals always lead to more benefits for the latter, since “*Knowing more has never been a disadvantage when compared to knowing less.*” (Bialystok, 2007: 71).

Sorace (2011) highlights many evidence to support that bilingualism has positive effects on many sides. As we said previously, indeed, bilingualism has for the author social, cognitive and linguistic positive outcomes.

From a social point of view, being bilingual leads one to have access to more than one culture and to be more open and interested towards “the other”. Bilingualism, moreover, facilitates travel and job retrieval.

According to cognitive advantages, bilingual children experience a major awareness

with regard to other people's different views and perspectives (Kovács, 2009); they are advantaged in shifting their attention rapidly from one task to another, or in focusing their attention on important details, inhibiting the unimportant ones (Bialystok et al., 2004; Costa et al., 2008; Treccani et al., 2009; Prior and McWhinney, 2010); they perform a better perception of ambiguous pictures (Bialystok and Shapero, 2005) and have a major executive control in everyday activities.

Linguistic outcomes consist in a more precocious distinction between sounds, words and facial expressions related to different languages (Werker and Byers-Heinlein, 2008; Soto-Faraco et al., 2007), a controlled, and often done on purpose, code mixing (Myers-Scotton, 2004; Grosjean, 2008), more meta-linguistic awareness and ability to learn new languages (Kaushanskaya & Marian 2009), and early acquisition of reading skills and greater capacity to separate between *signifiant* and *signifié* (i.e. between form and meaning) (Bialystok, 1988; 2002).

### **1.2.8 Conclusions**

These main features characterizing bilingualism, especially sequential one, are of great interest with regard to the study presented in this dissertation.

The addressee of the present treatment is, in fact, a sequential bilingual child, who speaks Romanian as her L1 and has been first exposed to Italian around the age of 3.

She therefore presents a linguistic experience typical of that of immigrants' children.

A more detailed description of the child's linguistic characteristics will be presented in chapter 5; for now, it is only necessary to remember that, summing up all we have seen so far according to bilingualism, in order to analyse a bilingual's linguistic performance, so many issues of various nature need to be taken into account, that clear and fully available results would be very difficult to achieve.

## Chapter 2

### The Relative Clause in Italian

#### 2.1 Introduction

The present chapter will provide a description and an analysis of relative clauses, especially the restrictive type, one of the two structures taken into consideration in this experiment.

After having described the syntactic structure of restrictive relative clauses, we will see the most important characteristics of the Italian structure.

Subsequently, a description of the acquisition of relative structures, of the strategies used in order to interpret them and of the issues that cause difficulties in understanding them will be provided.

#### 2.2 The structure of the relative clause

Relative clauses are subordinate sentences, introduced by either a relative pronoun (det + quale; cui) or the complementizer “che”, intended to modify a nominal element, namely the antecedent, which is defined as the head of the relative clause (Cinque, 1978, 1982; Bianchi, 1999).

They involve an A' movement, namely the one which involves the movement of a NP towards a non-argument, or A', position (SpecCP). This type of movement is called Wh-movement and it is found also in Wh- questions and in topicalized structures (Donati, 2002).

Relative clauses belong to the category of CP (i.e. the Complementizer Phrase), since they involve the activation of the CP projection, and are embedded in a complex nominal expression (DP).

They are divided into two subgroups: appositive and restrictive relative clauses. The former are subordinate clauses which add information, that is not necessary in order to understand the sentence, to the already known relativized element (1). The latter modify the antecedent so that it is only through the relative clause that we could understand who/what we are talking about (2) (Bianchi, 2004).



(1) Mary knows few boys, who enjoy knitting.

(2) Mary knows few boys who enjoy knitting.

The type of relative clause we are going to deal with through this study is the restrictive right-branching relative clause.

The modified element moves from its original position (it can be either the subject or the object of the main sentence), leaving a gap, which is filled with the moved element's trace, co-indexed with it.

As we said, movement can involve either the subject or the object of the sentence, therefore two types of relative clauses can be structured: subject relative (SR) (3) and object relative (4) (OR)<sup>2</sup>:

(3) I topi che <i topi> spingono le galline.

'The mice that <the mice> push the hens.'

(4) I topi che le galline spingono <i topi>.

'The mice that the hens push <the mice>.'

### 2.3 Movement hypotheses

Two main hypotheses have been proposed in order to explain the derivation of the relative structures.

Earlier studies (Cinque, 1978, 1982) affirm that the relative clause is derived through wh- movement of the relative operator from its base position to SpecCP, leaving a trace in its original position co-indexed with the head of the relative clause. Hence, a chain is formed between the trace in the embedded position and the relativized element.

According to this proposal, the derivational representation of (3) and (4) would be respectively (5b) and (6b):

(5) a. I topi che <i topi> spingono le galline.

b. [<sub>DP</sub> I [<sub>NP</sub> topi<sub>i</sub> [<sub>CP</sub> OP<sub>i</sub> che [<sub>IP</sub> t<sub>i</sub> spingono le galline]]]]

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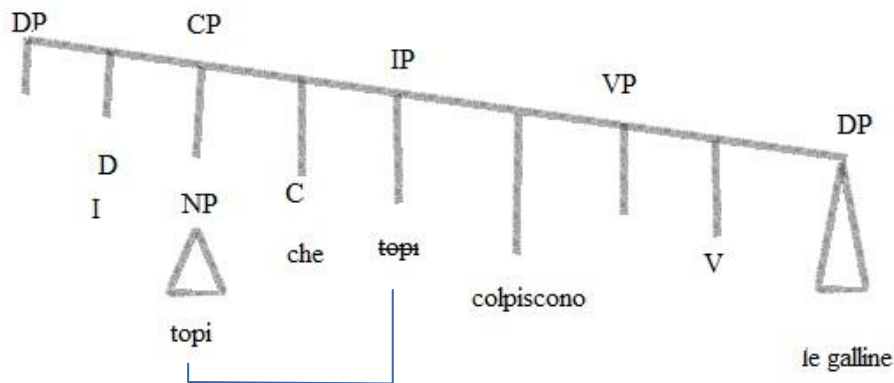
2 Constituents between < > indicate the position they had before the movement took place.

- (6) a. I topi che le galline spingono <i topi>.  
 b. [<sub>DP</sub> I [<sub>NP</sub> topi<sub>i</sub> [<sub>CP</sub> OP<sub>i</sub> che [<sub>IP</sub> le galline spingono t<sub>i</sub> ]]]]

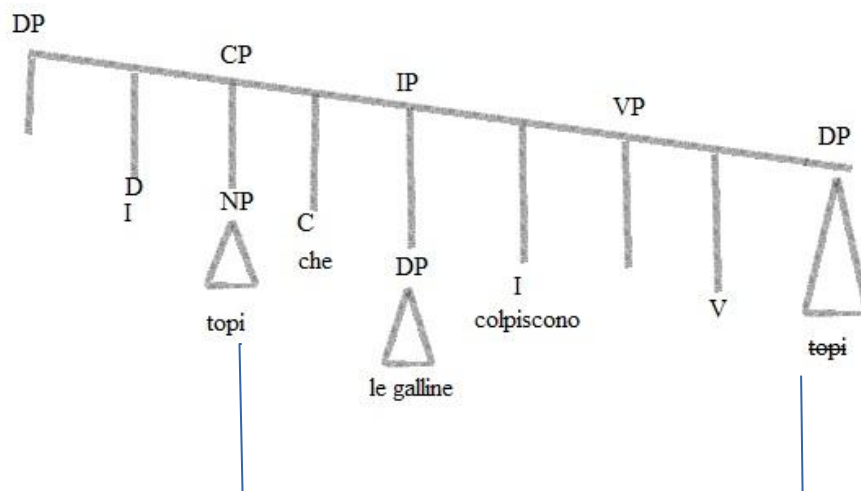
Other more recent studies (Vergnaud, 1985; Kayne, 1994; Guasti and Shlonsky, 1995; Bianchi 1999) support the idea that what moves is not relative operator, but the head of the relative clause. It is indeed the relativized element which moves itself from its original position to the new one, leaving a trace, with which it is co-indexed, filling the gap. A chain is therefore formed between the moved element's trace and the derived NP in SpecCP.

Under these assumptions, the representations of (3) and (4) would not be (5) and (6), but (7b) and (8b) respectively.

- (7) a. I topi che <i topi> spingono le galline.  
 b. [<sub>DP</sub> I [<sub>CP</sub> [<sub>NP</sub> topi<sub>i</sub>] che [<sub>IP</sub> [<sub>NP</sub> t<sub>i</sub>] spingono le galline]]]



- (8) a. I topi che le galline spingono <i topi>.  
 b. [<sub>DP</sub> I [<sub>CP</sub> [<sub>NP</sub> topi<sub>i</sub>] che [<sub>IP</sub> spingono le galline [<sub>NP</sub> t<sub>i</sub>]]]]]



#### 2.4 The *pro-drop* parameter and the object relative clauses with post-verbal subject (ORsp)

One of the first parameters which are settled by children during language acquisition process is the one that determines whether or not the language in question can present, in temporalized structures, sentences in which the subject is not expressed, namely sentences with a null subject (*pro*) (Donati, 2002).

Italian, like Spanish, allows the null subject, namely it is a *pro-drop* language.

- (9) Piove.  
'(It) rains.'

Languages such as English or French do not present the *pro-drop* parameter since, in the standard variety of these languages, a temporalized sentence without the subject is considered unacceptable. Indeed, in sentences characterized by the absence of a “logical” subject (such as atmospheric expressions), an expletive pronoun is compulsory, in order to allow the presence of a grammatical element which works as a subject and legitimates the correct structure.

- (10) *It* rains.

- (11) *Il pleut.*  
'It rains.'

The *pro-drop* parameter usually applies to languages which present a rich verbal paradigm. The fact that Italian sentences can be understood even if the subject misses, is indeed due to the fact that the verb always presents number and gender features which let the reader understand the identity of the null subject.

The richness of the paradigm allows also the possibility of having the subject in post-verbal position (Haegeman, 1996):

- (12) *Ha telefonato Gianni*  
Has called John.  
'John called.'

In Italian, relative clauses too can therefore present a post-verbal subject, as we can see in example (13):

- (13) *Il libro che ha letto Gianni.*  
The book that has read JohnSUBJ  
'The book that John has read.'

This sentence does not involve an interpretation problem, since the transitive verb which is used is a non-reversible one and an inanimate noun is present in the sentence. The possibility, however, of having the subject in post-verbal position can bring to a situation of ambiguity if the main verb is reversible and both DPs are animate. Let us see example (14):

- (14) *La bambina che abbraccia la zia.*  
'The girl that hugs the aunt.'

Trying to interpret this sentence, we cannot say if the subject is either *la bambina* ('the girl') or *la zia* ('the aunt'). If the former condition was right, the structure of the sentence would be as follows:

- (14) a. La bambina che <la bambina> abbraccia la zia.  
'The girl that <the girl> hugs the aunt.'

If the subject of the sentence was *la zia* ('the aunt'), the structure would be like that of (14)b:

- (14) b. La bambina che abbraccia la zia <la bambina>.  
'The girl that hugs the aunt <the girl>.'

In Italian, in order to disambiguate sentences like (14), two strategies are possible, the one morphological and the other syntactic.

The morphological strategy consists in manipulating the number features of either the subject or the object of the clause. Presenting, the Italian language, a verbal paradigm which agrees in number with the subject, differentiating the arguments according to number features, is indeed a disambiguating cue in these situations.

We could therefore have either a subject (15) – (16) or an object (17) – (18) interpretation of (14):

- (15) La bambina<sub>i</sub> [che <la bambina> abbraccia<sub>i</sub> le zie].

The girl<sub>i</sub> [that <the girl> hugs<sub>i</sub> the aunts].

- (16) Le bambine<sub>i</sub> [che <le bambine> abbracciano<sub>i</sub> la zia].

The girls<sub>i</sub> [that <the girls> hug<sub>i</sub> the aunt].

- (17) La bambina [che abbracciano<sub>i</sub> le zie<sub>i</sub> <la bambina>].

The girl [that hug<sub>3PLi</sub> the aunts<sub>i</sub> <the girl>].

'The girl that the aunts hug.'

- (18) Le bambine [che abbraccia<sub>i</sub> la zia<sub>i</sub> <le bambine>].

The girls [that hugs<sub>i</sub> the aunt<sub>i</sub> <the girls>].

'The girls that the aunt hugs.'

The syntactic cue, on the other hand, consists in putting the subject of the clause in pre-verbal position:

- (19) *La bambina che la zia abbraccia <la bambina>.*  
'The girl that the aunt hugs <the girl>.'

Both strategies could also be combined.

If these cues are both missing, however, either a subject or an object interpretation are equally possible (Volpato 2010).

## 2.5 Relative clauses and the resumptive pronoun

In colloquial Italian, but also in non-standard varieties of other languages such as French or English, a different structure of the relative clause exists<sup>3</sup>, and it involves the use of a resumptive pronoun, which is co-indexed with the moved element (Haegeman, 1996; Bianchi, 1999).

- (20) *Il ragazzo<sub>i</sub> che l'ho visto.*  
The boy<sub>i</sub> that him<sub>i</sub>CL (I) saw.  
'The boy whom I saw.'

- (21) *Voici le courrier<sub>i</sub> qu'il<sub>i</sub> est arrivé ce soir.*  
Here is the mail<sub>i</sub> that it<sub>i</sub> is arrived this evening.  
'Here is the mail that has arrived this evening.'

- (22) *The man who<sub>i</sub> John saw him<sub>i</sub>.*  
'The man whom John saw.'

Despite not being totally grammatical in standard Italian, it is the unmarked option in several languages, such as some north Italian dialects or, as we will see more in detail, Romanian. (Bianchi, 2004; Dobrovie-Sorin, 1993; Daniliuc & Daniliuc, 2000).

- (23) *Me fradeo Giorgio<sub>i</sub>, che ti o<sub>i</sub> conossi anche ti, el ze partio par la merica.*  
My brother Giorgio, that you (him) know you too, he has left for America.  
'My brother Giorgio, whom you know too, has left for America.'

---

<sup>3</sup> The description and the examples refer to adult grammar; however, these patterns are attested also in children utterances, as we will see in section 2.6.

- (24) Femeia: pe care o: vedeti este vecina mea.  
 The woman (prep) who her see (2<sup>nd</sup> pl.) is the neighbour (f. sing.) my (f. sing.).  
 'The woman whom you see is my neighbour.'

Dealing with the acquisition of relative clauses by Italian children, we will see that the use of the resumptive pronoun is a strategy often use at early stages in the attempt to produce object relative clauses.

## 2.6 The acquisition of the relative clauses

Children's utterances start being more complex between 22 and 26 months, namely when MLU varies across 2,02 and 2,3.

The first structures which anticipate relative clauses production appear between 27 and 29 months (MLU = 2,3 – 3), and are defined as *pseudorelatives*, i.e subordinated sentences that actually do not have a restricted function, but rather descriptive. (Cipriani et al., 1993; Guasti, 2007).

- (25) È l'uomo che ccrive (scrive) è quello. (Martina, 2;3)

(It) is the man who writes (it) is that one.

- (26) Dov'è papà che dorme. (Martina, 2;3)

Where is dad who sleeps.

It is actually at the age of 30 – 34 months (MLU = 3,0 – 3,4) that first restrictive relative clauses are produced. The first type to be uttered is the subject relative, followed then by object relatives.

Early relative clauses, however, present different features compared to target ones. Through a study on elicited production, Guasti & Cardinaletti (2003) showed that Italian children aged between 5 and 10 years old produce sentences characterized by some peculiarities, such as the insertion of the clitic pronoun:

- (27) Tocca la bambina che il bambino gli ha rubato l'orecchino. (5;8)

Touch the girl that the boy (to her) has stolen the earring.

Another demonstrated strategy is the overuse of the complementizer *che* ('that') (28) or of *dove* ('where') instead of other relative pronouns (29):

(28) *Tocca la panca che c'è il pompiere che sta dormendo.* (5;3)

Touch the bench that there is the fireman that is sleeping.

(29) *Tocca il panda dove il bambino lo sta accarezzando.* (9;8)

touch the panda where the little boy it is striking.

'Touch the panda that the little boy is striking.'

Utzeri (2007), moreover, assessed relative clauses production in children aged between 6 and 11 and in adults. Her findings demonstrated that both children and adults produced subject relative clauses without any difficulties, while, as far as ORs are concerned, different patterns were shown. Indeed, when children produced ORs, 22% of the times, they uttered mainly three types of structures: object relatives with gaps (pre- or post-verbal subject) (30), with a resumptive pronoun (31) or with a resumptive DP (32):

(30) *La bambina che il nonno sta ascoltando.*

the child that the granddad is listening

'the child that the granddad is listening to'.

(31) *Lo gnomo che lo copre il principe.*

the gnome that him wraps up the prince

'the gnome that the prince wraps him up'.

(32) *La bambina che il nonno bacia la bambina.*

'The child that the granddad kisses (the child).'

Adults, on the other hand, almost never produced object relatives. In order to avoid them, they recurred to some strategies, which were attested also in children's utterances: passivization (33), causative constructions (34), use of "receive+DP" (35) and change of the verb (36)<sup>4</sup>:

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4 Examples from Guasti and Cardinaletti (2003) and Utzeri (2007).



- (33) Tocca il cammello che è stato comprato dal bambino (instead of “Tocca il cammello che il bambino ha comprato”).  
 'Touch the camel that has been bought by the child' (instead of 'touch the camel that the child has bought').
- (34) Il bambino che si fa pettinare dal re (instead of “Il bambino che il re pettina”).  
 The child that himself makes comb by the king  
 'The child that makes himself comb by the king' (instead of 'the child that the king combs').
- (35) Il bambino che riceve un bacio dalla mamma (instead of “Il bambino che la mamma bacia”).  
 'The child that receives a kiss by the mother' (instead of 'the child that the mother kisses').
- (36) Il bambino che legge al nonno (instead of “Il bambino che il nonno ascolta”).  
 'The child that reads to the grandfather' (instead of 'the child that the grandfather listens to').

Despite being the first productions of relative clauses considerably early, their comprehension requires more time, since it corresponds to more or less the 72<sup>nd</sup> month. One of the factors that influence relative clause comprehension is the number of arguments participating in the sentence. A study conducted by Goodluck & Tavakolian (1982) on children aged 4 to 5, in fact, demonstrated that the comprehension level increases significantly if a substitution such as the following one takes place:

- (37) a. Il leone bacia l'anitra che **colpisce** il maiale.  
 'The lion kisses the duck that hits the pig.'
- b. Il leone bacia l'anitra che **dorme**.  
 'The lion kisses the duck that sleeps.'

The authors, substituting the transitive verb (in bold) of (37)a, with an intransitive verb (in bold) in (37)b, obtained an increase in correct answers from 49 to 76%.

Besides being right branching relative clauses easier to process than embedded ones, another characteristic which is common to both types of relative structures is the fact that object relatives are more difficult to understand than subject relatives (Guasti, 2007).

This pattern is shown not only in typical development children, but also in adult performances and in other populations, such as SLI (Specific Language Impairment), aphasic or hearing impaired subjects. Moreover, cross-linguistic studies demonstrate that the preference for subject relatives is attested in all investigated languages.

Moreover, according to several studies (Friedmann e Szterman 2006, Volpato e Adani 2009, Friedmann et al., 2010, Friedmann e Szterman 2011, Volpato 2012, Volpato e Vernice 2014), if SRs are easier to process than ORs, ORs are however better computed than ORps.

### **2.6.1 The minimal chain principle**

The literature has made several attempts in order to explain the asymmetry between SRs and ORs.

As we already know, every movement derived structure provides the formation of chains between the moved element and the trace remaining in the original position. A chain is therefore a syntactic vehicle that builds relations between positions in the clause. (Chomsky, 1981)

De Vincenzi's hypothesis (1991) claims that the parser is sensitive to syntactic complexity, specifically (s)he tends to prefer shorter-distance relations instead of longer ones. The author postulates indeed the Minimal Chain Principle (MCP), which embodies the just mentioned theory:

*Avoid postulating unnecessary chain members at surface structure, but do not delay required chain members.*

In order to interpret sentences from a syntactic point of view, the parser needs indeed to reconstruct the chains which joins the moved elements to their related information of

thematic role and case. The general instinct is therefore to find for every moved element the nearest available gap, and form the shortest chain possible.

If we look at the following examples, we could understand why SRs are processed more easily than ORs and ORps.

(38) Indica il cammello [che <e> lava gli orsi].



'Touch the camel [that <e> washes the bears].

**SR, short chain.**

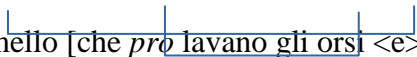
(39) Indica il cammello [che gli orsi lavano <e>].



'Touch the camel [that the bears wash <e>].

**OR, long chain.**

(40) Indica il cammello [che *pro* lavano gli orsi <e>].



'Touch the camel [that *pro* wash the bears <e>].

'Touch the camel that the bears wash.'

This last example, showing a ORp, constitutes an even more costly processing. Indeed, besides presented a longer chain, compared to SRs, between the head of the relative (il cammello) and its related trace (<e>), it moreover involves two distinct relations (head DP - <e> and subject DP - *pro*) which make the parsing process harder.

## 2.6.2 The canonical order hypothesis

This hypothesis, proposed by Friedmann & Szterman (2006), is based on the assumption that the differences in success that emerge between SRs and ORs can be due to the order of the constituents which are provided in these constructions.

If the language canonical order, in simple affirmative sentences, is SVO, namely the subject precedes the verb, which is followed by the object, structures which violate this rule should be, according to this hypothesis, more difficult than constructions following

the unmarked word order.

The asymmetry between SRs and ORs could therefore be explained since, if we look at the following examples, repeated from the previous section, while SRs (41) follow an SVO pattern, ORs (42) present a different order of the constituents:

(41) Indica il cammello [che <e> lava gli orsi].

S                      V      O

'Touch the camel [that <e> washes the bears]'.  
'Touch the camel that the bears wash.'

(42) Indica il cammello [che gli orsi lavano <e>].

O                      S      V

'Touch the camel [that the bears wash <e>].  
'Touch the camel that the bears wash.'

ORps too show a non canonical word order:

(43) Indica il cammello [che *pro* lavano gli orsi <e>].

O                      V      S

'Touch the camel [that *pro* wash the bears <e>].  
'Touch the camel that the bears wash.'

### 2.6.3 The Relativized Minimality

The Relativized Minimality (RM) is a locality principle which postulates that in a configuration such as the following one:

(44) ... X... Z... Y...

a syntactic relation between X and Y is not possible if there is an element intervening between them (Z) that could be a potential participant in that relation (Rizzi, 1990).

The asymmetry between SRs and ORs could be explained, according to Friedman et al., (2009), on the basis of RM.

SRs, indeed, do not present a configuration in which an element intervenes between the moved element and its trace in the embedded position, therefore the RM does not take place:

(45) I topi che <i topi> spingono le galline.



The mice that <the mice> push the hens.

In an OR, on the other hand, RM is activated, since between the head of the relative, i.e. the moved element, and its trace, the subject of the clause intervenes:

(46) I topi che le galline spingono <i topi>.



The mice that the hens push <the mice>.

Related to this hypothesis, Friedmann et al. (2009) try to formulate an approach to explain the difficulties in the production and comprehension of A' structures.

The study was carried out on a sample of Hebrew-speaking children (3;7 – 5;0) and involved the use of object relative clauses (introduced by a lexical DP, (47)) and 'which-NP' questions (48):

[+R, +NP]      [+NP]      [+R, +NP]

(47) Show to me the elephant that the lion wets <the elephant>.

[+Q, +NP]      [+NP]      [+Q, +NP]

(48) Which dog does the cat bite <which dog>?

Despite possessing the head of the relative clause and the wh- phrase two complex features, namely [+R, +NP] and [+Q, +NP] respectively, the authors affirm that the intervention effect be caused by the presence, both in the intervening elements ('the lion' in (47) and 'the cat' in (48)) and in the moved constituents ('the elephant' in (47) and 'which dog' in (48)) of the [+NP] trait. This phenomenon is called Lexical Restriction. (Friedmann et al., 2009)

Adults are able to interpret the sentences correctly, as they distinguish the differences characterizing the features of the elements. Children, however, are conspicuously burdened in the attempt of interpreting such structures: besides constituting a computational load for the memory, which is not enough developed in early grammar,

the presence of common features ([+NP]) between the intervener and the moved phrase, makes the extraction of the object really hard.

The validity of this hypothesis has been further remarked by the evidence that the manipulation of the number features of the arguments potentially facilitates the processing of structures derived by A' movement (Adani et al. 201, 2014; Volpato, 2010).

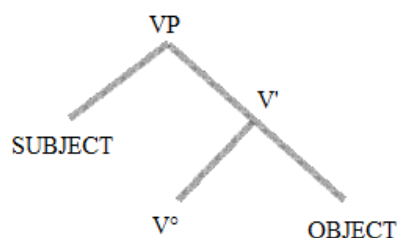
#### 2.6.4 The asymmetry between OR and ORp

The notions of RM and Lexical Restriction, despite giving an explanation for the asymmetry between SRs and ORs, cannot provide a reason to clarify the low percentages of accuracy that children have with ORps.

In order to do so, indeed, we have to recur to the Minimalist issue of AGREE, MERGE and MOVE (Chomsky, 1995, 2000, 2001) as Guasti and Rizzi (2002) and Franck et al. (2006) have proposed.

According to the Minimalist program, the first process which takes place in the formation of a syntactic construction is MERGE, which combines two elements in order to form a minimum constituent.

The syntactic nucleus of a sentence is the structure which relates the verb to its arguments. According to the hypothesis which states that the subject originates in a VP internal position (Sportiche, 1988), the subject initially merges in the position of Spec-VP, where the thematic role is assigned:



After that, another projection, Inflectional Phrase (IP), merges and a relation of AGREE between the subject and the head of the IP (I°) is established. Therefore, number and gender features are moved to I° and, in order to acquire those traits, the verb moves to I°. Subsequently, the subject moves to Spec-IP, where it establishes a Spec-head

relation with the verb.

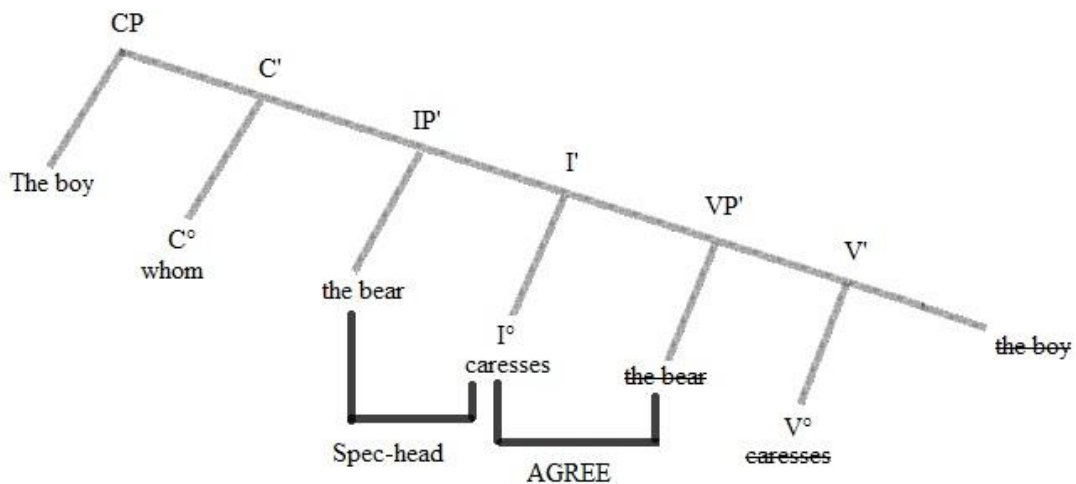
Therefore, the relation between subject and verb is fixed through two types of agreement, namely AGREE and Spec-head relation.

A construction characterized by both types of agreements is obviously tougher than a structure which, for example, involves only AGREE.

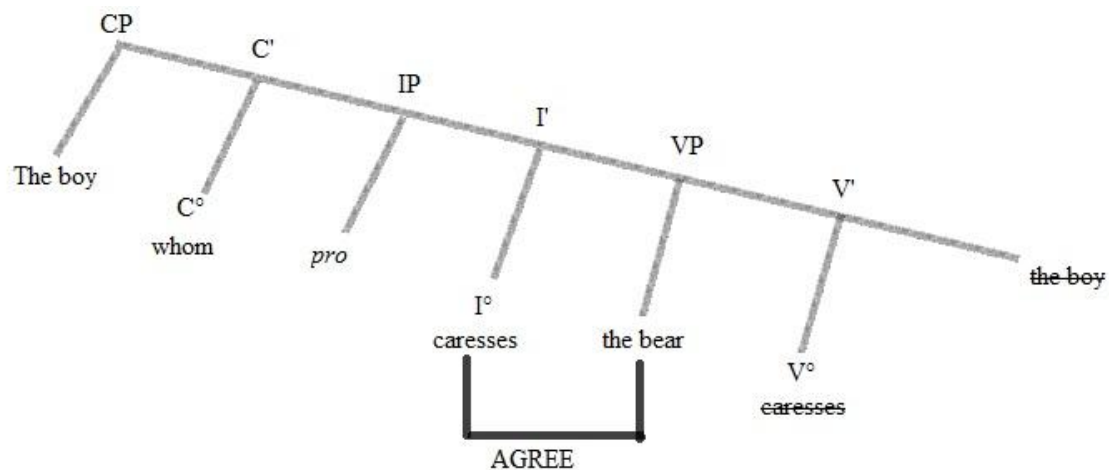
ORps, indeed, as they do not present the rise of the subject to Spec-IP, rely only on the relation of agreement between the verb and the subject. Such structures, in order to be interpreted, constitute therefore a costly processing for the working memory, and lead the parser to analyse them as SRs instead of ORps.

The following examples, which have to be compared, represent the formation of an OR (49) and of an ORp (50):

- (49) Il bambino che l'orso accarezza <il bambino>.  
 'The boy whom the bear caresses <the boy>.'



- (50) Il bambino che *pro* accarezza l'orso <il bambino>.  
 The boy whom *pro* caresses the bearSUBJ <the boy>.  
 'The boy whom the bear caresses.'



### 2.6.5 The influence of *phi*-features

Several studies across different languages (Nicol and O'Donnell, 1988; Faussart et al., 1999; Igoa, et al., 1999; Di Domenico and De Vincenzi, 1999) have investigated if the manipulation of *phi*-features (i.e. number and gender) can be a syntactic cue in order to interpret complex structures.

The outcomes all converged towards the statement that, while gender features are used in stages involving pragmatic and semantic issues, number features are structural information used by the parser in order, for example, to restrict the possible set of antecedents for a pronoun (Di Domenico and De Vincenzi, 1999).

According to Di Domenico (1997), indeed, gender is not a syntactic head, namely it does not project its own head in the syntax.

This theory was further validated by a study conducted by Luzzatti and De Bleser (1999) on two Italian agrammatic speakers. They assessed the subjects' ability to assign gender and number information to simple, derived and compound nouns.

Results showed that, especially for one of the two participants, while gender seemed to be relatively preserved, responses on number features were nearly at chance level. Given that in agrammatic patients the component which is more affected is syntax, the fact that number features were processed with more difficulty than gender, confirms that the former have more syntactic value than the latter.

Further and more recent studies (Adani et al., 2009; Volpato, 2010; Adani et al., 2014) have confirmed this hypothesis. Volpato (2010) demonstrated how the manipulation of number features can improve the comprehension of ORs.



For typical-developing children, a situation of match of the DP of the sentences, i.e. when number features are the same, provides more difficulty in interpreting the clause (51-52), whereas, in case of mismatch, comprehension is easier (53-54). In a mismatch condition, moreover, ORs seem to be processed even more easily when the embedded subject is plural (53):

(51) La gallina che il pulcino becca <la gallina>.

[-pl]            [-pl]            [-pl]

The hen that the chick bites <the hen>.

(52) Le galline che i pulcini beccano <le galline>.

[+pl]            [+pl]            [+pl]

The hens that the chicks bite <the hens>.

(53) La gallina che i pulcini beccano <la gallina>.

[-pl]            [+pl]            [-pl]

The hen that the chicks bite <the hen>.

(54) Le galline che il pulcino becca <le galline>.

[+pl]            [-pl]            [+pl]

The hens that the chick bites <the hens>.

In Italian the marked form is the plural one, realized through the addition of the suffix *-no* to the unmarked 3<sup>rd</sup> singular person of the verb, hence, the reason why the [+pl] feature favours the comprehension of such structures can be due to the fact that it gives to the DPs more visibility and richness on the basis of carried information (Kayne, 1989).

## 2.7 Restrictive relative clauses in Romanian

In Romanian, as in most European languages, relative clauses involve the movement of a relativizer *wh*- element to the left, towards SpecCP, and its coindexation with a trace left in the original position (Dindelegan, 2013:483):

- (55) Aceasta este **casa**<sub>i</sub> [[**despre care**<sub>i</sub>] ți-am vorbit **t**<sub>i</sub>].  
 This is house.DEF about which CL.DAT.2SG – have.1SG told.  
 'This is the house which I told you about.'

More specifically, let us look at right-branching restrictive relative clauses, namely the types of relative clauses we will deal with during this study.

Romanian subject relative clauses (RomSRs) are introduced by the *d*-linked wh-pronoun *care* (=which), as we can see from (56):

- (56) Băiatul care găsește o minge.  
 Boy.the who finds a ball  
 'The boy who finds a ball.'

Romanian object relative clauses (RomORs) are also introduced by the wh-pronoun *care*, but in this case the pronoun is accompanied by a preposition *pe* which is considered a marker of accusative case (Dobrovie-Sorin, 1993). RomORs include also an obligatory direct object clitic pronoun co-referring with the head of the relative sentence (Sevcenco et al., 2011).

- (57) Băiatul pe care **îl** caută  
 boy.the PE which clitic<sub>3rdmasc.sing</sub> look.for<sub>3rd pl/sing</sub><sup>5</sup>  
 'The boy whom he is/they are looking for.'

Colloquial Romanian presents ORs clauses with the relative pronoun *care* without the preposition *pe*:

- (58) Băiatul care **îl** caută.  
 Boy.the that clitic<sub>3rd.masc.sing</sub> look.for<sub>3rd pl/sing</sub>  
 'The boy that he is/they are looking for.'

---

5 Standard Romanian does not distinguish, from a morphological and phonological point of view, the 3<sup>rd</sup> person singular from the 3<sup>rd</sup> person plural of the verb. (Dobrovie-Sorin and Giurgea, 2013)

In the absence of the accusative preposition *pe* the interpretation of the clause becomes ambiguous between a SR and a OR reading: *The boy who is looking for him* or *The boy he is/they are looking for*.

The ambiguity is triggered mainly by two conditions: first, the *phi*-features of the verb and of the head of the relative clause may undergo the same interpretation, since the verb has the same form both for 3<sup>rd</sup> person singular and plural; secondly, the clitic may have two antecedents, one corresponding to a discourse antecedent (SR reading) and the other one corresponding to the head of the clause (OR reading).

Two possible situations can disambiguate the sentences: either the verb of the clause presents *phi*-features which differs from those of the head of the sentence (59), or an overt subject in pre- or post-verbal position is inserted (60):

(59) Băiatul care îl cauți  
 Boy.the that clitic<sub>ACC 3<sup>RD</sup> MASC SG</sub> look.for<sub>PRES 2<sup>ND</sup> SG</sub>  
 ‘The boy that you are looking for’.

(60) Băiatul care (mama) îl caută (mama)  
 Boy.the that (mother) clitic<sub>ACC 3<sup>RD</sup> MASC SG</sub> look.for<sub>PRES 3<sup>RD</sup> SG</sub> (mother)  
 ‘The boy that mother is looking for’.<sup>6</sup>

### 2.7.1 A double derivation for RomORs

Grosu (1994) affirms that Romanian object relative clauses rely on different syntactic structures, depending on which type is the relative connector (a relative pronoun, in case of +PE relatives, or a complementizer, in case of -PE relatives). Two properties, indeed, on the author's view, distinguish the two types of ORs.

When *care* is preceded by *pe*, the obligatory clitic inside the subordinate clause cannot relate to the antecedent of the relative over an island:

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6 Note that in (60) an other clue which doubtlessly helps to solve ambiguity is gender mismatch between the head (the boy) and the subject of the relative clause (the mother).

- (61) \*Băiatul<sub>i</sub> pe care [ți- am arătat o fată [care  
 î<sub>i</sub> simpatizează]].  
 boy.the *pe* who you<sub>CL2nd SG.DAT</sub> have shown a girl who  
 him<sub>CL3rd SG.M.ACC</sub> likes  
 ‘The boy whom I showed you a girl who likes him.’

In (61) the head *băiatul* ('the boy') cannot be coindexed with the direct object clitic *il* ('him'), which is embedded in a complex DP island.

On the other hand, the clitic pronoun embedded in a -PE object relative clause can be related to the antecedent even over an island:

- (62) Băiatul<sub>i</sub> care [ți- am arătat o fată [care î<sub>i</sub>  
 simpatizează]].  
 boy.the that you<sub>CL2nd SG.DAT</sub> have shown a girl who him<sub>CL3rd SG.M.ACC</sub>  
 likes.  
 ‘The boy that I showed you a girl that likes him.’<sup>7</sup>

According to Grosu, -PE ORs are derived through a process which does not involve movement: a null operator, base-generated in SpecCP, binds the resumptive clitic pronoun which, in its turn, binds an empty category in the object position.

The author provided no explanation to the way +PE ORs are derived; Dobrovie-Sorin (1994) proposed that *care* occupies the specifier position of a NP, namely the direct object of the verb, which moves to the SpecCP position of the relative clause. The trace of the moved NP must be doubled and bound by a direct object clitic.

Being these assumptions correct, we would expect -PE ORs be produced and understood earlier by children than both +PE ORs and SRs, which are derived through movement.

On the other hand, we expect also the situation of ambiguity constituted by a -PE object relative clause to affect the acquisitional process (Sevcenco et al., 2009; 2012).

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7 Example taken from Grosu, 1994:234.

## 2.7.2 The acquisition of the relative clause in Romanian

Referring to some studies investigating children's relative clauses comprehension and production (Sevcenco et al., 2009; 2012), we will briefly look at the principal features characterizing Romanian-speaking children's acquisition of relative constructions.

### 2.7.2.1 Relative clauses production

Both longitudinal and experimental data are available in order to investigate early production of relative clauses, especially direct object relative clauses.

The longitudinal data consist in three corpora of weekly 60 minute audiotape of three monolingual Romanian children (1;3 – 3;2, 1;9 – 3;6, 2;0 – 3;5).

The observed data are not much different from what it has been reported for other languages. Object relative clauses are attested around the 2<sup>nd</sup> year, even if they are very few.

- (63) Un brăduț [pe] care [l-] a adus Moș Crăciun.  
A fir-tree DIM that has brought Santa Claus.  
'A fir tree which Santa Claus has brought.' (2;07)

According specifically to the Romanian relative structure, children at this age never produce +PE ORs and, in most cases, omit the resumptive clitic too. When the pronoun is produced, it often has different *phi*-features with respect to the antecedent.

- (64) Un băiat care-l cheamă tot I.  
A boy that him<sub>CL 3RD SG.M.ACC</sub> calls<sub>PRES 3RD SG</sub> also I.  
'A boy whose name is also I.' (2;06)

- (65) O fată mare [pe] care \*il cheamă Antonia.  
a girl<sub>FEM</sub> big<sub>FEM</sub> that him<sub>CL 3RD SG.M.ACC</sub> calls<sub>PRES 3RD SG</sub> Antonia.  
'A grown up girl whose name is Antonia.' (2;06)

On the basis of the study carried out by Sevcenco et al., (2009) on a sample of 34 monolingual Romanian-speaking children aged 5;0 – 7;03, it is important to notice that

-PE ORs are attested also in older children's productions. It has been excluded, however, that the high number of -PE relatives produced by children is a reflection of the input they receive: children continue using this alternative even when they start school, where they are exposed to standard Romanian, namely to +PE ORs.

Another study assessing relative clauses production was conducted by Sevcenco et al. (2012) on 32 Romanian-speaking children aged between 5;00 and 6;11, compared to a control group of 12 Romanian-speaking adults.

The first experiment, an elicited preference task, investigated production of both subject and object RCs.

Two types of grammatical ORs were identified: +PE and -PE ones.

ORs without *pe* and with an erroneous first person clitic or a wrong resumptive DP were considered ungrammatical. Sentences lacking both the preposition and the resumptive element, and only containing the overt pre- or post-verbal subject were counted as ungrammatical as well.

Another category included those ambiguous sentences lacking *pe*, the resumptive clitic and the overt subject. Moreover, the phi-features of the head of the relative and of the embedded verb did not help to interpret the sentence. These productions were discarded from the analysis.

SRs instead of ORs, SRs with  $\theta$ -role reversal, SRs with reflexive or passive predicates, non-embedded sentences or fragments of sentences were attested and considered non-target responses.

Results showed the expected asymmetry between SRs and ORs which is attested across languages. Interestingly, also adults tend to avoid ORs production, even more frequently than children. Despite the similarity of quantitative results, however, adults never produced ungrammatical sentences.

Relying also on spontaneous speech recordings, the same patterns are shown. Moreover, as we have seen in the previous findings, -PE ORs constitute almost the totality of the ORs produced by children. Adults, on the other hand, omit the preposition at a significantly lower rate.

Children's *pe* omission in ORs has been reported also in bilingual contexts (Romanian - Hungarian), even if the same preposition tends to be overused in other situations (Tomescu, 2012).

Moreover, children prefer overt post-verbal subjects, followed by a preference for null-subjects and, at the lowest rate, for overt pre-verbal subjects.

In order to reduce the high number of ambiguous responses, further production tests, based on a preference task, were carried out, during which the *phi*-features of the moved element and of the embedded verb were manipulated. A group of 25 monolingual Romanian-speaking children aged between 5;0 and 6;5 and another one formed by 35 monolingual Romanian-speaking children aged between 5;3 and 6;11 took part in the studies. A control group of 12 adults was compared to the first group.

The results confirmed the SRs/ORs asymmetry, even though, maybe enhanced by the facilitating effect of the *phi*-features manipulation, ORs appeared at a slightly higher rate. Proportionally with this pattern, also the clitic omissions increased. The omission of the preposition *pe* was maintained.

### **2.7.2.2 Relative clauses comprehension**

Sevcenco et al. (2012) investigated also children's comprehension of direct object relatives with *pe* in comparison to that of subject relatives, and comprehension of -PE direct object relative clauses.

The first experiment was addressed to 57 monolingual Romanian-speaking children (35 – 89 months) and to 10 adults. It was administered through a sentence-picture matching task.

The second experiment was designed to test to what extent children could understand -PE ORs.

As we said, these structures can be ambiguous, that is why some disambiguating cues were inserted in the clauses: agreement on the verb (*phi*-features manipulation), overt subject, accusative resumptive clitic. The aim was also that of measuring which cue played a more important role in the comprehension of these constructions.

25 Romanian-speaking children (48 – 89 months) participated in the experiment. A control group of 10 adults was tested as well.

The results of the first experiment, as far as +PE ORs were concerned, were not significantly different from those obtained in the second experiment with -PE ORs, disambiguated by clitic and post-verbal subject insertion. The absence or the presence of the preposition *pe* seemed not to be a relevant feature for ORs comprehension. Disambiguating cues, therefore, especially the use of the clitic and the manipulation of the *phi*-features, actually helped children to understand these sentences.

To summarize, we could say that, as far as production is concerned, children have a

strong bias towards -PE relative clauses. This fact may indicate two things: first, it may highlight the fact that children interpret *care* as a complementizer. Secondly, children seem to opt for the non-movement system, preferring therefore the less derivationally complex structure. The results obtained on comprehension tasks, moreover, reinforce this theory, as children do not treat *pe* as a disambiguating cue for ORs.

However, the asymmetry found between SRs and ORs cannot be explained on the basis of presence/absence of movement operations. Thence, it has been proposed that this bias may be due to the long distance dependency, over an intervening null or overt subject, between the obligatory accusative clitic in the embedded position and its antecedent, which constitutes a complex derivational effect. Moreover, the nature of the features characterizing the antecedent, the intervening subject and the resumptive clitic, may affect the comprehension. These findings are similar to those we have seen according to Italian data.

The fact that also in adults an asymmetry between SRs and ORs was observed may suggest that this bias continues even during adulthood. However, the different strategies, compared to children's ones, used by adults in order to avoid ORs production, reveal that the underlying causes of this asymmetry are not the same.



## Chapter 3

### The Passive Clause in Italian

#### 3.1 Introduction

The passive clause is a complex structure which is acquired relatively late by children, as it presents a marked word order, derived through a reorganization of the sentence grammatical functions.

This chapter will be devoted to a description of the passive structure in Italian, to its acquisition and, more briefly, to a definition of the Romanian passive clause structure.

#### 3.2 The structure of the passive clause

The passive derivation involves, as we already said, a reorganization of the whole structure.

First of all, the verbal morphology modifies, since the verb becomes formed by the auxiliaries *essere* ('to be') or *venire* ('to come'), followed by the past participle of the lexical verb.

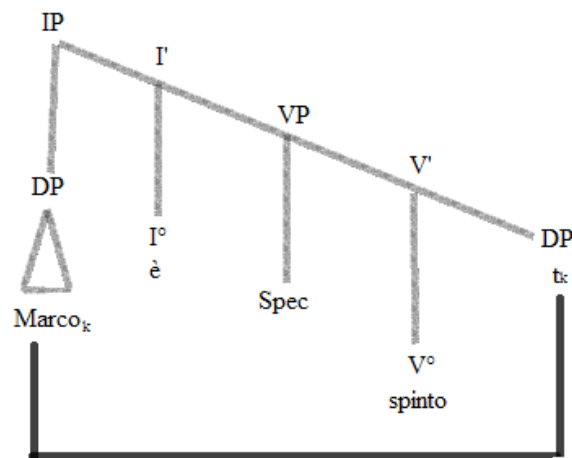
The agent of the action is no longer a DP, but can be expressed through a PP, namely it can be introduced by a phrase whose head is the preposition *da* ('by') and which carries the NP agent of the sentence, i.e. the subject of the active sentence (it is called *by*-phrase). It can however be either expressed or not, depending on the context and on the message that has to be conveyed.

The patient, on the other hand, becomes the grammatical subject of the clause. The verb changes its morphology since it agrees in gender and number with the patient, i.e. with the subject of the passive sentence (Haegeman, 1996).

The type of movement involved in the passive derivation is A-movement, since the NP object moves to SpecIP, an A-position, and leaves a coindexed trace in the embedded position, forming therefore a chain called A-chain.

- (1) Sara spinge Marco.  
'Sara pushes Marco. (Active sentence)

- (2) Marco è spinto da Sara.  
 'Marco is pushed (by Sara).' (Passive sentence)



Despite being the grammatical functions of the arguments changed, and being therefore the word order non canonical, the thematic roles remain unchanged. Thence, the described event is the same in both the active and the passive sentence.

In English, two types of passive clauses can be identified, namely *adjectival* and *verbal* ones. This classification works also for Italian, and is very important in order to investigate children's acquisition of passive structures (Wasow, 1977; Guasti, 2002; 2007).

Let us look at the example below:

- (3) The door was closed.

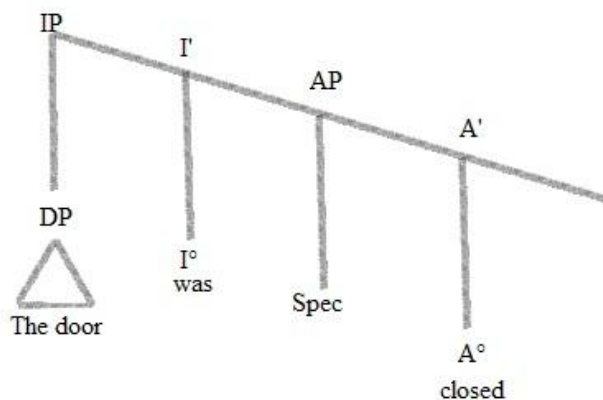
The interpretation we could give to this sentence is twofold between *adjectival* and *verbal* passive. The former requires a stative reading, and therefore it refers to the state of the door, which is closed. The latter, on the other hand, requires an eventive reading, since it refers to the event of the door being closed (by someone).

From a syntactic point of view, in the adjectival passive, *closed* is the head of an adjective phrase, while, in the verbal passive, it heads a verbal phrase. Indeed, the derivation of the verbal passive clause is the one we have seen in the tree in (2), and it involves syntactic operations. Moreover, the verb maintains its argument structure and assigns all the theta-roles to its arguments.

Adjectival passives, instead, are generated at the lexical level. The external argument

(the agent) is no longer assigned a thematic role and the theme is directly projected into the subject position, where it is originally generated (see example (4)) (Wasow, 1977; Williams, 1980).

(4)



According to Guasti (2002; 2007), the ambiguous interpretation related to (3) can be solved by the addition of the *by*-phrase, which gives to the clause an unambiguous eventive status.

In other languages, such as Hebrew and German, adjectival and verbal passive never lead to an ambiguous interpretation, since they are morphologically different. In Hebrew, for example, while verbal passive are inflected according to tense and phi-features, adjectival ones only agree in gender and number:

(5) *Verbal passive*

Ha-yalda sorka (al-yedey 'ima shel-a).  
 the-girl combed-PASS by mother of-her  
 'The girl was combed by her mother.'

(6) *Adjectival passives*

Ha-yalda hayta mesoreket (\*al-yedey 'ima shel-a).  
 the-girl was combed-ADJ by mother of her

### 3.3 The passive structure derivation

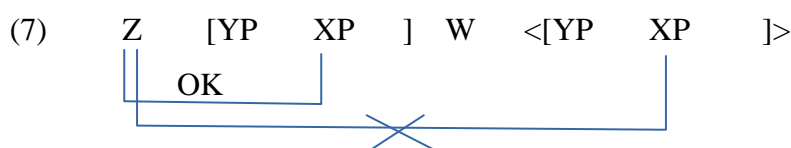
Jaeggli (1986) proposed that the theta-role of the agent of the action is “absorbed” by the past-participle morpheme of the lexical verb, through an operation which is called *theta-role absorption*. The suffix of the verb, therefore, would be itself an argument to which case and external  $\Theta$ (theta)-role are assigned. After that, through an operation called *theta-role transmission*, the passive suffix would assign the external  $\Theta$ -role to the PP, headed by the preposition *by*. Hence, the thematic role would be transferred to the preposition *by*, which would finally transmit it to the DP complement.

Collins (2005) however, rejected this hypothesis, motivating his dissent with the observation that in Jaeggli's analysis the external argument in the passive is assigned a theta-role (via absorption and transmission) in a way that is totally different from how the external argument is assigned a theta-role in the active form. This theory constitutes therefore a violation of the Uniformity of Theta-Assignment Hypothesis (UTAH, Baker, 1988; 1997), which claims that identical thematic relationships between items are represented by identical structural relationships between those items at deep structure level. (Collins, 2005:83)

Thence, the subject is likewise originated and is submitted to the same thematic relationships both in the active and in the passive context.

The author leans on a new theory, called *Smuggling*, in order to justify the way passive clauses are formed. The hypothesis is explained as follows:

“Suppose a constituent YP contains XP. Furthermore, suppose that XP is inaccessible to Z because of the presence of W (a barrier, phase-boundary, or an intervener for the Minimal Link Condition and/or Relativized Minimality), which blocks a syntactic relation between Z and XP (e.g. movement, Case checking, agreement, binding). If YP moves to a position c-commanding W, we say that YP smuggles XP past W.” (Collins, 2005:97)



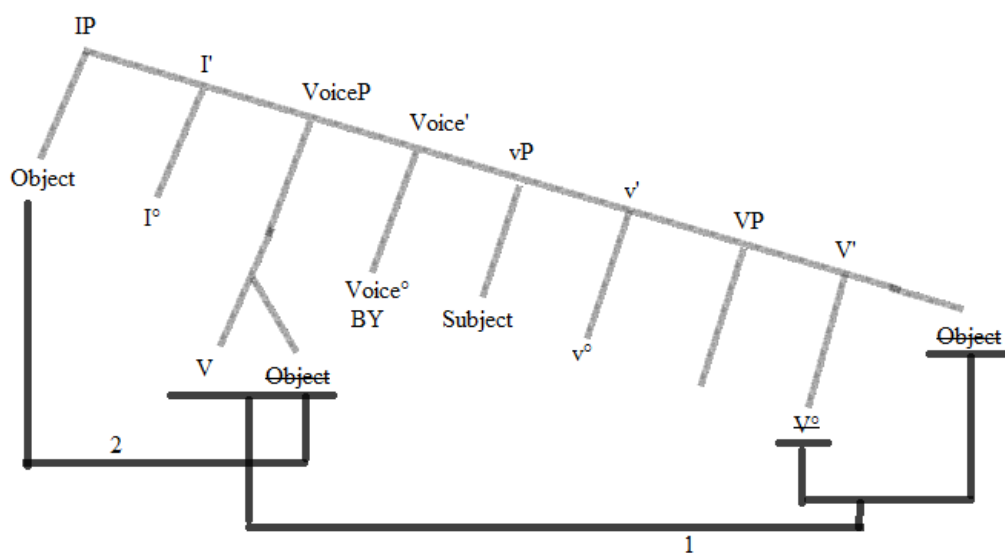
According to the principle of Relativized Minimality, the movement of the internal argument (namely the patient) would be blocked by the presence of the external

argument (the agent), an element with which it shares similar features.

More steps are therefore necessary in order to avoid Relativized Minimality. The first movement that takes place involves the whole VP, i.e. the verb and the object, past the subject of the active sentence. The presence of the verb, indeed, licenses the smuggling of the object to a position higher than the subject (SpecVoiceP).

After this step, a further movement involves only the patient of the action, which reaches the subject position, i.e. SpecIP, as the following example shows:

(8)



### 3.4 The acquisition of passive clauses

Passive clauses are acquired relatively late by children, given the complex derivation and re-organization of the structure they involve.

Several studies (Maratsos et al., 1985; Borer and Wexler, 1987) affirm that the passive structure is acquired by children between the 5<sup>th</sup> and the 7<sup>th</sup> year. However, the debate is still open (see sections 3.4.1 and 3.4.2).

Referring to the distinction we made between eventive and stative passive clauses, a study carried out by Horgan (1978) demonstrated that English-speaking children aged between 2;0 and 3;0 tend to produce and understand better passives which describe states (adjectival passives), rather than events (verbal passives).

Another factor which influences children's comprehension and production of passive sentences, is the difference between actional (*to kiss, to push*) and non-actional (or psychological) verbs (*to remember, to see, to love*). A study carried out by Maratsos et al., (1985) showed that children aged 4-5 years old have less difficulties with actional verbs.

Hirsch and Wexler (2006), on a study conducted with a sample of American children aged 3-5 investigating comprehension of active and passive sentences, demonstrated that, besides preferring active sentences over passive ones, and actional verbs over non-actional ones, 3 year-old children understand better passive clauses without the *by*-phrase. This finding clashes with a research conducted by Fox and Grodzinsky (1998), who claim that the difficulties children have with passive sentences depend on the type of verb: according to their finding, indeed, actional passive sentences both with and without *by*-phrase are equally understood by children (when the verb is non-actional, however, children prefer sentences without the *by*-phrase).

A general improvement in comprehension and production of passive sentences is observed between 4-5 and 5-6 years old.

Studies on Italian-speaking children, moreover, provide results which are similar to English data. According to Chilosi and Cipriani (1995), around the 5<sup>th</sup> year, children perform 85% of correct responses in passive clauses containing irreversible verbs (*Il film è visto dal bambino* – 'The movie is seen by the child'); around 5;6 years old, instead, they have acquired passive structures with reversible verbs (*La bambina è spinta dal bambino* – 'The girl is pushed by the boy') and infelicitous passive sentences (*La mamma è imboccata dal bambino* – 'The mother is fed by the baby') (Guasti, 2002; 2007).

### **3.4.1 The Maturation Hypothesis**

Despite being the linguistic mechanisms devoted to the passive structures derivation part of the Universal Grammar, the Maturation Hypothesis (Borer and Wexler, 1987) supports the assumption that the processes which are involved in the verbal passives formation are not mature until the 6<sup>th</sup> or the 7<sup>th</sup> year. Before that age, indeed, the authors claim that children are able to compute only adjectival passive clauses.

Let us look at the following example:

- (9) Alice è pettinata (da Aladino).  
'Alice is combed (by Aladin)'.

In this sentence 'Alice', who is the patient of the event, has undergone a movement from the internal object position of the active sentence, to a subject position in SpecIP, where it determines the agreement features in common with the inflected verb.<sup>8</sup>

This type of movement, as it has been already said, is called A-movement, since it involves movement to an A position (SpecIP).

According to Borer and Wexler (1987) children are not able to produce and understand verbal passives as their grammar does not yet include A-movement and A-chains formation, which will be available only with biological maturation.

The only interpretation which would be compatible with the grammatical maturation would be that of the adjectival passive structure. As we have seen, adjectival passives do not project a VP, but an AP; moreover, they do not involve an A-movement.

Therefore, according to the authors, children attribute to every passive sentence they hear the structure of adjectival passives.

Some predictions come with this statement: (a) with psychological verbs, it is not possible to form adjectival passives (*La porta è chiusa* – 'The door is closed' – is not equivalent to *Marco è visto* – 'Marco è visto'), (b) only a stative interpretation can be given to this type of passive structures and (c) since children produce only adjectival passives, they will not produce the *by*-phrase.

These properties seem to be compatible with the main features characterizing early passive productions. (Guasti, 2007)

### 3.4.1.1 Problems with the Maturation Hypothesis

The first objection which has been made against the Maturation Hypothesis is based on the fact that it is generally accepted that the subject of a clause is base-generated in SpecVP and then moves to SpecIP, undergoing thence an A-movement and forming an A-chain.

Being this one too an example of A-movement, we would expect children not to be able to produce simple SVO sentences.

Borer and Wexler (1992), however, motivated this incongruence by specifying that not

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<sup>8</sup> In Italian this movement is optional.

all A-chains are problematic for children, but only those ones which join two theta-positions. (Guasti, 2002)

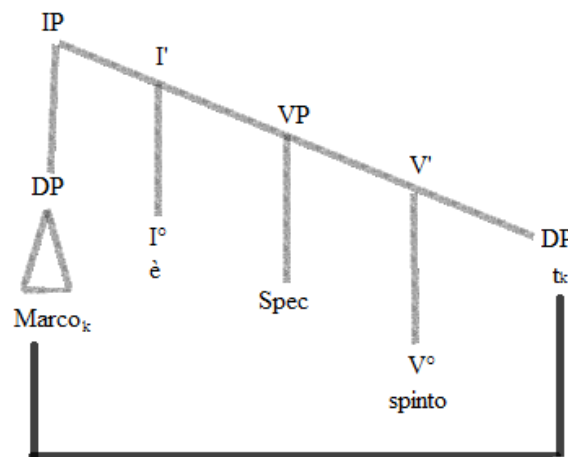
Another issue that counteracts Borer and Wexler's view deals with the use of sentences containing unaccusative verbs.

Let us look at the following sentence:

- (10) Il ragazzo è arrivato in ritardo.  
 'The boy has arrived late.'

The structure of (10) is analogous to that of (2), reported here:

- (2) Marco è spinto da Sara.  
 'Marco is pushed by Sara.'



Both in passive sentences and in sentences containing an unaccusative verb, the patient moves from its object position and rises in order to achieve the subject position, SpecIP. This movement joins two argument positions, therefore the movement and the chain are of the A-type.

Considering these assumptions, and considering Borer and Wexler's hypothesis, we would expect children not to produce sentences with unaccusative verbs. However, according to Lorusso et al. (2005), for Italian, and to Friedmann (2006), for Hebrew, children actually do produce clauses with unaccusative verbs:



(11) Fello casca (= Raffaello). (Raffaello, 1;10)

'Fello falls down (= Raffaello).'

(12) Io so' (= sono) venuta a giocare colle babbi. (Diana, 2;6)

I amAUX come(f.sing.) to playINF with-the dolls

'I came to play with dolls.'

### **3.4.1.2 Further evidence against the Maturation Hypothesis: the case of Sesotho-speaking children**

Borer and Wexler's Maturation Hypothesis was challenged also by researchers who reported situations similar to the one of Sesotho-speaking 3-year-olds.

According to Demuth (1989), indeed, children speaking this Bantu language, during spontaneous speech, show to process passive clauses correctly since the age of 3.

A study carried out by Demuth et al. in 2010 on a sample of 3-year-old Sesotho speaking children, demonstrated that they actually comprehend passive clauses with no effect of actional/non-actional verb type, and they also perform very good on passives elicitation tasks. They possess therefore a strong knowledge of the syntax of the passive construction.

This fact obviously raises questions about the underlying mechanisms that define this early acquisition. If we had to take into account Borer and Wexler's maturation issue, we would expect a similar timing of acquisition of the same structures across languages. Given that Sesotho passive clauses are structurally very similar to English ones, it means that either the Maturation Hypothesis cannot explain the late acquisition of English passives, or (and this is the position which has been taken into consideration) the maturation of the required mechanisms is complete by the age of 3 and other language-specific factors are responsible for the delay in the acquisition of this structure in languages such as English (Demuth et al., 2010).

Since it has been reported that Sesotho caregivers tend to use more passive sentences, both with and without the *by*-phrase, than do English-speaking parents, Demuth (1989) proposed that the advantaged acquisition of passive clauses by Sesotho-speaking children would be triggered by the richness of the input they are exposed to.

Moreover, these children have less difficulties from a syntactical point of view, as Sesotho passives do actually present different structures for adjectival and verbal

passive sentences: the syntax, the morphology and the semantics are therefore more transparent than they are in a language like English (or Italian).

### 3.4.2 The Theta-role transmission deficit theory

Fox And Grodzinsky (1998) rejected Borer and Wexler's (1987) hypothesis, proposing an alternative theory on the basis of a study carried out on a sample of English-speaking children aged 3;6 – 5;5, and accounting on data already existing in the literature.

On their view, the cause of children's deficiency in passive structures would not be triggered by the inability to form A-chains, but by a difficulty in transferring the predicate theta-role to the *by*-phrase.

Without analysing the whole theory in detail, it is important to highlight the fact that this assumption is validated on the basis of three main arguments:

- i. children perform successfully on other structures involving A-movement;
- ii. children fail on structures not containing A-chains, but presenting some important features of the passive;
- iii. there is empirical evidence to the fact that children's problems with passives are not due to A-chains (Fox and Grodzinsky, 1998).

### 3.4.3 The canonical alignment hypothesis

Hyams et al. (2006) provide a theory suggesting that the difficulties that children meet when dealing with passive sentences is due to an inability to form A-chains, but only when they imply a non-canonical alignment between thematic hierarchy and grammatical functions.

Let us look at examples (13 a, b) and (14 a, b). The first two examples show a passive derivation of an active sentence, whereas the other two present the same clause containing an unaccusative verb, the first one with pre-verbal subject and the second one with post-verbal subject.

- (13) a. Aladino pettina Alice.  
'Aladdin combs Alice.'

- b. Alice è pettinata da Aladino.  
'Alice is combed by Aladdin.'
- (14) a. Uno studente è arrivato in ritardo.  
'A student has arrived late.'
- b. È arrivato uno studente in ritardo.  
(It)is arrived a student late.  
'A student has arrived late.'

During the changeover from active to passive in (13 a, b) there is a re-organization of the grammatical functions: the patient becomes the subject, while the agent changes into an optional Prepositional Phrase (PP), as already reported in section 3.2.

In (14 a, b), on the other hand, the subject always maintains its function, both when it is pre- and post-verbal.

This difference would be therefore the explanation to the late acquisition of passive sentences.

Typically, indeed, the agent tends to be the higher element in the hierarchy, to which the grammatical function of *subject* is assigned. If an argument is the only one selected by a verb, in fact, it is usually assigned to the theta-role of *agent* and to the grammatical function of *subject*.

In sentences such as passive clauses, this typical association is modified: it is this incongruence, according to Hyams et al. (2006), which constitutes a problem for children.

#### **3.4.4 Studies on Italian-speaking children: Manetti (2013) and Volpato et al. (2015)**

Manetti's (2013) study was carried out through a set of three experiments all devoted to assess passive clauses production.

The first experiment was devoted to the description of a series of transitive actions, depicted on some cards. The experimenter had to pose two types of questions: neutral ones such as *Che cosa succede?* ('What is happening?') or patient-oriented ones such as *Cosa succede a X?* ('What is happening to X?').

Patient-oriented questions could be answered either with a pronominalized structure (such as Clitic Left Dislocation) or with a passive sentence.

Comparing 12 Italian-speaking children aged between 3;5 and 4;6 to a sample of 12

Italian-speaking adults aged between 20 and 27, the author observed that, while the children did not produce any passive sentences, preferring topicalized structures for their responses (15), adults tended to produce more passives, especially those with *venire* ('to come') as auxiliary (16):

(15) L'elefante lo spinge.  
The elephant himCl pushes.  
'The elephant pushes him.

(16) Viene catturato dall'elefante.  
(It/He) comes caught by the elephant.  
It/He is/gets caught by the elephant.<sup>9</sup>

Experiments 2 and 3 assessed passives production after having exposed the participants (two further groups of Italian-speaking children aged between 3;6 and 4;6) to syntactic priming. Children were indeed previously exposed to active and passive primes and then asked to describe unrelated transitive actions.

During the priming phase, both type of passive auxiliaries (*essere* and *venire*), with and without *by*-phrase, were used, in order to investigate children's level on ambiguous and unambiguous clauses.

The results showed that, under priming effects, children produced passive sentences both with copular passive morphology (auxiliary *essere* – 'to be') and verbal passive morphology (auxiliary *venire* – 'to come'), providing proof to the fact that, despite their preference in spontaneous speech for topicalized constructions, children already master long verbal passive clauses syntax at the age of 4.

Similar results had been found for English-speaking children by Bencini and Valian in 2008.

Volpato et al.'s study, published in 2015, assessed the comprehension of passive sentences in a sample of Italian-speaking children aged between 3;4 and 6;2.

The goal of the study was not only to assess comprehension according to the already investigated passive combinations (actional vs non-actional verb, or absence vs presence of the *by*-phrase), but also to focus on the Italian variable consisting in the alternative use of the auxiliary *venire* ('to come').

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<sup>9</sup> Examples taken from Manetti (2013:6).

While, indeed, the auxiliary *essere* ('to be'), if used without the *by*-phrase, leads to ambiguity between an adjectival or a verbal interpretation (see ex. (17)), a passive sentence containing the auxiliary *venire* (18) can only carry an eventive interpretation:

(17) La porta è chiusa.

'The door is closed.'

(18) La porta viene chiusa.

The door comes closed.

'The door is being closed.'<sup>10</sup>

Investigating the comprehension of passive clauses containing *venire* could therefore be a way to understand whether children process correctly at this age verbal passive syntax. The results showed that children, as expected from previous findings, understand better sentences containing actional verbs than those containing non-actional verbs; moreover, it was demonstrated that there is not significant difference between the comprehension of long vs short passives (namely, with and without the *by*-phrase).<sup>11</sup>

The interesting results obtained by the authors, however, deal with the large comprehension performed by children of passive sentences containing the auxiliary *venire*. Actually, no significant difference in comprehension was observed between the use of the two auxiliaries, except for one group of children. This fact provides support to the statement that early passive are true eventive passive, and that A-chains are available to children from the earliest stages of acquisition. These findings are in line with Collin's (2005) proposal on the derivation of the passive structure.

As we said previously, the authors observed that a group among the participants experienced a difference between the two auxiliaries, namely they encountered some difficulty in comprehending passive clauses containing *essere*. This situation can be due, according to the experimenters, to the ambiguity that the auxiliary *essere* produces in Italian passive sentences.

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10 Examples are taken from Volpato, Verin and Cardinaletti (2015:4).

11 This particular result confirmed the conclusions reached by Driva and Terzi's study on Greek-speaking children (2008).

### 3.5 Passive clauses in Romanian

In order to describe the passive construction in Romanian, we will take into consideration the syntactical analysis provided by Alboiu (2000).

As far as early acquisition of passives is concerned, however, no data on this language are available.

In Romanian, this structure is equivalent to the English one (and therefore to the Italian one too). Two types of passive constructions are attested: one of them is realized with the affixal morphology, the other one with the clitic *se*.

The first type of passive clause is exemplified in (20) and (21):

- (19) Mihai        a        citit cărțile.  
Mihai<sub>NOM</sub>    AUX<sub>3SG</sub>    read books.the  
'Mihai has read the books.'

- (20) Au        fost citite cărțile        (de Mihai).  
AUX<sub>3PL</sub>    been read<sub>F,PL</sub> books.the<sub>NOM</sub> (by Mihai)  
'The books have been read (by Mihai).'

- (21) Cărțile        au        fost citite        (de Mihai).  
books.the<sub>NOM</sub>    AUX<sub>3PL</sub>    been read<sub>F,PL</sub> (by Mihai)  
'The books have been read (by Mihai).'

In (20) and (21), the active sentence represented in (19) is affixally passivized, using the past participle form of the verb *fi* ('to be'). The process through which the passive version of the active sentence is formed is analogous to what happens in English or in Italian: the subject of the active sentence, i.e. the agent, becomes optionally expressed by a PP headed, in this case, by the preposition *de* ('by'); the object of the active sentence, i.e. the patient, is assigned nominative case and becomes the subject of the passive clause.

It is important to notice that in Romanian the grammatical subject of the passive sentence can appear both in pre- (21) and post-verbal (20) position. More specifically, it can appear pre-verbally only if associated to a neutral intonation.

This type of passivization was labelled by Spencer (1991) as '*canonical*'. In addition to

this pattern, another way to derive the passive form is attested in Romanian, namely through the use of the pronominal *se*: Spencer (1991) named this alternative passive construction '*reflexive*' passive<sup>12</sup>.

(22) Toată lumea mănâncă mere.  
All people.the eat.<sub>3SG.PR</sub> apples  
'Everybody eats apples.'

(23) Se mănâncă mere (de toată lumea).  
SE eat<sub>3SG.PR</sub> apples.NOM (by all people.the)  
'Apples are being eaten (by everybody).'

Note that with this type of passive, only post-verbal subjects are available:

(24) \* Mere se mănâncă (de toată lumea).  
apples.NOM SE eat<sub>3SG.PR</sub> (by all people.the)

In Romanian both affixal and reflexive passive are instances of canonical passive. *Se* therefore plays the same role that the passive morphology does in the canonical passive, namely it absorbs the external theta-role and the accusative case. *Se* passives, however, tend not to be used when the logical object (i.e. the grammatical subject of the passive clause) is an animated NP, as it would constitute an ambiguous interpretation between a passive and a reflexive reading.

Nominative NPs have to be specific in order to raise to SpecIP, otherwise their default position is the post-verbal one.

### 3.5.1 Nominative-case licensing in Romanian

Considering what we have seen in the previous sections, one may inevitably wonder whether the logical object can be nominative case-licensed in its original embedded position, or needs to move in order to do so.

According to the author, the object NP can be assigned nominative case without raising,

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12 Despite being this type of passive named *reflexive* passive, there is semantic and syntactic evidence proving that passive *se* is distinct from reflexive *se*. (Dobrovie-Sorin, 1994b; 1999)

and there are empirical data, based on Binding phenomena, to support it.

Let us see the following example:

- (25) Pictorul<sub>i</sub> a dăruit [<sub>VP</sub> t<sub>i</sub> t<sub>V°+V°</sub> [fiecărui copil]<sub>j</sub> t<sub>V°</sub> potretul lui<sub>i/j</sub>].  
painter-the AUX.3SG given [<sub>VP</sub> t<sub>i</sub> t<sub>V°+V°</sub> each.DAT child<sub>j</sub> t<sub>V°</sub> [portrait-the his<sub>i/j</sub>]ACC]  
'The painter<sub>i</sub> gave each child<sub>j</sub> his<sub>i/j</sub> portrait.'

The possessive pronoun *lui* ('his') can either refer to *pictoriul* ('the painter') or *fiecărui copil* ('each child'). While, indeed, NPs can co-refer to a non-c-commanding pronoun (26), quantified nouns need to bind the pronoun they refer to (27):

- (26) Mihai<sub>i</sub> was excited and he<sub>i</sub> was happy.  
(27) \*[Every boy]<sub>i</sub> was excited and he<sub>i</sub> was happy.  
(28) [Every boy]<sub>i</sub> thought he<sub>i</sub> was happy.

(27) is ungrammatical because the pronoun is not c-commanded by the quantifier. In (25), therefore, the possessive pronoun *lui* ('his') is c-commanded by the quantified indirect object.

Let us see the passive versions of (25):

- (29) A fost dăruit [<sub>VP</sub> fiecărui copil]<sub>j</sub> t<sub>V°</sub> portetul lui]<sub>j</sub>.  
AUX.3SG been given [<sub>VP</sub> each.DAT child]<sub>j</sub> t<sub>V°</sub> [portrait.the his]<sub>j</sub>[NOM].  
'His portrait has been given to each child.'  
(30) Portetul lui<sub>\*j</sub> a fost dăruit [<sub>VP</sub> fiecărui copil]<sub>j</sub> t<sub>V°</sub> t].  
[portrait.the his<sub>\*j</sub>]<sub>NOM</sub> AUX.3SG been given [<sub>VP</sub> each.DAT child]<sub>j</sub> t<sub>V°</sub> t].  
'His portrait has been given to each child.'

In (29) the direct object (become subject) is still c-commanded by the indirect object, therefore coindexation is legitimate.



In (30) the nominative argument has raised above the indirect object, and is therefore no longer c-commanded by the quantified object. There is a violation of the anaphoric binding rule, which leads coindexation between the two elements to ungrammaticality. The same pattern is shown with reflexive passive, as we can see from examples (31) and (32):

(31) S- a            dăruit [ <sub>VP</sub> fiecărui copil<sub>j</sub> t<sub>V°</sub> portretul    lui<sub>j</sub> ].  
 SE-AUX.<sub>3SG</sub> given [ <sub>VP</sub> each.<sub>DAT</sub> child<sub>j</sub> t<sub>V°</sub> [portrait-the his<sub>j</sub> ]<sub>NOM</sub> ]  
 'His portrait has been given to each child.'

(32) Portretul    lui<sub>\*j</sub>            s- a            dăruit [ <sub>VP</sub> fiecărui copil<sub>j</sub> t<sub>V°</sub> t ].  
 [portrait-the his<sub>\*j</sub> ]<sub>NOM</sub> SE-AUX.<sub>3SG</sub> given [ <sub>VP</sub> each.<sub>DAT</sub> child<sub>j</sub> t<sub>V°</sub> t ].  
 'His portrait has been given to each child.'

“The fact that the c-commanding relationships need not to change in the transition from active to passive, suggests that there is no reason to assume that the Nominative object raises out of its initial Merge position for the purposes of Case-licensing at any level in the derivation.” (Alboiu, 2000:100-101).

In Romanian, therefore, logical objects do not raise in passive constructions in order to be assigned case-marker.

## Chapter 4

### The explicit syntactic teaching – Previous studies

#### 4.1 Introduction

Over the past few years explicit syntactic teaching has caught on, being a technique which usually brings to positive results.

There are several reasons that give support to the effectiveness of explicit syntactic teaching. First of all, every kind of teaching based on a meta-linguistic approach is always considered helpful: indeed, it gives one the opportunity to *think* about his/her language and achieve a mastery of the treated linguistic principles, by-passing through a process of deep *comprehension* of them. The main goal is, therefore, to induce a reflection in order to internalize some issues, rather than just providing “ready-made” notions. Children, and people in general, learn better what they understand (see Chapter 1), that is why it is not hard to realize how effective this type of approach could be.

Despite its enormous value, this technique has been recently discovered, and has not been well known and explored yet.

Besides being useful in normal school education, explicit syntactic teaching has shown to be fruitful with people affected by brain, sensory or linguistic impairment, and also with the purpose of accelerating language acquisition in very young children.

In the school environment, this technique is very far from being the most used. Teaching of the grammar, which invites children to think about their language, to reflect upon “whys” and “hows” of certain mechanisms, would doubtlessly give better results and stimulate students' motivation. Conversely, the school reality is based on a classic deductive method of grammar teaching, where rules are provided by the teacher, maybe through schemes and tables, that require nothing but to be learnt by heart (Daloiso, 2012).

Ronald Carter in 1982 wrote a book, *Linguistics and the teacher*, in which he deals with the problem of lack of communication between linguists' and teachers' worlds. His point is that, actually, in addition to this huge remoteness between their approaches to language, they are not even able to guess under which circumstances they could be useful to help each other.

Let us think, for example, about language acquisition mechanisms: how effective and

helpful would a theoretic and applied linguistic approach to this issue be for a teacher who has to deal with young children? According to the author, indeed, it would only need to try a collaboration between these two figures, in order to demonstrate “[...]how some knowledge of linguistics, a framework for studying language and some analytical tools might illuminate pressing educational issues. Such a 'reactive' role of the linguist (Crystal 1983), which begins with a problem rather than a theory, seems an essential starting point if real dialogue is to be established.” (Czerniewska, 1984).

Dealing with the explicit syntactic approach, in the form of teaching, in relatively recent literature it is possible to find studies regarding its application on different kinds of populations.

In the following sections I will present several studies carried out on patients affected by Syntactic Specific Language Impairment (SySLI) (Ebbels & van der Lely, 2001; Levy & Friedmann, 2009), and non-fluent agrammatic aphasia (Broca's type) (Thompson & Shapiro, 2005), on a deaf child with Cochlear Implant (D'Ortenzio, 2014) and on very young typically-developing children, with the purpose to accelerate their acquisition of some specific structures (Roth, 1984).

#### **4.2 Treatment on SySLI patients**

Ebbels and van der Lely (2001) and Levy and Friedmann (2009) carried out two explicit syntactic explicit teaching plans on patients affected by syntactic Specific Language Impairment (Sy-SLI).

SLI is a developmental deficit, attested so far in every investigated language, which specifically damages linguistic skills. Subjects affected by SLI go through language acquisition steps at a significantly slower pace than typical-development peers, and, moreover, they show a deviant pattern.

Specific Language Impairment covers from 3% to 10% of the population aged between 2 and 6, and can lead to relational, psychological and reading ability problems (Pozzan, 2006).

This deficit affects linguistic skills, without producing damages to auditory, phono-articulatory or neurological systems. In co-morbidity situations, more than one pathology, even though not being dependent the one from the other, can affect the subject, but SLI only deals with the linguistic domain.

Being the linguistic system composed of several independent modules (syntax,

phonology, pragmatics and lexicon) various scholars, among which Friedmann & Novogrodsky (2008), have assessed SLI's properties and have joined the conclusion that, as it was predictable, it is possible to be selectively affected on only one of the language components, being the others unimpaired. Therefore, different SLI's subgroups have been identified: Syntactic SLI (SySLI), Lexical SLI (LeSLI), Phonological SLI (PhoSLI) and Pragmatic SLI (PraSLI).

Children affected by SySLI show significantly worse performances if compared not only to typically-developing peers, but also to younger children. This provides support to the fact that the pattern demonstrated by SySLI is, in addition to delayed, deviant too. People affected by SySLI present difficulties in comprehension and production of movement-derived structures and in free inflectional morphology processing (clitic pronoun, determiners, and so on). More specifically, the deficit is conspicuous in cases where word order does not follow canonical rules (for example, SVO in Italian), namely in passive sentences, object relatives, object Wh- questions, and sentences containing clitic pronouns.

#### **4.2.1 Ebbels & van der Lely (2001)**

This study describes a therapeutic experience done with four English-speaking children ranging in age from 11;8 to 12;9 (RU, JD, FT, DG), affected by SySLI, with the purpose of expliciting grammatical relations existing between words.

The focus of the treatment was on passive structures and Wh- questions rehabilitation, which were extremely problematic for the patients.

It recurred to a codified visual scheme (inspired to Bryan's *Colourful Semantics* (1997) and Lea's *Colour Pattern Scheme* (1965, 1970)), which aims at the identification of thematic roles, syntactic dependence relations, grammatical categories, morphological inflections and hierarchic relations, through the use of colours and shapes.

The tests carried out in order to assess both participants' comprehension and production consisted in different typologies: an *acting out* procedure and a *picture selection* task assessed passives comprehension, whereas production was assessed through the record of the answers given to specific stimuli (*Tell me about the...*); Wh- questions comprehension was verified with a “*Whodunnit*” game. Production, instead, was tested through a modified version of *Cluedo*.

Testing sessions have been repeated once a week, for a four-week period.

Before the explicit teaching phase, the analysis of results showed that performances varied across the participants.

For what concerns passive sentences comprehension, RU and JD interpreted all passives as active sentences; DG showed an ascending pattern on the acting out task (from 67% to 100% on the third week), whereas he had difficulties with the picture selection test; FT generally produced few errors in comprehension tasks.

Production was hard for all patients, being the mean score always below 33%.

Wh- questions provided different scenarios too. Subject and object “who” questions were correctly understood by everyone, except RU (who however reached 100% successively). Object “which” questions were not understood by anyone (DG achieved 100% during the treatment).

The production of object and subject past Wh- questions generally caused problems.

Different error types were attested, such as “do support” errors, tense agreement inaccuracies (*Who did she saw?*), arguments or verb omissions (*Who did someone in the lounge?*), “gap filling” mistakes (*Who did Mrs Peacock see someone in the library?*), “which phrase” errors (*Which did the telephone rang?*).

After having seen the results, the experimenters thought that these children, being already in their pre-adolescence, had not been able to achieve a completely sufficient level in the processing of such structures, despite many years of special education. They thereafter guessed that the participants would have maybe managed to learn these issues in an explicit way, like a student who learns a foreign language.

As already mentioned, the system used during the explicit syntactic treatment made a wide use of shapes, colours and other visual elements. Different shapes were used to group constituents, each thematic role was associated to a format. Colours referred to grammatical categories, while an arrows system provided aspectual and tense information. Movement was visible, thanks to a graphic representation of traces and chains, which were represented as black arrows joining traces to moved constituents.

After thirteen 30-minute sessions, aiming at teaching to the patients the whole codification scheme, two 10-week blocks followed, one for passive structures and the other one for Wh- questions. The experimenters have therefore explained to the children all the syntactic rules which contribute to derive these sentences: verbs argument structure, thematic roles assignment, syntactic movement and coindexation with the traces.

Having then realized that Wh- questions needed more time to be processed, a further set

of sessions has been added. After every stage the subjects were assessed.

After the whole therapy, a period without any treatment session has followed. After that, the participants have been tested again in order to verify the treated abilities maintenance.

After treatment all participants showed improved performance.

RU showed a significant improvement both in comprehension and production of passive sentences and in comprehension of “which” Wh- questions; subject and object Wh- questions production grew better, but the results did not maintain until the follow-up.

JD, as regards passive structures, had already improved before the treatment, but this improvement became consistent only after the therapy. He moreover showed a significant progress in “which” questions comprehension and, similarly to RU, Wh- questions production did increase but without consistency.

DG significantly and consistently improved in passives comprehension, whereas, as regards to production, even if an improvement did occur, it was not as considerable as the previous one. Moreover, DG was the only one to have demonstrated a notable progress in Wh- questions production (but only subject Wh- questions), even after several months after the treatment.

As regards FT, it was only after the acting-out task that some improvement in passive sentences was observed; similarly to RU and JD, an improvement in Wh- questions production was noted, but it did not appear at follow-up too.

According to the authors, the study has been characterized by great variety.

FT, who had showed the least progress during and after the treatment, had however obtained the worst score also in the test assessing visual and perceptive skills: maybe the subject was not the best candidate for this type of intervention.

DG was the one who best maintained the level achieved during the therapy, demonstrating he had therefore acquired some useful strategies to strengthen and consolidate already known notions, namely movement-derived structures' properties.

This pattern has not been seen in RD or JD.

To conclude, Ebbels and van der Lely's method revealed itself useful for three out of four participants. The authors' intentions are however to extend this technique to other syntactic structures and to refine the codification scheme, in order to make it more accessible to more people.

#### **4.2.2 Levy & Friedmann (2009)**

This study describes a syntactic treatment experience with a Hebrew-speaking SySLI pre-adolescent boy (12;2), Gal.

A crucial aspect from which Gal's therapy began was his competence on verbs argument structure, that was intact. Participant's performance on relatives, passives, focus and movement-derived structures' comprehension and production was evaluated before, during and after treatment. Gal's results, moreover, have been compared to those achieved by two control groups, chosen on the basis of their age. The first control group was composed by 18 typically-developing children and adolescents (mean age 11;7), who were compared to Gal in relation to relative clauses comprehension, relative clauses reading and paraphrasing, oral relative clauses elicitation, relative clauses repetition and sentences with focalized elements comprehension; the second group included 10 participants with unimpaired language abilities (mean age 12;5), chosen to compare Gal on written relative clauses elicitation, wh- questions comprehension, verb movement comprehension and verb movement repetition.

The test through which subject and object relative clauses were assessed was taken from Battery for Assessment of Syntactic Abilities in Children (BAMBI, Friedmann & Novogrodsky, 2002) and Friedmann's Battery for Agrammatism (BAFLA, Friedmann, 1998).

It was composed of four parts: a sentence-picture matching task, a reading and paraphrasing task, a repetition task and a written and oral elicitation task.

The picture-matching task comprehended 80 semantically reversible sentences: 20 simple SVO, 20 subject relatives, 20 object relatives and 20 focus structures.

It has to be pointed out that in Hebrew the verb agrees with the subject in number and gender, that is why all sentences had identical gender and number features.

Gal's performance was at ceiling with SVO sentences, slightly worse with subject relative clauses and significantly below the control group mean with object relative clauses. Control groups' performance was always at ceiling or very close to that. Results on focus structures will be discussed later.

The reading and paraphrasing task was composed of 10 object relative clauses and 10 control sentences. Gal's score was 50% of accuracy on relative clauses, and 100% on control sentences. Control groups were always at ceiling. The most common errors consisted in the incorrect thematic roles assignment.

The sentences repetition task comprehended 8 object relative (*This morning mommy looked for the newspaper that daddy read*), 8 subordinate clauses without movement (*This morning mommy said to the children that daddy danced*), and 8 coordinate length-matched sentences (*This morning mommy looked for the newspaper and daddy read*).

While control groups performed almost always at ceiling, Gal's performance was subject to variability: in the first two tasks he achieved very low scores, similar in quantity, but containing different errors; in the last assignment, he performed significantly better, even if still worse than typically-developing peers.

The oral elicitation (BAFLA) consisted in one preference task (*Which boy would you prefer to be?*) and included 12 sentences (6 subject and 6 object relatives); written elicitation (BAMBI) consisted in 10 items (5 subject and 5 object relative clauses).

Gal made no errors in oral elicitation of subject relatives, while he did very much worse with object relatives. As regards to written elicitation, he did not perform correctly in any of the items. Control groups seemed not to have any problems with any of the tasks. Focalization was assessed using the picture-matching task. Despite Gal's results, which were above the threshold level, his performance was significantly below that of control group's (85% vs 100%).

Wh- questions comprehension was evaluated with a sentence-picture matching task, taken from BAFLA. It was composed of 80 semantically reversible sentences: 20 non-referential subject questions (1), 20 non-referential object questions (2), 20 referential case-marked object questions (3) and 20 referential object questions without case marker (4).

- (1) Mi menadned et ha-kelev?  
Who swings ACC the-dog  
'Who is swinging the dog?'
- (2) Et mi ha-yeled menadned?  
ACC who the-boy swings  
'Whom is the boy swinging?'
- (3) Et eize kelev ha-yeled menadned?  
ACC which dog the-boy swings  
'ACC which dog is the boy swinging?'



(4) Eize kelev ha-yeled menadned?

Which dog the-boy swings?

'Which dog is the boy swinging?'

The performance of the control group was at ceiling. Gal performed almost at ceiling in the subject questions task (95%), while, as regards to the remaining three tasks (non-referential object questions, referential object question with case marker and referential object questions without case marker), Gal's scores were respectively 85%, 65% and 60%.

Gal was also assessed in the use of sentences involving verb movement towards the second position of the sentence. Gal was administered two tests, one on comprehension and the other one on production.

The comprehension test consisted in a sentence-picture matching task and was composed of 31 sentences: 19 involving verb movement and presenting the object at the right side of the subject, having a verb homographic features, and 12 sentences containing a verb homograph object, but not involving verb movement. For example, a submitted clause provided the word “*orez*”, which can mean both *rice* or *to pack*. After having presented two pictures to the participant, one showing a bowl of rice and the other one showing a person who is packing, according to the patient's choice, it could have been understood if (s)he had erroneously interpreted the homograph object as the main verb, and therefore the V2 rule had not been correctly processed.

The production task, on the other hand, consisted in a repetition assignment and was taken from the BAMBI battery. It was composed of 20 sentences, 10 containing VS word order and 10 consisting of SV clauses.

As regards to SV structures, Gal performed at ceiling with both production and comprehension. For what VS clauses are concerned, his scores were 79% in comprehension and 60% in production (compared to respectively 99% and 98% of the control group).

Gal's explicit syntactic treatment was carried out in a six-month period (16 sessions lasting from a minimum of 20 to a maximum of 60 minutes).

All phases followed the same structures: an *explanation* part at the beginning, a *training* part and a final *testing* part. Everything was presented first in a written way and then orally.

The first step was dedicated to the presentation of all verbs types, with their argument

structure and thematic roles assignment. The use of colours was crucial. Thanks to Gal's inventiveness, it was possible to use a metaphor in order to understand better these notions: verbs were compared to some officials who, according to their grade, could exercise their command upon the soldiers, which represented the arguments. It was very important to take advantage of the patient's interests, in order to make the therapy lighter and more agreeable.

After this introduction, the Thematic Criterion was explained to Gal and, after that, the syntactic movement was introduced.

The experimenters made great use of cards with one word written on each one of them, to make the movement issue clearer and more tangible. The phenomenon was indeed *shown* to Gal, through cards movement. Chains and traces were explained to the patient by using colours.

After this part, characterized by high tangibility, a more abstract phase including oral tasks began.

The experimenters treated two types of movement: Wh- movement (focus, object and subject RC) and verb movement.

Wh- questions, despite having been included in the pre-treatment phase, were not explicitly treated on purpose: the authors wanted indeed to verify if performance on Wh- questions would have improved owing to a generalization effect on Wh-movement derived structures treatment.

Gal's performances during and especially after treatment were astonishing. Except for a few tasks, for which the percentage of accuracy was below 90% (80% on object RCs paraphrasing task, 75% on object RCs repetition task and 88% on subordinate clauses without movement repetition task), his final scores were almost all at ceiling, ranging from 90 to 100%.

It is interesting to notice that in the treatment of some structures treatment, for example in oral elicitation of subject RCs, a typical U-bend pattern was presented. Gal, in fact, during the pre-treatment phase, did not show any difficulties in subject relatives' production; however, despite the final score being 100% again, the during-therapy test showed a 0% score. All errors consisted in the insertion of resumptive pronouns. The authors have put forward the hypothesis that this U-bend performance was analogous to what happens during children's spontaneous language acquisition: when first verbs start being produced, indeed, no errors on irregular verbs paradigms are attested. Successively, however, there is a stage during which children start elaborating their own

grammar and producing the so-called generalization errors, giving rise to words such as *goed* and *comed*.

This phenomenon could explain Gal's case too: before treatment the patient was able to produce a subject relative clause, though not being aware of the fact that resumptive clitic, in Hebrew, is allowed in object RCs but not in subject RCs. While the treatment was being carried on, Gal might have over-generalized the rule on the use of resumptive pronouns, demonstrating that a process of linguistic acquisition and reflection was having place. Moreover, resumptive pronouns started being used on the majority of object relative clauses, after treatment, while, before that, they were never attested.

Finally, it was possible to verify that the treatment on Wh- movement-derived structures was had positive effects in Wh- questions comprehension and production, even if they had been not treated directly.

### **4.3 Treatment on patients with agrammatic aphasia**

In this section a study, carried out by Thompson and Shapiro (2005), on a sample of subjects affected by Broca's aphasia will be presented.

In this type of aphasia, the brain part which is damaged is the so-called *Broca's area*, namely the left posterior inferior frontal gyrus, or inferior frontal operculum.

Broca's aphasia can be either referred to as *expressive* or *agrammatic* aphasia: it indeed deeply damages the person's speech skills. (S)he will exhibit a very effortful speech, characterized by the loss of almost all functional words and the retaining only of the meaningful words. Despite the ungrammaticality of his/her talking, the person could still be understood. This particular type of discourse can be named also *telegraphic speech*.

#### **4.3.1 Thompson & Shapiro (2005): *generalization and complexity* effects**

Thompson & Shapiro's studies take the Treatment of Underlying Forms (TUF) as their reference approach. According to TUF, a treatment on some specific structures, besides improving them, can have positive effects on other non directly treated, but similar, structures, owing to a generalization effect, as it happened with the child affected by SLI.

People addressed in these experiments were affected by non-fluent agrammatic

aphasia<sup>13</sup> (Broca's type). All patients exhibited similar characteristics: verbs and NPs comprehension was more accurate than that of sentences, semantically reversible sentences comprehension was harder than comprehension of non-reversible ones, sentences with canonical word order (active sentences, subject RCs) were easier to process than non-canonical word order-sentences (passives, object RCs).

In production tasks, verbs, especially those with more than one argument, are harder than NPs, and processing of complex structures is more problematic than processing of simple structures. This pattern is attested both in elicitation tasks and in spontaneous speech.

The first generalization that the authors included in their studies has been the one between “what” (*What is the boy fixing?*) and “who” questions (*Who is the boy helping?*): To derive both question types, the direct object DP is replaced by a wh-morpheme, and moved to the sentence initial position.

As it was predicted, results were positive: after a “who” questions treatment, favourable outcomes were reported also on “what” questions (which were not treated) comprehension and production (and viceversa).

Further support to the generalization effect has been obtained by comparing treatment attempts on argument-movement-derived and adjunct-movement-derived structures. Predictably, treatment on argument movement involved generalization effects on similarly-derived structures, but not on adjunct-movement-derived sentences (and viceversa) (Thompson et al., 1996).

Another generalization effect which was observed was the one existing between Wh-movement (or A' movement, showed in Wh- questions and cleft sentences) and NP movement (A movement, showed in passive and raising structures).

The results, once again, were predictable: a treatment on A'-movement-derived structures had positive effects on similar sentences, but not on NP-movement-derived structures. The opposite pattern was obviously attested.

Another important intuition regarded the so-called *complexity effect*: a treatment on more complex structures (e.g.cleft sentences) could have positive outcomes on simpler constructions (e.g. Wh- questions); however, the other way round did not produce the same results (Thompson et al., 1998).

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13 “Patients who have participated in experiments examining the effects of TUF show profiles on the *Western Aphasia Battery* (WAB, Kertesz, 1982) consistent with a diagnosis of mild to moderately severe agrammativa, Broca's aphasia.” (Thompson and Shapiro, 2005: 4)

To conclude, explicit syntactic treatment was useful for many reasons: an increase of Mean Length of Utterance (MLU) of grammatical sentences and VP production were attested; verbs argument structure processing improved, consisting also in a more correct use of thematic roles; positive outcomes were attested also on adjuncts production.

Dickey and Thompson's following studies (2004) have demonstrated also that meta-linguistic competence, namely the ability to reflect upon one's own language, to make judgements on specif structures, significantly improved on treated patients, differently from non-treated ones.

Moreover, it was even possible to *see* the reached improvements through fMRI (functional Magnetic Resonance Imaging) techniques (Thompson et al., 2000).

#### **4.4 Treatment on a deaf child with Cochlear Implant – D'Ortenzio (2014)**

Another interesting case of rehabilitation treatment which is worth being reported is the one carried out in 2014 by Silvia D'Ortenzio. The addressee of the study was an Italian-speaking deaf child aged 8;4, S10, with a cochlear implant (CI).

The CI represents today the most sophisticated electronic system in order to substitute the hearing apparatus' function. Recent research (Nicholas and Geers, 2006) provided support to the effectiveness of the cochlear implant in language acquisition of deaf children, even though its real benefits are still today being deeply discussed. Several factors, indeed, can influence the positive or negative outcomes of this system, for example the age of implantation.

The subject was selected among the patients of the Otolaryngology Complex Operative Unit of the University Hospital in Padua. Deafness diagnosis has taken place at the age of 2; CI implantation, instead, at the age of 2;7. The syntactic treatment was carried out at the age of 8;4 years old.

Several tests were administered to the patient before the treatment, among which a hearing-perceptive skills test, a morpho-syntactic comprehension test and some tests assessing comprehension and production of relative clauses.

In subject RCs production, he showed a typical pattern of performance, even though slightly below control groups' mean, whereas object RCs production was almost null. Comprehension of both S-RCs (*La mucca che spinge l'elefante* – 'The cow that pushes the elephant') and O-RCs (*La mucca che l'elefante spinge* – 'The cow that the elephant

pushes') was above chance. The experimenter, moreover, assessed patient's performance on object relative clauses with post-verbal subjects:

(5) La mucca che spingono gli elefanti.

The cow that push the elephants.

'The cow that the elephants push.'

After the first testing session, the syntactic treatment took place. D'Ortenzio mainly followed Levy & Friedmann's (2009). The therapy comprehended seven sessions, one per week, of 75 minutes each. Four phases were taken into consideration: explicit teaching of verb's argument structure and thematic theory, explicit teaching of syntactic movement, revision and final checking.

The experimenter has leaned upon S10's interests, among which Geronimo Stilton books, using in the sentences the books characters.

The treatment focused on comprehension and production of relative clauses.

Post-treatment results were excellent: in both comprehension and production, the child performed at ceiling in every type of relative clause, giving support to the effectiveness of syntactic intervention also on deaf children with CI.

An important observation which is worth doing is that S10's spontaneous initiative was very important in order to give some input to the treatment. For example, it was the child who decided to name the trace as 'TUP the postman', as it brought the verbs information to the moved DPs.

#### **4.5 Attempt of acquisition acceleration with very young children – Roth (1984)**

The study carried out by Roth in 1984 constitutes a very interesting issue, especially related to the project I am going to present later.

The first curious aspect of this experiment is that it was realized on a sample of typical-development children, not affected by any neurological, linguistic or sensorial impairment.

The peculiarity of the experimental group was indeed the very young age of its participants: Roth wanted to verify whether it was possible to accelerate children's language acquisition by explicitly teaching them linguistic structures beyond their developmental mastery.

Moreover, the author wanted to clarify if a dependence relation existed between linguistic abilities and cognitive development: if linguistic skills had been tightly constrained to other forms of human cognition, explicit syntactic training would have been fruitless.

Relative clauses were used to carry out this project. Several reasons motivated the choice of this structure: relative clauses are considered as *substantive universal*, they cause processing difficulties to both adults and children, it is interesting to observe children's strategies in order to understand these structures, knowing also the patterns which characterize children's acquisition of relative clauses. Through the assessment of and intervention on these sentences, it was also possible to re-examine three hypotheses which make predictions about how children process relative clauses:

- i. *Canonical-sentoid hypothesis* (Fodor, 1971; Fodor & Garrett, 1967), based on the assumption that children rely on canonical word order in order to interpret such constructions (subject RCs would be easier than object RCs);
- ii. *Interruption hypothesis* (Slobin, 1971) claiming that it is harder to process a sentence whose related parts are interrupted than a sentence with no interruptions in it, therefore S-RCs would be harder than O-RCs<sup>14</sup>;
- iii. *Parallel function hypothesis* (Sheldon, 1974), assuming that parallel function sentences are easier to process than non-parallel function ones. The former case happens when the relativized NP has the same grammatical function in the embedded clause as the one it has in the matrix clause. Therefore, relative clauses of the types SS and OO would be easier than SO and OS ones<sup>15</sup>.

We could say that this experiment had two main goals: to identify the strategies used by children to compute these structures, referring to three hypotheses in particular, and to

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14 This hypothesis predicts that subject relatives will be more difficult to process than object relative clauses as the former contain an interruption of the main clause by the embedded relative sentence. Let us see the following examples:

- (1) *The turtle* that chases *the dog* slaps the pig. SS
- (2) *The duck* that *the pig* slaps chases the frog. SO
- (3) *The pig* slaps *the duck* that the mouse chases. OO
- (4) *The dog* chases *the pig* that sits on the duck. OS

In (1) *the turtle* is subject of both the main and the relative clauses; in (2) *the duck* is the subject of the main clause and the object of the relative; in (3) *the duck* works as object of both the main and the relative clauses; in (4) *the pig* works as object of the main clause and subject of the relative one. In sentences (1) and (2), indeed, the subjects of the main clauses (*the turtle* and *the duck*) are separated from their verbs (*slaps* and *chases*) by the embedded relative clauses (*'that chases the dog'* and *'that the pig slaps'*). In sentences (3) and (4), on the other hand, all the verbs are adjacent to their subjects. In the former two sentences, therefore, an interruption of the main clause occurs which, according to the homonymous hypothesis, causes difficulties in subject relatives processing.

15 Look at the examples (1), (2), (3) and (4) of footnote 2.

determine whether direct intervention could accelerate young children's language development, relating to the assumption that cognitive maturation and linguistic skills have different neurological domains.

The experiment involved 18 English-speaking children ranging in age from 3;6 to 4;6. None of them had any impairment or handicap situation.

The study was carried out following three main stages: a pre-test session, an intervention and a post-test phase. The intervention was carried out in three different ways: an *explicit training condition*, an *implicit training condition*, and a *control condition*. Children were divided into three groups and randomly associated with one of these situations.

The intervention activities consisted in the manipulation of toy objects. Four types of relative clauses were used, following Sheldon (1974), namely SS, OO, SO and OS. For the third training condition the experimenter resorted to conjoined sentences, matched in length with the relative clauses.

This session consisted in a warm-up procedure, during which the experimenter made sure that the child was able to manipulate three toys, and in an assessment of the child's relative clauses comprehension. Children had to listen to three of each type of relative clauses and then make the toys act out what the experimenter said.

According to this pre-test stage, three groups were formed and randomly assigned to the three training conditions.

All treatment conditions were realized following the same steps: the child listened to the experimenter's presenting of a sentence and watched the acting out of it made with the toy objects; after that, he was asked to do the same. Three sets of 24 sentences were taken into consideration.

Every training condition, though, presented different characteristics:

- i. During the explicit training condition the experimenter showed the child the way by which discontinuous non-interrupted elements, such as those of the sentence (6) could combine into a sentence formed by continuous and interrupted elements such as (7):

(6) The lion falls on the squirrel and the lion hits the hen

(7) The lion that falls on the squirrel hits the hen.



- ii. During the implicit syntactic treatment the experimenter relied only on children's inductive capacities, therefore only interrupted elements sentences, such as the second one, were presented to the child.
- iii. The control condition was designed in order to rule out the possibility that performance on the post-test phase could be attributed to factors other than training. The children in this condition were not exposed to relative clauses, but only to conjoined structures.

Two types of reassessment were carried out: one shortly after the training phase termination and another one two weeks later.

From a quantitative point of view, there were significantly higher scores in both post-test conditions than in pre-test conditions; children in training conditions 1 and 2 presented significant improvement, contrary to children in condition 3; a significant effect was attested also on word order, giving therefore support to the canonical-sentoid hypothesis; significantly better performances were observed in parallel sentences, giving support to the parallel function hypothesis too. Further observations, however, demonstrated that the parallel function hypothesis cannot alone account for the children's performance.

According to these results, a hierarchy which orders the different relative clauses types from the easiest to the hardest would see as its first place SS, followed by OS, OO and SO.

From a qualitative point of view, on the other hand, the analysis of the errors made it possible to observe that children deeply relied on word order to interpret these structures: they indeed made many *first noun* and *SVO* errors to process RCs. The former strategy consisted in children's interpretation of the first-heard noun as the subject of both the main and the subordinate clauses, whereas *SVO* errors indicate that children basically rely on word order to process complex structures.

These two strategies do not reciprocally exclude the one with the other, and give both support to the canonical-sentoid hypothesis.

Fig. 1 and table 1 provide participants' mean scores according to testing period and treatment condition (fig. 1) and to parallel/nonparallel function and subject/object relative clause (table 1):

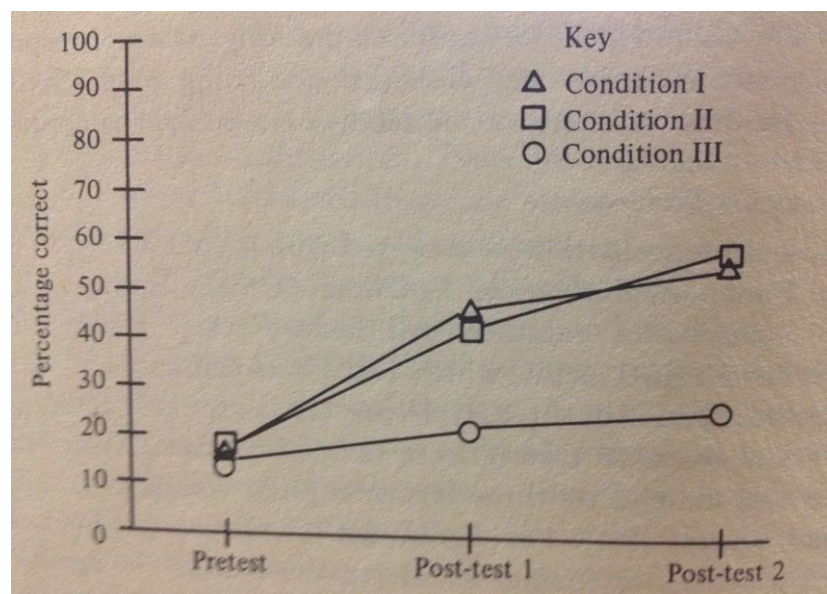


Fig. 1: Mean values of proportion scores for relative clauses sentences according to testing period and condition. (From Roth, 1984:98)

	Object	Subject
<b>Parallel</b>	(OO) 30%	(SS) 43%
<b>Nonparallel</b>	(OS) 39%	(SO) 19%

Table 1: Mean proportion scores for relative clause sentences according to parallel/nonparallel function and object/subject relative clause.

The performance analysis showed that direct intervention was effective, giving the sharp contrast between the solid improvement achieved by conditions 1 and 2 participants and the lack of improvement attested in condition 3 subjects. Therefore, being acceleration of linguistic acquisition of some complex structures possible, we could deduct that the psychological operations required for language learning and processing are at least partly different from skills required to other types of learning processes.

Moreover, the canonical-sentoid hypothesis seemed to be the best explication to the strategies used by children to process relative clauses, giving that word order errors were the most recorded one during the experiment.

Further research is obviously necessary to determine if also other syntactic structures are accessible to learning acceleration through explicit syntactic treatment.

## **Chapter 5**

### **Pre-teaching Testing**

#### **5.1 Introduction**

In this study, before the explicit teaching session, JM was submitted to a few sets of testing sessions, during which her general level of Italian and her production and comprehension of relative and passive clauses was evaluated.

We will see in detail in the next sessions all the tests JM was submitted to.

#### **5.2 The participants**

JM is 7;4 years old. She can be considered nearly as a bilingual child: she speaks Italian almost as a native speaker and, if one does not know her background, he/she could perhaps not notice any foreigner accent in her talk. Her parents are however both Romanian speakers and in their family context the language which is most, or exclusively, spoken is Romanian.

The child, moreover, has lived from the age of 8 months until almost the third year of life in Romania, and then she has returned to Italy at the proper age for kindergarten, where she has been initiated to the Italian language exposure.

This later exposure to a second language, as previously said, can still be considered a (successive) bilingualism situation, having the contact to the new language started during a period in which conditions for linguistic acquisition are favourable and effortless (it is, namely, acquisition, and not learning) (Guasti, 2002; 2009).

JM's performance was compared to that of two control groups including monolingual Italian-speaking children. For the relative clause comprehension and production tasks, the control groups included six children aged between 7;2 and 7;9 (mean age = 7;5). For the passive sentences comprehension and production tasks no data were available on JM's monolingual peers, therefore I compared her performance to that of seven Italian-speaking children of comparable linguistic age (5;10 – 6;2, mean age = 6), according to TCGB results, which we will see in detail in section 6.3.

### **5.3 Materials**

JM was evaluated in her general level of Italian comprehension, using the *Test di Comprensione Grammaticale per Bambini* (TCGB, by Chilosi, A. M., and Cipriani, P., 2006), in the comprehension and production of subject and object relative clauses (Volpato, 2012 and Volpato and Vernice, 2014) and of passive sentences (Verin, 2010). In the following section I will describe in detail how was this phase carried on.

### **5.4 TCGB**

The TCGB is an Italian comprehension test build up within a sentence-picture-matching-task framework. Its addressees are children aged 3;6 to 8 years old. It is composed of 76 stimuli, which consist in different types of sentences. The syntactical structures which are investigated in the test are:

- i. Locative complements
- ii. Verbal and nominal inflectional morphology
- iii. Affirmative active sentences
- iv. Negative active sentences
- v. Affirmative passive sentences
- vi. Negative passive sentences
- vii. Relative clauses
- viii. Sentences containing dative complements

#### **5.4.1 Procedure**

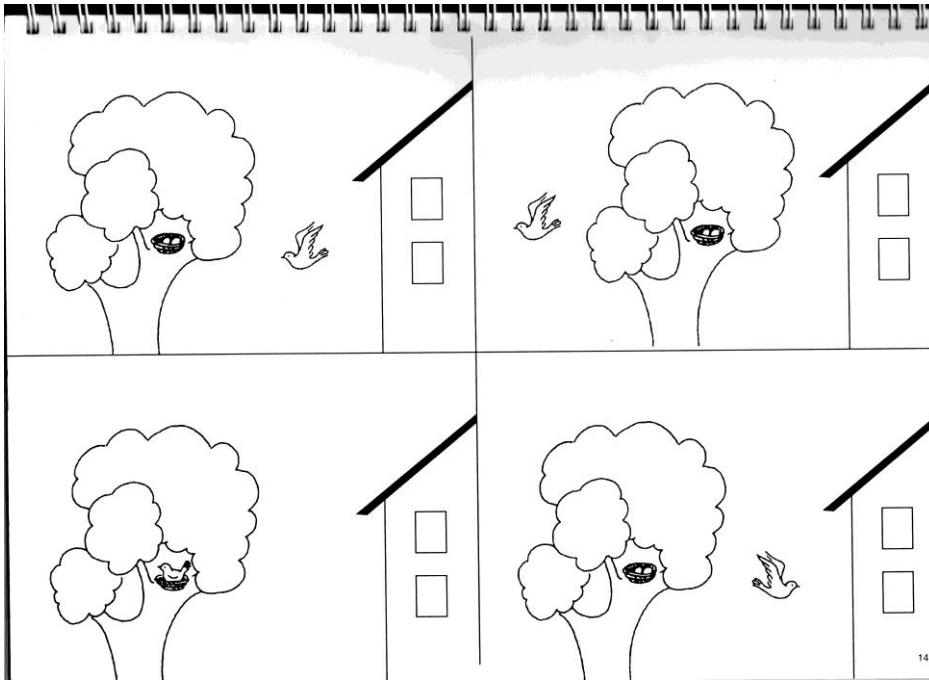
To be sure that the child know all the terms, an introductory part in which vocabulary is tested is inserted: the experimenter shows the child some images and pronounces a sequence of words which correspond to objects or actions. If the child overcomes this task without any difficulties, namely he/she indicates the pictures which correspond to the previously heard word, the experimenter can proceed to the following phase.

For every sentence, the child is shown a table with four different pictures (one target and three distractors). He/she has to listen to the sentence, pronounced by the experimenter, and indicate the figure which matches that sentences.

Here is one example of one sentence encountered in the test:

(1) *L'uccellino vola dalla casa al nido.*

'The bird flies from the house to the nest.'



**Figure 1. One of TCGB's tables matching sentence (1).**

The experimenter has to read the stimulus in a clear way. Repetition of the sentence, after the first time, is allowed whether the child shows a distracted or uncertain behaviour, does not observe all the presented figures properly, pinpoints at more than one picture, or indicate the wrong answer.

An error score is assigned to every item:

- i. 0 points if the child gives the right answer at the first administration;
- ii. 0,5 points if the answer is correct after a repetition;
- iii. 1,5 points if the answer is incorrect also after the second administration.

The sentences are not grouped according to syntactic structure, but they are all mixed up through the 76 items.

The test has to be carried on in a quiet and comfortable environment, especially for the child.

The results can be compared to normative sample's data, which are provided with all the test material.

Despite the validity of this test, given also by the possibility of comparing the data, we could say it has some shortcomings too. The more remarkable one is the fact that many

structures are assessed, but the items are not as many as it would need in order to have a reliable evaluation of all the different syntactic types of sentences.

JM was evaluated with TCGB in a quiet room at her school. The whole test took not more than 30 minutes.

She had no problems with the vocabulary task and neither did she encounter difficulties in the explanation of the principle task.

#### 5.4.2 Results

The following table shows JM's results in the TCGB test. For each type of structure, the error score is reported.

<b>TCGB</b>	<b>Error Score</b>
LOCATIVE COMPLEM.	2,5
INFLECTIONAL MORPH.	0,5
AFF. ACTIVE SENT.	0
NEG. ACTIVE SENT.	1
AFF. PASSIVE SENT.	2,5
NEG. PASSIVE SENT.	0,5
RELATIVE SENT.	1
DATIVE COMPL.	1
<b>TOT</b>	<b>9</b>

**Table 1: JM's TCGB scores.**

JM showed more difficulties with locative constructions, passive sentences, relative clauses and sentences containing dative complements.

JM's error score was compared with normative data. The final results (the error score was 9), set JM's performance in a range which matches with that one of children aged 6 years old, yet her score was below her age-peers mean, as we can see from the following table.

Età	10°	25°	50°	75°	90°
3.6	53.75	39	35.5	30.7	25
4	49.5	38.8	27	17.7	10.7
4.6	36	28.6	19.5	12.8	7
5	34.7	23	13	8	4
5.6	32	14	7	3	1
6	16	8.7	5.5	3	2
6.6	13	6.9	3.7	2.5	1.5
7	6.3	2.8	2	0.7	0
7.6	6.8	3.8	1.5	1	0.05
8	5.3	3.3	1.7	0.6	0.5

**Table 2: Comparison of JM's results with normative data**

Here is the table which is provided with all TCGB material. In the first column ages are indicated, whereas in the following 5 ones we can see the mean score performed by children at respective ages. Usually, we have to take in account the three central columns, 25°, 50° and 75°, since they are the ones in which the bigger number of children is represented.

If we consider JM's error score, which is 9, and look for it in the central columns, we can match it with the nearest score, i.e. 8.7, which corresponds to 6 year-olds.

### **5.5 Relative clauses production: the elicitation task**

The child was then evaluated in the production of subject and object relative clauses. The test I used is the one developed by Volpato (2010), based on the one created by Friedmann and Szterman (2006), in order to test Hebrew-speaking children, and then adapted to Italian by Utzeri (2007).

The production assessment preceded the comprehension: this was in order not to influence the production performance. If JM had previously been administered the comprehension task, she would have, in fact, listened to several relative structures, therefore her results in the production task may not have been reliable.

#### **5.5.1 Procedure**

The test is based on a preference task: the participant has to tell which is/are the child/children he/she prefers, according to what happens to him/them. These ones, indeed, are the figures who are always present in each picture and who should be the

heads of the elicited relative clauses.

It is composed of 36 cards: 12 eliciting a subject relative (SR), 12 eliciting an object relative (OR) and 12 requiring the production of a filler sentence. The inclusion of filler sentences is important in order to divert the child's attention from the main task, as it asks him/her to produce some simple SV or SVO sentences with animate subjects and inanimate objects.

The verbs which are included in the test are all transitive and reversible ones. This is crucial, since the child should not give the responses leaning on his/her pragmatic or semantic knowledge, but only grounding on syntactic cues. The verb list corresponds to the following one:

*Lavare* (to wash)

*Colpire* (to hit)

*Inseguire* (to chase)

*Baciare* (to kiss)

*Rincorrere* (to run after)

*Portare* (to bring)

*Visitare* (to visit)

*Tirare* (to pull)

*Pettinare* (to comb)

*Accarezzare* (to stroke)

*Fermare* (to stop)

*Alzare* (to raise)

*Premiare* (to reward)

*Punire/Sgridare* (to punish/to scold)

*Seguire* (to follow)

*Abbracciare* (to hug)

All verbs are conjugated to the present tense.

Number features have been manipulated in order to verify whether number match or mismatch conditions influence the child's test performance (Volpato 2012).

I will now provide an example for each type of elicited structure.

### **Elicitation of a SR:**

**Experimenter:** *Ci sono due disegni. Nel primo disegno, i bambini accarezzano il gatto. Nel secondo, i bambini colpiscono il gatto. Quali bambini ti piacciono (di più)? Inizia*

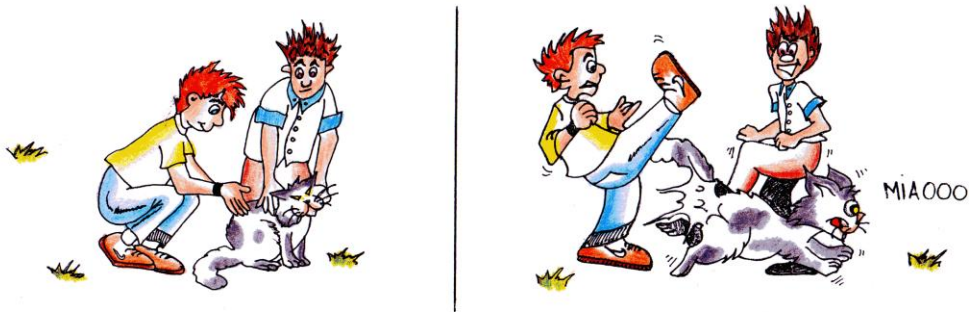


con “*Mi piacciono i bambini...*” oppure “*I bambini...*”

'There are two pictures. In the former, the children stroke the cat. In the latter, the children hit the cat. Which children do you like? Start with “I like the children...” or “The children...”'

**Target:** “(Mi piacciono) i bambini che accarezzano/ colpiscono il gatto”.

'(I like) the children that stroke/hit the cat.'



**Figure 2: elicitation of a subject relative**

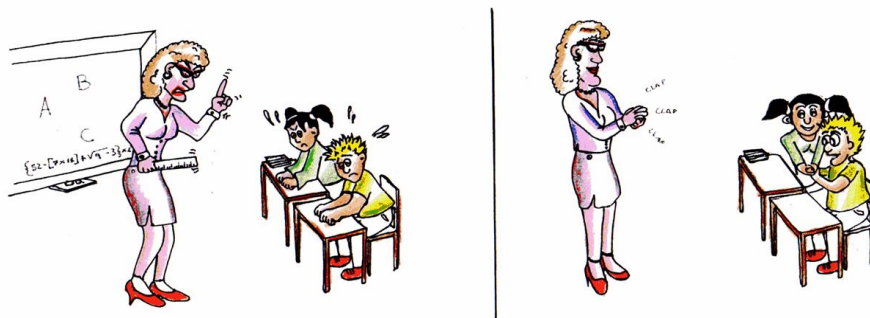
**Elicitation of an OR:**

**Experimenter:** *Ci sono 2 disegni. Nel primo, la maestra sgrida i bambini Nel secondo, maestra premia i bambini. Quali bambini ti piacciono?*

'There are two pictures. In the first one, the teacher scolds the children, in the second one the teacher rewards the children. Which children do you like?'

**Target:** *(Mi piacciono) i bambini che la maestra sgrida/premia.*

'I like the children/The children that the the teacher scolds/rewards.'



**Figure 3: Elicitation of an object relative**

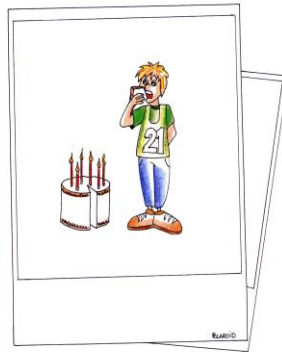
**Elicitation of a Filler Sentence:**

**Experimenter:** *Cosa fa il bambino in questo disegno?*

'What does the child do in this picture?'

**Target:** *Il bambino mangia la torta/Mangia la torta.*

'The child eats the cake/He eats the cake.'



**Figure 4: Elicitation of a filler sentence**

The instructions relating to time and space are similar to the TCGB ones. The child has to be assessed in a quiet and comfortable setting, the experimenter has to talk clearly, not too much quickly, neither too much slowly and no particular stress has to be given to any word. If necessary, a break could be done in the middle of the section.

Also for what concerns this test, an initial vocabulary part is provided, in order to assure that the child knows all the terms he/she will encounter.

### 5.5.2 Results

The following tables shows the number and percentage of subject and object relatives, and filler sentences that the child correctly produced:

RELATIVE CLAUSE PRODUCTION	SCORE	%
SRs	10/12	83%
ORs	0/12	0%
F	12/12	100%

**Table 3: JM's performance on Relatives production**

JM produced ten correct SRs out of twelve, zero correct ORs out of twelve and all grammatical filler sentences (see Appendix 1).

### 5.5.3 Qualitative analysis

The errors which interested SR production were both analogous and consisted in the inversion of thematic roles: the verb of the relative clause was singular, being the head of the relative plural and the object singular. The interpretation, though, was exclusively that of a OR with a post-verbal subject and not that of a SR, that is why I considered these productions as incorrect.

(2) **Target sentence:** *Mi piacciono i bambini che lavano il cane.*

'I like the children who/that wash the dog.'

**JM's production:** *Mi piacciono i bambini che lava il cane.*

'I like the children who/that washes the dog.'

The production of correct ORs, on the other end, which I assumed to be at 0%, gave birth to many interesting observations.

Some of the structures were completely incorrect, either due to a reversion of thematic roles, or to an incorrect use of the head of the relative, namely the production of a SR instead of an OR:

- (3) **Target sentence:** *Mi piacciono di più i bambini che la maestra sgrida.*  
 'I prefer the children whom the teacher scolds.'  
**JM's production:** *A me mi piace di più i bambini che sgridano la maestra.*  
 'I prefer the children who scold the teacher.'
- (4) **Target sentence:** *Mi piacciono di più i bambini che il barbiere pettina.*  
 'I prefer the children whom the barber combs.'  
**JM's production:** *A me mi piace di più il barbiere che pettina i bambini.*  
 'I prefer the barber who combs the children.'

Some productions, especially those which had a match situation, i.e. both the arguments were either singular or plural, could have an ambiguous interpretation between a SR and an OR with a post-verbal embedded subject (ORp).

- (5) **Target sentence:** *Mi piace il bambino che il papà lava.*  
 'I like the child whom the father washes.'  
**JM's production:** *A me mi piace il bambino che lava il papà.*  
 'I like the child who/whom washes the father.'

An interesting observation has to be done if we observe two productions in particular, in which JM resorts to the use of a clitic pronoun.

- (6) **Target sentence:** *Mi piace di più il bambino che la mamma bacia.*  
 'I prefer the child that the mother kisses.'  
**JM's production:** *Il bambino che mi piace è la mamma che lo bacia.<sup>16</sup>*  
 'The child whom I like is the mother who kisses him.'
- (7) **Target sentence:** *Mi piace il bambino che il dottore visita.*  
 'I like the child whom the doctor visits.'  
**JM's production:** *A me mi piace il bambino che il dottore lo visita.*  
 'I like the child whom the doctor visits him.'

Looking at all the strategies that Jessica had used, especially for what ORs were

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16 This particular sentence is more confused than the following one. There is in fact the production of the clitic pronoun, but, moreover, the structure is completely incorrect. The head of the first clause is 'the child', which has as its internal argument the following relative clause, which has in its turn as head 'the mother'. Perhaps this structure should not be considered grammatical or acceptable at all.

concerned, I compared them with the strategies used by another group of Italian monolingual peers aged 7;2-7;9 years old (mean age 7;5). I will therefore provide a table which shows JM's and other children's answers when asked to produce an OR, in order to see whether they are analogous or differ to some extent. However, I will previously indicate which were the response types I took into account:

- i. **Correct OR** = *Mi piace il bambino che il papà bacia* ('I like the child that the father kisses');
- ii. **Passive OR (aux 'venire' or 'essere')** = *Mi piace il bambino che è stato morso dall'orso* ('I like the child that has been bitten by the bear');
- iii. **Reflexive Passive OR** = *Mi piacciono i bambini che si fanno baciare dai cani* ('I like the children that have themselves kiss by the dogs');
- iv. **Reduced (without copula) passive OR** = *Mi piacciono i bambini morsi dal cane* ('I like the children bitten by the dogs');
- v. **SR (change of the head of the relative or thematic roles reversal)** = *Mi piace più la mamma che bacia il bambino* ('I like the mother that kisses the child');
- vi. **Ambiguous sentences (twofold interpretation between SR and ORp)** = *Mi piace il bambino che abbraccia la mamma* ('I like the child that hugs the mother');
- vii. **OR with clitic** = *Mi piace il bambino che il leone lo segue* ('I like the child that the lion chases him');
- viii. **Different type of relative clause** = *Mi piace il bambino che si fa la doccia* ('I like the child that is having a shower');
- ix. **Other responses** = *Mi piace più il leone che il bambino* ('I like more the lion than the child').

	Ch		En		Er		Gi		Ra		Va		JM (7;4)	
<b>OR</b>	0/12	0%	6/12	50%	1/12	8%	0/12	0%	1/12	8%	12/12	100%	0/12	0%
<b>PASS OR</b>	5/12	42%	0/12	0%	0/12	0%	2/12	17%	0/12	0%	0/12	0%	0/12	0%
<b>REFL PASS OR</b>	5/12	42%	0/12	0%	1/12	8%	5/12	42%	0/12	0%	0/12	0%	0/12	0%
<b>SR</b>	1/12	8%	0/12	0%	0/12	0%	0/12	0%	5/12	42%	0/12	0%	2/12	17%
<b>RED PASS OR</b>	1/12	8%	0/12	0%	0/12	0%	0/12	0%	0/12	0%	0/12	0%	0/12	0%
<b>AMB</b>	0/12	0%	2/12	17%	1/12	8%	1/12	8%	2/12	17%	0/12	0%	8/12	67% 17
<b>OR + CL</b>	0/12	0%	1/12	8%	9/12	76%	3/12	25%	1/12	8%	0/12	0%	2/12	17%
<b>#REL</b>	0/12	0%	2/12	17%	0/12	0%	1/12	8%	2/12	17%	0/12	0%	0/12	0%
<b>OTHER</b>	0/12	0%	1/12	8%	0/12	0%	12	0%	1/12	8%	0/12	0%	0/12	0%

**Table 4: answers strategies used by JM and the control group when ORs were targeted**

Differently from the majority of the control group's participants, JM never recurred to passive constructions instead of producing an OR. The most used strategy for our participant involved the production of ambiguous sentences, interpretable both as SRs and ORps, while, if we look to other children, it was used in one or two cases out of 12 items.

## 5.6 Relative clause comprehension

The test assessing the comprehension of relative clauses is the one developed by Volpato (2010) following Friedmann and Novogrodsky (2004) and Friedmann and Szterman's (2006) models. It is composed of 80 stimuli, 60 of which assess the comprehension of relative clauses created by manipulating number features on both the head and the embedded DP, while the other 20 are filler sentences.

17 One of these cases is a mismatch situation (*A me mi piace i bambini che rincorre il cane* – 'I like the children that chase(s) the dog'), while the other ones are all match conditions, namely ambiguous sentences.

### 5.6.1 Procedure

The child is shown two figures, each one representing two (set of) characters. In the first picture, one participant is doing something to the other, while in the second one, being the characters the same, thematic roles are reversed. After having heard the relative clause pronounced by the experimenter, he/she has to pinpoint at the right character who is doing or receiving/experiencing the represented action.

The experimenter, after a part of vocabulary verifying, which is analogous to the one we have seen in the previous test, has to present the figures to the child. The characters (each one associated to a letter, A, B, C or D) need to be presented every time to the child, then, in a clear and normal tone, the experimenter asks the child to touch the character who/whom is doing or being the patient of an action.

All verbs are at the present tense, transitive and reversible. The figures which are used are all improbable ones, in order not to influence the child's performance according to pragmatic and semantic issues.

Here is the list of the verbs which are used in this test:

*Lavare* (to wash)

*beccare* (to peck)

*guardare* (to look at)

*tirare* (to pull)

*colpire* (to hit)

*fermare* (to stop)

*pettinare* (to comb)

*toccare* (to touch)

*inseguire* (to chase)

*portare* (to bring)

*spingere* (to push)

*seguire* (to follow)

*salutare* (to greet)

*mordere* (to bite)

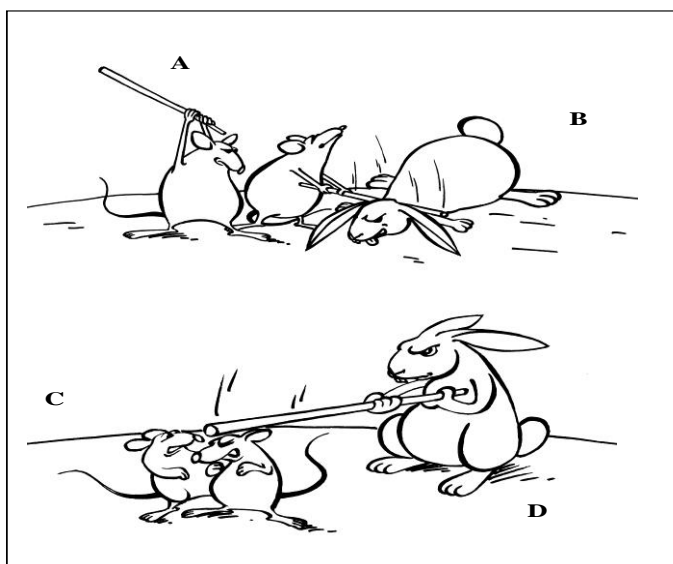
*spaventare* (to scare)

*baciare* (to kiss)

An example of an experimental item is shown in (7) and Figure 5.

**Experimenter:** *Ci sono due disegni. nel primo ci sono due topi e un coniglio e nel secondo, di nuovo, un coniglio e due topi. Tocca/Indica il coniglio che colpisce i topi.*

'There are two pictures. In the first one there are a rabbit and two mice, in the second one, again, we see a rabbit and two mice. Touch the rabbit who hits the mice.'



**Figure 5: example of experimental trial**

The child should pinpoint at the rabbit in the second picture (referent D).

Many structures are investigated in this test, since number and word order features have been manipulated. Thus, ten different types of sentences are assessed, all of them grouped into four bigger types:

**Ambiguous sentences:**

AMB\_SG\_SG – *Il cammello che pettina il cigno* (The camel that combs the swan).

AMB\_PL\_PL – *I pesci che tirano i pinguini* (The fishes that pull the penguins).

**Non ambiguous SR:**

SR\_SG\_PL – *Il pesce che segue le tartarughe* (The fish that follows the turtles).

SR\_PL\_SG – *I pinguini che lavano il nonno* (The penguins that wash the grandfather).

**OR with preverbal subject:**

OR\_SG\_SG – *Il bambino che la nonna pettina* (The child that the grandmother combs).

OR\_PL\_PL – *Le mucche che i cammelli tirano* (The cows that the camels pull).



OR\_SG\_PL – *Il nonno che i pinguini lavano* (The grandfather that the penguins wash).

OR\_PL\_SG – *Le bambine che il bambino lava* (The girls that the boy washes).

**OR with post-verbal subject:**

ORp\_SG\_PL – *La pecora che tirano le scimmie* (The sheep that pull the monkey).

ORp\_PL\_SG – *Le pecore che colpisce la gallina* (The sheeps that hits the hen).

Therefore, each time the child gives an answer to the experimenter's request, he/she can point either to the correct character or to one of the incorrect referents (reversible, agent, or other character).

Every answer to each item has been reported on a spreadsheet, which had been structured in order to facilitate and deepen the comparison.

The types of possible errors which have been recorded are: *thematic roles reversal*, *agent error* and *other types of errors*. In the case of ambiguous sentences, there actually can be two possibilities of giving a correct answer, as the interpretation can be twofold between a SR or an ORp<sup>18</sup>.

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18 In ambiguous sentences JM interpreted almost all of them as RS, hence she considered them as having the order AMB\_SG\_SG or AMB\_PL\_PL. If we take into consideration the production task, in which her production of ambiguous sentences and the interpretation of them were left unexplained, we could now hypothesize that also in those cases she produced them with a SR intention rather than an ORp one.

## 5.6.2 Results

Here is a table presenting the results of JM's performance.

<b>RELATIVE CLAUSES COMPREHENSION</b>	<b>SCORE</b>	<b>%</b>	<b>Control Group's Mean Percentage</b>
AMB_SG_SG	6/6	100%	100%
AMB_PL_PL	4/6	67%	100%
SR_PL_SG	6/6	100%	100%
SR_SG_PL	6/6	100%	100%
OR_SG_SG	4/6	67%	94%
OR_PL_PL	3/6	50%	92%
OR_PL_SG	4/6	67%	89%
OR_SG_PL	4/6	67%	97%
ORp_PL_SG	0/6	0%	75%
ORp_SG_PL	0/6	0%	69%
<b>TOT</b>	<b>37/60</b>	<b>62%</b>	<b>92%</b>
<b>F</b>	<b>20/20</b>	<b>100%</b>	<b>100%</b>

**Table 5: JM's relative clauses comprehension**

We can see that the child did not seem to have problems with SR structures, performed a little worse on OR ones, and had many difficulties with ORp constructions.

Further evaluations have been done to compare JM's performance to that of a sample of monolingual Italian-speaking children.

JM's results have been compared using two types of statistical analysis: *binomial distribution*<sup>19</sup> and *z-score*<sup>20</sup>.

Comparing JM's data to a small sample of Italian-speaking age-peers, (age range: 7;2 – 7;9, mean age: 7;5), the same children we took into account for the production task, we

19 According to Volpato (2010), for what this test is concerned, a child is considered above chance if he/she answers correctly at least to 4 items per relative clause typology. He/she is considered above chance, instead, if he/she pointed correctly to all ambiguous items.

20 *Z-score* analysis helps to identify if and how much does a subject deviate from the average, namely, given a score, how many standard deviations it sets below or over the mean with respect to other data. The range of the score is +/- 1.5 standard deviation: if the score is within this range, it is on the average, if not, it is over or below the mean score. Z-score is computed by dividing the difference between the participant's mean (xm) and the group's mean (M) for the standard deviation (SD).

$$Z = (x_m - M) / SD$$

observed that if we take into consideration all OR without distinction, hence without dividing them into the four previously described typologies, she does not seem to have significant problems.

If we analyze every single type of OR, however, the OR\_SG\_PL kind is the most problematic if compared to the control group, as she performed 1.76 SD below the standard mean.

Let us now focus on ORp. We could either take into consideration the whole category (where JM performed 1.52 SD below the mean) or split it into two, as we have seen: specifically, the ORp\_SG\_PL resulted as being more problematic than the Orp\_PL\_SG (-1.70 SD below the standard mean).

## **5.7 Passive sentences production**

JM was then evaluated on her level of passive structures production, which preceded comprehension for the same reasons we have seen for relative clauses (see section 5.5). The test I used (Verin, 2010) is a picture description task and it is administered with a Power Point presentation.

### **5.7.1 Procedure**

The test begins with an acquaintance phase, where the child is presented with the characters and the verbs that are included in the experimental and filler items.

After that, 24 stimuli follow. Twelve experimental items elicit passive sentences with transitive, reversible and actional verbs (*spingere* – to push -, *imboccare* – to feed -, *prendere a calci* – to kick -, *colpire* – to hit -, *baciare* – to kiss -, *inseguire* – to chase) and the remaining 12 elicit passive structures with transitive, reversible and non-actional verbs (*vedere* – to see -, *sentire* – to hear -, *amare* – to love -, *annusare* – to smell). Among the experimental stimuli, 12 slides eliciting filler sentences are inserted.

In the experimental slides two pictures are shown, each representing two of the previous presented characters interacting between them. The experimenter has to introduce the child to the figures by producing two active sentences. After that, he/she has to make a question which requires the production of a passive structure as an answer. In some couples of pictures the agent is the same, but the patient changes, whereas in some others the agent changes and the patient remains the same. In the former trials,

therefore, the by-phrase can be omitted, while in the latter ones it has to be obligatorily expressed.

The elicitation of a filler sentence, instead, is realized through the presentation of three pictures, each one containing an animate character and an inanimate object. After the experimenter has asked what happens in one of the pictures, the child should answer with an active sentence.

Examples of experimental items are shown in the following sentences, matched with figures 6-7 to 14-15-16.

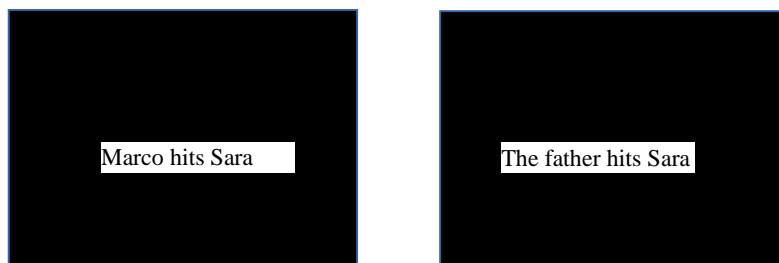
**Elicitation of a passive sentence with an actional verb and obligatory by-phrase:**

**Experimenter:** *Ci sono due foto. Nella prima foto Marco colpisce Sara, nella seconda foto il papà colpisce Sara. Cosa succede a Sara nella seconda foto?*

'There are two pictures. In the first one Marco hits Sara, in the second one the father hits Sara. What happens to Sara in the second picture?'

**Target:** *Sara è/viene colpita dal papà.*

'Sara is hit by her father.'



**Figures 6-7: Elicitation of an actional passive with obligatory by-phrase.**

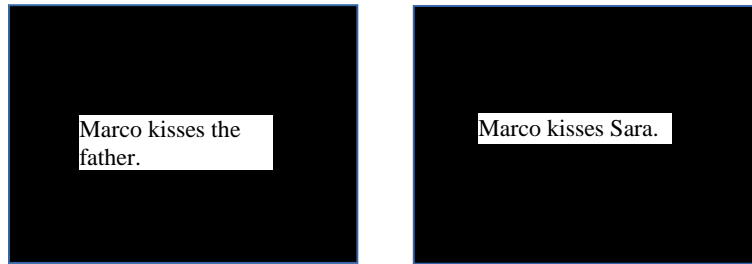
**Elicitation of a passive sentence with an actional verb and non-obligatory by-phrase:**

**Experimenter:** *Ci sono due foto. Nella prima foto Marco bacia il papà, nella seconda Marco bacia Sara. Cosa succede a Sara?*

'There are two pictures. In the first one Marco kisses Sara, in the second one Marco kisses his father. What happens to Sara?'

**Target:** *Sara è/viene baciata (da Marco).*

'Sara is kissed (by Marco).'



**Figures 8-9: Elicitation of an actional passive with non-obligatory by-phrase.**

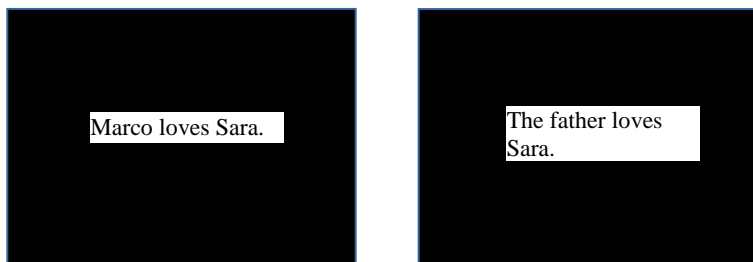
**Elicitation of a passive sentence with a non-actional verb and obligatory by-phrase:**

**Experimenter:** *Ci sono due foto. Nella prima Marco ama Sara, nella seconda il papà ama Sara. Cosa succede a Sara nella prima foto?*

'There are two pictures. In the first one Marco loves Sara., in the second one the father loves Sara. What happens to Sara in the first picture?'

**Target:** *Sara è/viene amata da Marco.*

'Sara is loved by Marco.'



**Figures 10-11: Elicitation of a non-actional passive with obligatory by-phrase**

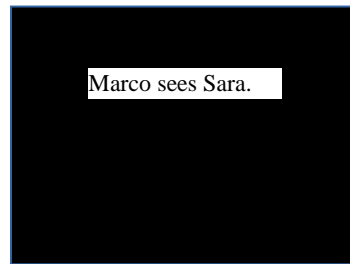
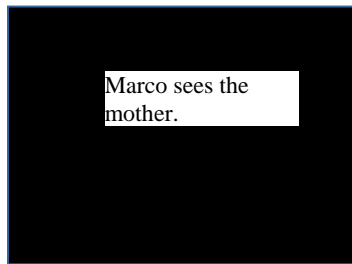
**Elicitation of a passive sentence with a non-actional verb and non-obligatory by-phrase:**

**Experimenter:** *Ci sono due foto. Nella prima Marco vede la mamma, nella seconda Marco vede Sara. Cosa succede a Sara?*

'There are two pictures. In the first one Marco sees his mother, in the second one Marco sees Sara. What happens to Sara?'

**Target:** *Sara è/viene vista (da Marco).*

'Sara is seen (by Marco).'



**Figures 12-13: Elicitation of a non-actional passive with non-obligatory by-phrase**

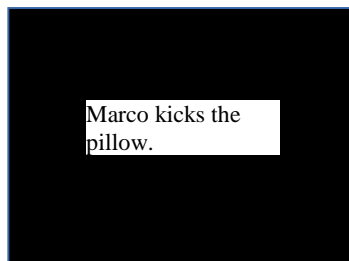
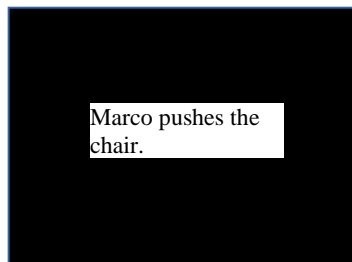
**Elicitation of a filler sentence:**

**Experimenter:** *Cosa succede nella terza foto?*

'What happens in the third picture?'

**Target:** *Marco prende a calci il cuscino.*

'Marco kicks the pillow.'



**Figures 14-15-16: Elicitation of a filler sentence**

The same instructions we saw for the previous tests, with regard to time, space and manner of instructions submission are valid also for this one (see section 5.4.1).

### 5.7.2 Results

The following table provides JM's results on passive sentences production task.

<b>PASSIVE SENTENCES PRODUCTION</b>	<b>SCORE</b>	<b>%</b>
PASSIVE SENTENCES	0/24	0%
FILLER SENTENCES	12/12	100%

**Table 7: JM's data on passives production.**

As we can immediately understand just looking at the table, JM did not find any problem with filler sentences, while she did not produce any passives (see Appendix 2).

### 5.7.3 Qualitative analysis

The strategies she adopted to avoid the production of passive sentences can be grouped into four typologies:

#### **SVO sentences (thematic roles are correctly assigned) – 6 cases**

- (8) **JM:** *Sara colpisce la mamma (prende a calci).*

'Sara hits her mother (kicks).'

**Target:** *La mamma è presa a calci da Sara.*

'The mother is kicked by Sara.'

#### **SVO sentence (thematic roles are reversed) – 10 cases**

- (9) **JM:** *Sara colpisce il papà.*

'Sara hits her father.'

**Target:** *Sara è colpita dal papà.*

'Sara is hit by her father.'

**Other structures (different from SVO, may also have reversed  $\theta$ ) – 7 cases**

(10) **JM:** *A Sara succede che Marco urla nelle orecchie.*

'To Sara it happens that Marco screams in the ears.'

**Target:** *Sara è sentita da Marco.*

'Sara is heard by Marco.'

(11) **JM:** *Alla mamma succede che la bambina prende la mamma.*

'To the mother it happens that the girl chases the mother.'

**Target:** *La mamma è inseguita da Sara.*

'The mother is chased by Sara.'

**Structure with clitic pronouns – 1 case**

(12) **JM:** *A Marco succede che Sara \*la bacia.* (Wrong clitic)

'To Marco it happens that Sara kisses \*her.'

**Target:** *Marco è baciato da Sara.*

'Marco is kissed by Sara.'

Among these productions, in four cases JM changed the non-actional verb and transformed it into a semantically equivalent but actional one. Namely she turned “*amare*” ('to love') into “*abbracciare*” ('to hug'), and “*sentire*” ('to hear') into “*urlare/parlare nelle orecchie*” ('to scream/to talk into someone's ears'), as the following example shows:

(13) **JM:** *Sara abbraccia Marco.*

'Sara hugs Marco.'

**Target:** *Sara è amata da Marco.*

'Sara is loved by Marco.'

Similarly to the analysis conducted for relative clauses production, I made also for passives a classification of the strategies used by JM and by a control group in order to produce or avoid passive clauses production. There are not available data on passives production for what Italian monolingual JM's peers are concerned, therefore we had to take into account a sample of younger children, matched to JM on the basis of the linguistic age (5;11 – 6;2, mean age = 6).



Being these children very young, it was actually difficult to classify in a coherent way all the types of responses which have been given. Anyway, I could identify some groups of recurrent answers:

- i. **Passive sentences** = I decided to put it among the strategies, even if no child produced any passive sentence;
- ii. **Structures with clitic** = *Cosa succede alla mamma? Sara la calcia* ('What happens to the mother? Sara kicks her.');
- iii. **SVO structures (correct thematic roles assignment)** = *Cosa succede a Luca? Sara ama Luca* ('What happens to Luca? Sara loves Luca.');
- iv. **SVO structures (incorrect thematic roles assignment)** = *Cosa succede a Sara? Sara ama il papà.* ('What happens to Sara? Sara loves the father.');
- v. **Reflexive structures** = *Cosa succede a Luca? Si fa male in testa* ('What happens to Luca? He hurts himself in the head.');
- vi. **Other responses** = *Cosa succede a Luca in 20b? Sente.* ('What happens to Luca in 20b? (He) hears. ') / *Cosa succede al papà? Si vogliono bene?* ('What happens to the father? They love each other.').

	<b>SB (5;11)</b>		<b>SC (6;2)</b>		<b>SE (5;10)</b>		<b>SH (6;2)</b>		<b>SL (6;0)</b>		<b>SM (6;0)</b>		<b>SO (5;11)</b>		<b>JM (7;4)</b>	
<b>PASS</b>	0/24	0%	0/24	0%	0/24	0%	0/24	0%	0/24	0%	0/24	0%	0/24	0%	0/24	0%
<b>CL</b>	22/24	92%	19/24	79%	0/24	79%	12/24	50%	12/24	50%	13/24	54%	4/24	17%	1/24	4%
<b>SVO (Θ OK)</b>	4/24	17%	5/24	21%	23/24	96%	1/24	4%	2/24	8%	8/24	33%	3/24	12.5%	6/24	25%
<b>SVO (*Θ)</b>	0/24	0%	0/24	0%	0/24	0%	0/24	0%	0/24	0%	0/24	0%	0/24	0%	10/24	42%
<b>REFL</b>	0/24	0%	0/24	0%	0/24	0%	3/24	12.5%	4/24	17%	0/24	0%	0/24	0%	0/24	0%
<b>OTHER</b>	0/24	0%	0/24	0%	1/24	4%	0/24	0%	6/24	25%	3/24	12.5%	17/24	71%	Θ ok 2/24	8%
															*Θ 5/24	21%

**Table 8.: JM and control group's strategies on passives elicitation task**

Observing the table that provides JM's and the control group's percentages of strategies, the thing which strikes most is the fact that no one of the control group, even if composed by younger children, never made thematic role assignment mistakes, whereas JM did. Even in the “other” category, which represents all those structures that could not be classified as one of the previous ones, it was clear that JM had difficulties with thematic role assigning.

SVO production, with correct thematic roles, and structures containing a clitic pronoun are the most recurrent errors among control group children.

## **5.8 Passive sentences comprehension**

The last test that was administered to JM was a passive sentences comprehension task. I used the one adapted to Italian by Verin (2010) from the Greek version developed by Driva and Terzi (2008).

### **5.8.1 Procedure**

It is structured within a sentence-picture matching framework.

A phase of acquaintance, analogous to that one of the production test is inserted, then the actual assessment starts. The characters and the actions are the same of the production task.

It is composed of 40 experimental stimuli and 10 filler items. For each slide the child was shown three figures. After having presented the pictures, the experimenter has to utter a passive sentence and the child, having heard it, should indicate the correct figure. The stimuli can be classified according to several features. Examples of experimental items are shown in (14) to (22) and Figures 17-18-19 to 41-42-43.

#### **(14) Actional verb – Auxiliary “*essere*” (to be)**

**Experimenter:** *In quale foto Sara è imboccata?*

'In which pictures is Sara fed?'

**Target:** *Picture 2.*



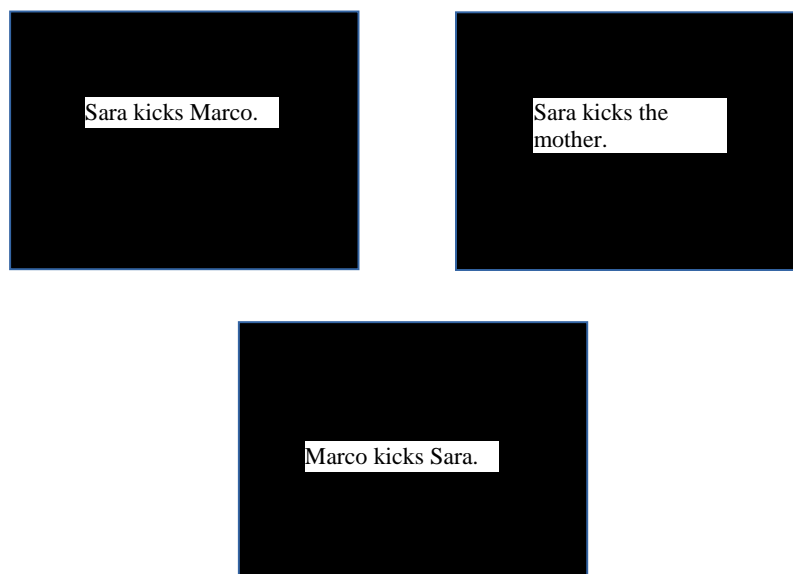
**Figures 17-18-19: Actional passive with aux “essere”**

(15) **Actional verb – Auxiliary “venire” (“to come”)**

**Experimenter:** *In quale foto Sara viene presa a calci?*

'In which picture (comes) is Sara kicked?'

**Target:** *Picture 3.*



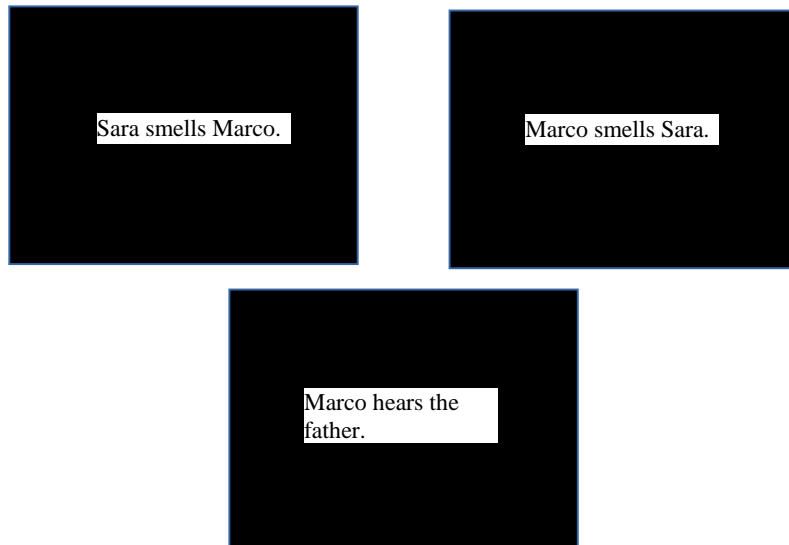
**Figures 20-21-22: Actional passive with aux “venire”**

(16) **Non-actional verb – Auxiliary “essere”**

**Experimenter:** *In quale foto Marco è annusato?*

'In which picture is Marco smelled?'

**Target:** *Picture 1.*



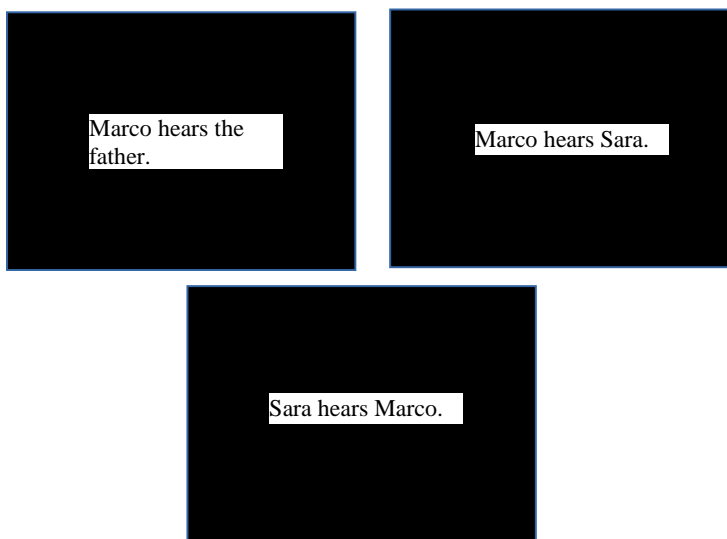
**Figures 23-24-25: Non-actional passive with aux “essere”**

(17) **Non-actional verb – Auxiliary “venire” (to come)**

**Experimenter:** *In quale foto Marco viene sentito?*

'In which picture (comes) is Marco heard?'

**Target:** *Picture 3.*



**Figures 26-27-28: Non-actional passive with aux “venire”**

(18) **Actional verb – Auxiliary “essere” + by-phrase**

**Experimenter:** *In quale foto Sara è imboccata da Marco?*

'In which picture is Sara fed by Marco?'

**Target:** *Picture 2.*



**Figures 29-30-31: Actional passive with aux “essere” + by-phrase**

(19) **Actional verb – Auxiliary “venire” + by-phrase**

**Experimenter:** *In quale foto Marco viene baciato da Sara?*

'In which picture (comes) is Marco kissed by Sara?'

**Target:** *Picture 2.*



**Figures 32-33-34: Actional passive with aux “venire” + by-phrase**

(20) **Non-actional verb – Auxiliary “essere”+ by-phrase**

**Experimenter:** *In quale foto Sara è amata da Marco?*

'In which picture is Sara loved by Marco?'

**Target:** *Picture 1.*



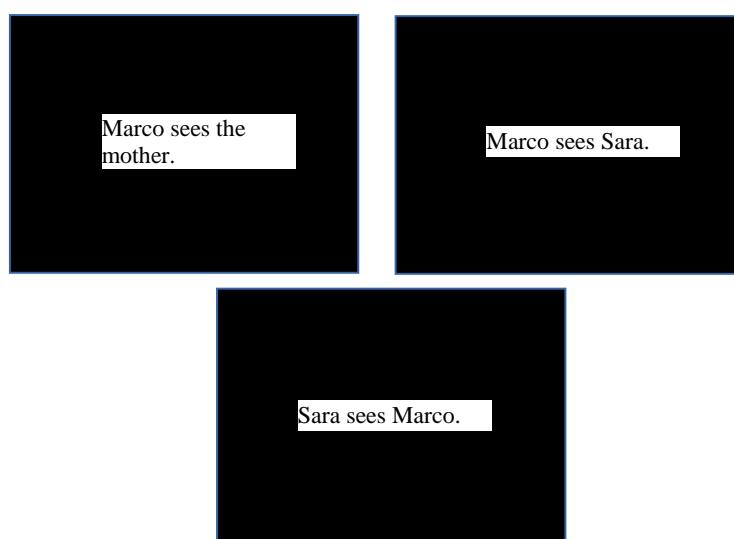
**Figures 35-36-37: Non-actional passive with aux “essere” + by-phrase**

(21) **Non-actional verb – Auxiliary “venire”+ by-phrase**

**Experimenter:** *In quale foto Marco viene visto da Sara?*

'In which picture (comes) is Marco seen by Sara?'

**Target:** *Picture 3.*



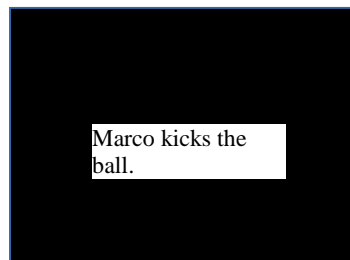
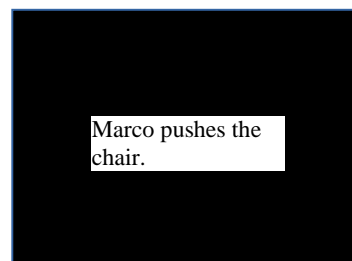
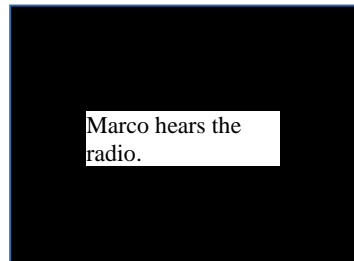
**Figures 38-39-40: Non-actional passive with aux “venire” + by-phrase**

(22) **Filler sentence**

**Experimenter:** *In quale foto Marco sente la radio?*

'In which picture does Marco hear the radio?'

**Target:** *Picture 1.*



**Figures 41-42-43: Filler sentence comprehension**

## 5.8.2 Results

Table 9 provides JM's scores in the comprehension of passive sentences, in comparison with those of the control group.

<b>PASSIVE SENTENCES COMPREHENSION</b>	<b>SCORE</b>	<b>%</b>	<b>Control group's mean percentage</b>
ACTIONAL_ESSERE	5/6	83%	100%
ACTIONAL_VENIRE	6/6	100%	100%
NON-ACT_ESSERE	1/4	25%	75%
NON-ACT_VENIRE	1/4	25%	100%
ACT_ESSERE_BY-PHR	6/6	100%	100%
ACT_VENIRE-BY-PHR	5/6	83%	93%
NON-ACT_ESSERE_BY-P	0/4	0%	71%
NON-ACT_VENIRE_BY-P	1/4	25%	86%
<b>TOT (PASSIVE SENT.)</b>	<b>25/40</b>	<b>62,5%</b>	<b>92%</b>
FILLER SENTENCES	10/10	100%	100%

**Table 9: number and % of accuracy JM's data on passives comprehension**

The table shows that JM did not have any particular problems with actional verbs, being them accompanied either by the auxiliary “*essere*” or “*venire*”.

She performed much worse, however, with sentences containing non-actional verbs. Again, no distinction was made between the two possible auxiliaries.

A statistical comparison of JM with monolingual Italian-speaking children was done also for passive sentences using z-score analysis. As I have already specified, no



available data exist on Italian-speaking children of the same age as JM, therefore the comparison was carried out by taking into account the group of Italian monolingual children aged between 5;11 and 6;2 years old (mean age = 6;0) that we used in the previous analysis on passives production.

The z-score analysis demonstrates that JM performed significantly below the mean of the other young children in all passive structures with non-actional verbs (-1.68 SD below the mean), but especially in non-actional passives with auxiliary “essere” and *by*-phrase and non-actional passives with auxiliary “venire” and *by*-phrase (-1.54 and -1.69 SD below the mean respectively).

A statistical analysis using binomial distribution made it possible to determine the sentences in which JM performed above chance. According to this type of analysis, JM had to answer correctly at least to 5 items out of 6 as regards to actional verbs, whereas she had to point correctly at 4 non-actional verbs items out of 4 to be above chance. She showed below chance performance with all types of passive sentences containing non-actional verbs, while she showed no problems with actional verbs.

## 5.9 Discussion

According to RCs production, we observed that JM never produced ORps, and uttered many ambiguous sentences.

We do not know whether JM considered these structures to be either SRs or an ORps, but we can make some predictions about it, taking into consideration several factors, namely the possible influence from her L1, observations about the colloquial Italian language, or her performance in the comprehension task. The fact that the unmarked option for ORp constructions, in standard Romanian, presents the subject in post-verbal position, may lead us to hypothesize that the ambiguous sentences produced by the child could be interpreted as ORps. On the other hand, however, the null comprehension of ORps in the comprehension test, makes us doubt about this hypothesis.

The fact that JM uttered two ORs with clitic pronouns is worth of consideration because we have seen that the clitic pronoun insertion is obligatory in standard Romanian and frequent in the colloquial Italian language. What were the trigger, though, that led JM to produce such constructions? No answer can be given now, but more research is worth doing.

As regards passive clauses production, the strategies used by JM are analogous to those

observed by Volpato et al. (2012) in their study on a sample of younger (monolingual) children, except for the thematic roles inversion, which was never found.

It is important to notice that if the experimenter did not remind JM that she had to begin the sentence with the noun previously pronounced in the question (e.g. *Cosa succede a Sara? Comincia la frase con "Sara"* – What happens to Sara? Begin the sentence with "Sara"), the child more likely produced SVO sentences (*Sara colpisce la mamma* – 'Sara hits the mother'). If, on the other hand, she was asked to begin the sentence with a specific noun, she resorted to all the strategies we have seen in the remaining three typologies (either she produced an SVO with reversed thematic roles – example (9) -, or she produced sentences such as *Alla mamma succede che la bambina prende la mamma* - 'To the mother it happens that the girl chases the mother.'; *A Marco succede che Sara la bacia* - 'To Marco it happens that Sara kisses her'. This tendency, however, was more evident in the first items, while, proceeding with the test, JM started to use all these strategies indiscriminately: this happened maybe because the child had already acquired the rule of starting each sentence with the just heard noun, but could not evenly produce a passive construction. Moreover, we have seen that in many cases she incorrectly reversed the thematic roles. One may think that her main problem is actually the correct formation of the verb's thematic structure, but, as we saw, these issues did not arise when we assessed passives comprehension. I propose that the trigger which causes these errors might be the "stress" she was exposed to when asked to begin the sentence in an uncommon way, namely with the patient's noun. Maybe, having in mind that she had to follow this rule, she focused her attention more on the structure of the sentence and less on the event she had to describe.

It is, however, peculiar the fact that no other child made this type of mistakes.

## **Chapter 6**

### **The explicit syntactic teaching and the post-teaching results**

#### **6.1 Introduction**

This chapter presents the treatment that was carried out with Jessica on relative and passive structures. Every single session will be reported, with a detailed description of the topics and the activities.

When the first attempt of syntactic treatment started, soon after the pre-treatment testing had finished, i.e. in Summer, I had Levy and Friedman's (2009) evidence in my mind. The general idea was that of not varying too much from that model, in order to have always a scheme to follow during the training period.

An inspiration came from the metaphor the authors did to refer to verbs and their arguments, namely the comparison of them to an officer and his soldiers. Having, however, to deal with a young girl, I thought it would have been better to find a parallel, but different metaphor to explain that. I recurred therefore to the figure of the bee: verbs were compared to queen bees who can have power over one (intransitive verbs), two (transitive verbs) or three (ditransitive verbs) bees (the arguments), according to their importance.

The first two meetings we made were dedicated to analyse the different types of verbs and their argument structures. To make the whole issue more “visual” and pleasant, we used three big paper queen bees, over which one, two or three little bees were attached, to symbolize the different verbs and their arguments.

The metaphor did actually work, but, maybe, the bigger mistake of this first attempt was using too many technical terms with JM. Despite being the tasks very easy for her (she had to build some sentences and identify the subject, the object and the verb in them), the use of too difficult words made the whole meetings very hard and unsustainable, even during the simplest activities, since she devoted too much attention to remember those terms. After thirty minutes she indeed clearly showed a loss of attention.

I realized hence that Levy and Friedmann's treatment could not be the only scheme to rely on, but that further ideas and activities were necessary in order to make the whole project more accessible and agreeable to JM. That is why the treatment was stopped after only two meetings, with the purpose of re-starting it in September.

During that time I therefore worked on a different treatment, easier to face, but

analogous as for topics and the sequence they had to be dealt with.

The new treatment program started in October and lasted for three months. It consisted of a series of ten weekly meetings, each one lasting from about 45 to 60 minutes. They were carried out in a quiet room I was kindly allowed to use in the parish of our village.

## **6.2 The explicit syntactic teaching:**

### **6.2.1 First meeting**

During this meeting the notions of verb's argument structure, and reversible and irreversible transitive verb were introduced.

I was decided not to hurry and to show the girl the topics in the clearest and simplest way, without using difficult terms or dealing with too many issues at a time. It was however crucial that the important, concepts be understood by JM.

Having Ebbels and van der Lely's (2001) work in mind, I made great use of colours and shapes for the whole treatment.

The first session was dedicated to verbs' argument structure. When JM arrived, she found on the table many pieces of paper, of different colours and shapes, onto which words were written. Subjects were on orange circle-shaped strips of paper, direct objects were on pink triangle-shaped ones, indirect objects on blue rhombus-shaped ones and verbs were on yellow, blue, green or red pieces of paper, according to their types. The categories which have been taken into consideration for verbs are: intransitives (blue), transitives and reversibles (yellow), intransitives and irreversibles (green), ditransitives (red).

JM was asked to build some sentences using first one orange strip of paper, which would have been the subject, the *actor* of the sentence (this term was taken from Haegeman (1996), who made an interesting comparison between verbs' argument structure and a piece of theatre), then one verb, namely one *action*, and finally one pink triangle-shaped object. If convenient, she could have added one of the rhombus-shaped pieces of paper.

She formed therefore ten sentences, three of them with transitive and irreversible verbs, three with transitive and reversible verbs, two with intransitive and two with ditransitive verbs. Some sentences are presented in examples (1) to (4), see Appendix 3 for all sentences.

- (1) I bambini comprano la pizza.  
‘The children buy pizza.’
- (2) Le maestre sgridano Paolo.  
‘The teachers scold Paolo.’
- (3) Tu ridi.  
‘You laugh.’
- (4) Il principe chiede un favore ai nonni.  
‘The prince asks for a favor to the grandparents.’

Using colours to make the distinction sharper and more immediate, we noticed that some verbs were accompanied by only one word (3), while other verbs may have two (1) and (2) or even three words with them (4) (I did not use the word “arguments”, but I preferred to use “characters”).

Since she had no problem in understanding this issue, a step forward was made and the difference between reversible and irreversible verbs was shown to her. I made her notice that, among the sentences with one verb and two characters, some of them maintained a grammatical and acceptable status even if we switched the order of the characters (7) and (8), whereas other sentences gave place to weird and unacceptable meanings (5) and (6). Some examples are reported here.

- (5) I bambini comprano la pizza.  
‘The children buy pizza.’
- (6) ??La pizza compra i bambini.  
??Pizza buys the children.
- (7) Le maestre sgridano Paolo.  
‘The teachers scold Paolo.’
- (8) Paolo sgrida le maestre.  
‘Paolo scolds the teachers.’

During the first session, JM showed enthusiastic cooperation through the whole lesson, and this made me understand that maybe we had finally given a good start. Moreover, I was very glad when JM remembered and made me notice the parallelism between what we had done that day and the activity on the bees we had done a few months earlier.



**Fig. 1: The coloured pieces of paper we used for the treatment.**

### **6.2.2 Second meeting**

During the second meeting, the notions presented during the previous session were checked using a judgement task activity, and new topics were introduced, namely the thematic criterion.

The session started with an activity involving a grammaticality judgement task. After having reviewed what we had done during the previous meeting, I showed to JM thirteen sentences, one at a time, and many little circle-shaped pieces of paper, representing either happy or sad faces. Some examples are reported here, the whole set of sentences can be found in Appendix 4.

- (9) Toby gioca la palla.  
‘Toby plays with the ball.’
- (10) Il cane insegue.  
‘The dog chases.’
- (11) Jessica abbraccia la mamma.  
‘Jessica hugs the mother.’
- (12) La nonna regala a Jessica.

‘The grandmother gives to Jessica.’

When the sentence was presented, JM had to determine whether it was correct or incorrect, by putting the little face next to it, and, if incorrect, turn it into an acceptable sentence.

The girl, besides loving the task (I said her she was the teacher, while I was the student, and she had to value and correct my mistakes), managed to complete it in a very good way.

Having made sure that she had understood the verb's argument structure, the thematic criterion was introduced. Once again, inspiration was taken from Haegeman's (1996) and her comparison between verbs' structure and the theatre environment.

With coloured papers I “built” for her a stage, onto which I asked her to imagine that the verbs, i.e. the directors, put their actors and gave them specific roles. Not all the directors, however, were the same: some of them could afford only an actor, some could have two actors and some others even three; however, all the available actors had to be on the stage, otherwise the play would not have worked. Moreover, every character had to have one specific part to perform on the stage.

I showed her some sentences and made her notice how the verbs can assign different roles to their characters: the subject, i.e. the “protagonist”, is the one who begins the action, then there may be animated objects affected by the action either in a negative (patient) or in a positive way (beneficiary) and there can be also things as objects, usually referred to as “themes”. I explained also that more information can be added to a sentence or to a text, even if it is not compulsory. Every information added, which is out of the argument structure of the verb, is called “adjunct”.



**Fig. 2: The “stage” with which the thematic criterion was explained.**

### **6.2.3 Third meeting**

This meeting was devoted to present the subject relative clause structure.

A revision of the previous things preceded this new session.

After that, I showed JM a text. I read it to her and then asked her to read one sentence at a time and then indicate the verbs and their arguments, using the already known colours. Despite JM 's understanding of the task, this activity did not give the expected results. Maybe the text had not been well chosen, having too many complicated sentences in it (adjuncts, subordinated clauses, etc.). After having completed one little part of the text, we stopped and changed activity.

Hence, The notion of subject relative clause was introduced to JM. Also for this part, a great use of shaped pieces of paper was made. I submitted her to a simple SVO sentence, then a little sheet with “mi piace” ('I like') written on it was added ahead of the clause. I showed her how the subject moves from its position to join another place at the right of “mi piace” and, in doing that, leaves a trace in the position it occupied before. The trace was represented as a footprint (or a pawprint, if the subject was an animal) with a “T” written on it. It was also explained that the movement is marked by a chain, which connects the old position of the subject to the new one. The chain was built with many paper clips attached between them. After the movement has taken place, I said JM that a “magical word” is necessary in order to join the two parts of the sentence: I therefore gave her the relative pronoun “che” ('that') written on a bow-shaped piece of



paper, to symbolize the idea of “blending”.

Il dottore incontra la nonna

Mi piace il dottore CHE il dottore T incontra la nonna.

‘The doctor meets the grandmother.’

‘I like the doctor that ~~the doctor~~ meets the grandmother.’

JM had no problems in understanding these notions: we made a few sentences and she showed a great autonomy in doing the movement right from the first items.

#### 6.2.4 Fourth meeting

We practiced further sentences using the coloured shapes. In order to make her feel more involved, I allowed the girl to invent the sentences, which I corrected, if necessary. Some examples are reported here, the whole set of sentences can be found in Appendix 5.

(13) Mi piace il postino che visita i vicini.

‘I like the postman that visits the neighbours.’

(14) Mi piace la mamma che ama i bambini.

‘I like the mother that loves the children.’

(15) Mi piacciono le fate che guardano il mago.

‘I like the fairies that watch the wizard.’

(16) Mi piacciono i criceti che disturbano i conigli.

‘I like the hamsters that bother the rabbits.’

(17) Mi piacciono le ballerine che amano le maestre.

‘I like the dancers that love the teachers.’



**Fig. 3: The activities done to present the movement in subject relative structures.**

Noticing that the task had been completely understood, we tried to make a step forward, towards a stage characterized by less tangibility. JM was asked to take her copybook and write some sentences. After that, she had to transform them into subject relative clauses. It took a little time to tune the “symbolic features” of the phenomenon (i.e. decide how to represent the movement, the traces, and so on), but after that JM managed to do the task very well, demonstrating that she had no difficulties even in a less tangible condition.

### **6.2.5 Fifth meeting**

Object relative clause structures were introduced during this meeting.

We made further exercises on subject relative clauses, both with shapes and with written items.

Thereafter, object relative clauses were introduced. The method through which the movement was showed to the girl has been analogous to the one used for subject relatives.

La mamma abbraccia la bambina.

Mi piace la bambina CHE la mamma abbraccia la bambina T

‘The mother hugs the girl.’

‘I like the child that the mother hugs ~~the child~~.’

I realize now that, maybe, the fact of not having varied to some extent these two

constructions, has not helped JM to distinguish between them in a proper way. Moreover, the dwelt use of similar activities has doubtlessly dimmed JM's interest and attention. All these factors, perhaps, have led, as we will see, to a relatively low performance on post-treatment tests.

However, the movement involving object relatives seemed to be understood by the child.

When she was asked to distinguish between subject and object relatives, it was not so immediate for her to determine which was the subject and which was the object. This may have been so because we made a very poor use of technical terms. We therefore made a step backward, but necessary, by reviewing these issues. After this further explanation, JM managed to distinguish better the two types of relative clauses.

### **6.2.6 Sixth meeting**

Before changing the topic, namely introducing passive clauses, I wanted to make a general review of the things made up to that point.

I therefore dedicated the sixth session to a series of checking activities. Argument structure, thematic criterion, subject and object relatives were involved, both with coloured shaped papers and in written form.

JM showed to be able to face every task autonomously and effortlessly. Especially for what relative clauses were concerned, the last exercise asked JM to read some sentences and transform them either into subject or object relative clauses, no other cues being present. The child did very well on the task, demonstrating that she had no more doubts on the difference between subject and object.

### **6.2.7 Seventh meeting**

During this session the passive clause construction was introduced.

First, eighteen pictures representing actions were shown to JM, some of the chosen transitive verbs were the same of Verin's test on passive structures (baciare – to kiss -, amare – to love -, colpire – to hit -, guardare – to watch -, annusare – to smell -, inseguire – to chase -, prendere a calci – to kick -, imboccare – to feed -, sentire – to hear -, spingere – to push), while other verbs with the same characteristics were added autonomously (accarezzare – to caress -, mordere – to bite -, bagnare – to wet -,

graffiare – to scratch -, toccare – to touch -, lavare – to wash -, truccare – to make up -,  
pettinare – to comb -).

For every picture showed, we pronounced a SVO sentence. Some produced sentences are shown in the following examples (see Appendix 6 for all of them).

(18) Il cowboy accarezza il cavallo.

‘The cowboy caresses the horse.’

(19) La bambina bacia il cane.

‘The girl kisses the dog.’

(20) Il cane morde la padrona.

‘The dog bites the owner.’

(21) Lo scoiattolo annusa il fiore.

‘The squirrel smells the flore.’

(22) La bambina ama il bambino.

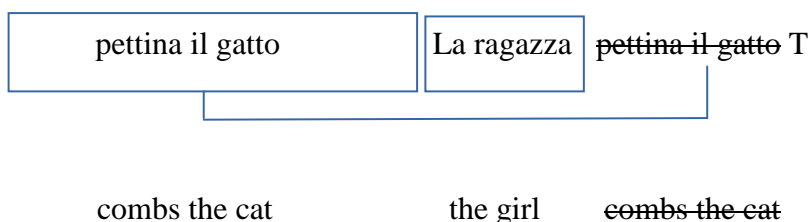
‘The girl loves the boy.’

Afterwards, I let her choose a photo she liked and showed her the first passive sentence. For example, in a SVO sentence such as:

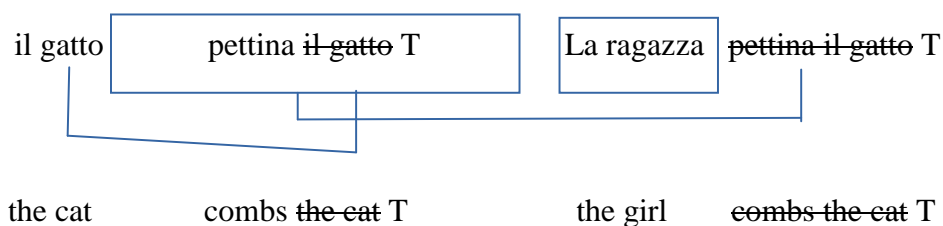
(23) La ragazza pettina il gatto.

‘The girl combs the cat.’

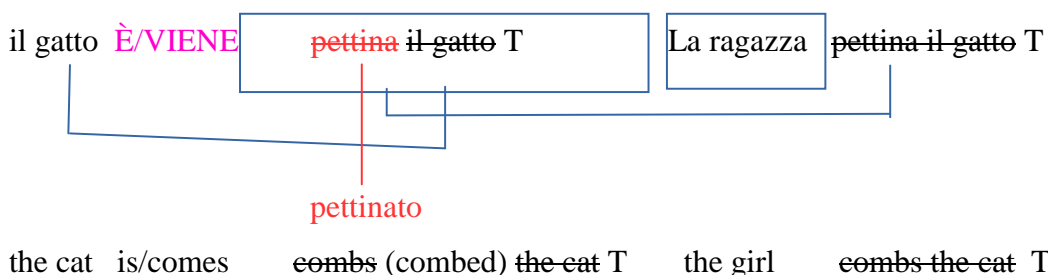
I said her that the sentence could have begun with the object, i.e. “il gatto”. To make so, some movements were necessary. Therefore, the clause was presented to her in a particular way: using, even for this task, coloured shapes, also some paper cases were introduced. For every sentence, the subject was put into a little case, while the verb and the object were into a bigger case. The first change consisted in the movement of the case containing verb and object leftwards, namely overpassing the subject:



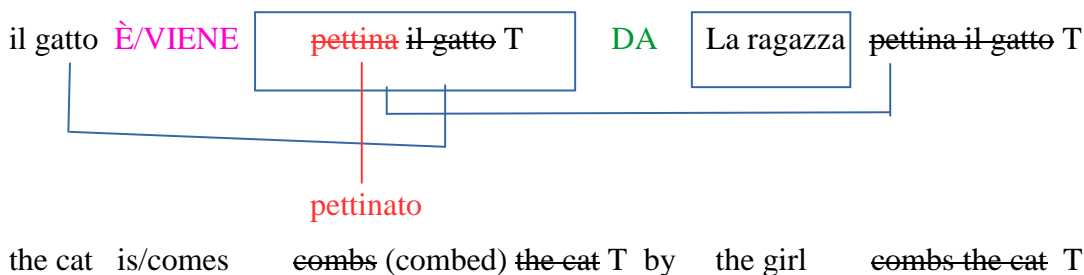
After that, I said JM that the bigger case could be opened and let go out only the object:



At this point the sentence started to be closer to a passive, but there was a problem between “gatto” and “pettina”, as it was not the cat who combed the girl, but the other way round. That is why a helper (aiutante) arrived in order to bring peace between the new subject and the verb. This helper, which, if we think about it, is a sort of synonym of “auxiliary”, was written in a heart-shape piece of paper, to symbolize the agreement it was responsible for. Thanks to this helper, I said to the girl, the verb could change itself in order to “make peace” with the moved object.



Still one thing missed in order to complete the process: one “magical word” (namely, “da” - by -) was necessary to make the reader remember that the actor, the agent of the action was the girl, even if it was at the end of the sentence:



‘The cat is combed by the girl.’

This is the way all the complicated processes happening when a passive clause is formed were presented to JM. The idea of the cases was inspired by Collins' "Smuggling" hypothesis. (2005).

JM needed a little more explanation on this task, but when she understood it, actually very early, she enjoyed and succeeded in doing it even better than the previous activities.



**Fig. 4: The activities done to describe the movement in passive structures.**

### **6.2.8 Eighth meeting**

The eighth session was exclusively dedicated to exercises.

We made many transformations from SVO to passive sentence, using strips of paper and also writing them on the copybook. I wanted to give a try and lead JM to a situation of even less tangibility: we transformed the sentences orally. At first, she needed to retrace all the "cases process" before giving me the answer, but, when it was suggested her that a faster strategy could be used, she started to convert SVO clauses in passives in a more rapid way.

### **6.2.9 Ninth meeting**

As we had done after relative clauses part, we did also for passive a sort of checking. Everything done up to that point was included, namely argument structure, thematic

theory, the relative and the passive clauses.

### 6.2.10 Tenth meeting

Initially, the intention was that of devoting this meeting to the post-treatment testing part. However, a further last reviewing has been considered helpful.

In order not to make it too similar to the previous meeting, the activities were presented in the form of a game. I printed a version of the well known “Gioco dell'oca” (known as 'Snakes and ladders' in English) and for every box JM was submitted either to an activity dealing with what we had done during the treatment, or to some little games or riddles.



**Fig. 5: The table we used for the “reviewing game”.**

Every spot with geese in it corresponded to a riddle or to an exercise on argument structure, relative or passive clauses.

It has been an original and fun way to make a revision and, besides, JM enjoyed it a lot. This was the last session we carried out. The following time we met, the subject was submitted to the post-treatment tests.

## 6.3 Post-teaching results

### 6.3.1 Introduction

The present chapter presents the results of JM's performance after the syntactic treatment.

She was assessed again more or less a week after the end of the treatment. The tests I used were the same of the pre-treatment phase and were administered in the same way.

Despite not showing significant improvement on relative clauses tasks, she showed a sharp progress with passive constructions.

We will see in detail the results for the different tasks in the following sections.

### 6.3.2 TCGB

The following table provides JM's pre-teaching scores on TCGB items, compared to the post-treatment performance.

TCGB	Pre-teaching error score	Post-teaching error score
LOCATIVE COMPLEM.	2,5	1,5
INFLECTIONAL MORPH.	0,5	0,5
AFF. ACTIVE SENT.	0	2
NEG. ACTIVE SENT.	1	0,5
AFF. PASSIVE SENT.	2,5	1,5
NEG. PASSIVE SENT.	0,5	0,5
RELATIVE SENT.	1	0,5
DATIVE COMPL.	1	0
<b>TOT</b>	<b>9</b>	<b>7</b>

**Table 1: JM's TCGB scores before and after the teaching sessions.**



If we compare JM's performance to normative data, we could see that she had some improvement, even though her level is still below her age.

Età	10°	25°	50°	75°	90°
3.6	53.75	39	35.5	30.7	25
4	49.5	38.8	27	17.7	10.7
4.6	36	28.6	19.5	12.8	7
5	34.7	23	13	8	4
5.6	32	14	7	3	1
6	16	8.7	5.5	3	2
6.6	13	6.9	3.7	2.5	1.5
7	6.3	2.8	2	0.7	0
7.6	6.8	3.8	1.5	1	0.05
8	5.3	3.3	1.7	0.6	0.5

**Table 2: Comparison of JM's results with normative data**

The table shows the normative data with which the child's scores were compared. In the first column ages are indicated, whereas in the following 5 ones we can see the mean score performed by children at respective ages. If we look at the same column we had taken into consideration before the treatment, i.e. the 25° one, we could find that the closer score to JM's one is 6.9, thus matching with 6.6 years old.

### 6.3.3 Relative clauses production

In the following table I will provide JM's score on this task, comparing pre- and post-treatment performances.

RELATIVE CLAUSE PRODUCTION	Pre-teaching score	%	Post-teaching score	%
SR	10/12	83%	12/12	100%
OR	0/12	0%	0/12	0%
F	12/12	100%	12/12	100%

**Table 3: JM's performance on Relative clauses production before and after the teaching sessions.**

Looking at the table we can immediately observe that, apart from an improvement in

SRs production, from 83,3% to 100%, ORs were never produced (0% before and after treatment) (see Appendix 7).

### 6.3.3.1 Qualitative analysis

In this section, the child's performance as far as the qualitative analysis of responses is presented. The sentences that JM produced were more or less analogous to the ones produced before the teaching.

Two sentences out of twelve were totally wrong, as they presented reversed thematic roles:

(24) **Target sentence:** *Mi piacciono di più i bambini che il papà pettina.*

'I prefer the children whom the father combs.'

**JM's production:** *Mi piacciono i bambini che pettinano il papà.*

'I prefer the children who comb the father.'

(25) **Target sentence:** *Mi piacciono di più i bambini che la maestra premia.*

'I prefer the children whom the teacher rewards.'

**JM's production:** *Mi piacciono i bambini che premiano la maestra.*

'I prefer the children who reward the teacher.'

Being these sentences the only cases of thematic roles reversal, I wanted to investigate whether the interpretation JM gave to the clause was indeed coherent with her production. Therefore, when she produced sentence (25) I asked her: *chi è che premia?* ('who rewards?'). Her answer was abrupt and clear: *la maestra* ('the teacher').

Hence I realized that she did not have any problems with thematic roles assignment, but, when there was a mismatch condition between the figures of the sentences, she encountered difficulties in producing an object relative.

Seven sentences out of twelve were ambiguous sentences. On the basis of the assumptions made above, we could hypothesize that the interpretation she gave to them was that of ORp. However, if we consider JM's utterances reported in (24) and (25), we could also think that she interpreted them as SRs:

(26) **Target sentence:** *Mi piace di più il bambino che il cane segue.*

'I prefer the child whom the dog chases.'

**JM's production:** *Mi piace di più il bambino che segue il cane.*

'I prefer the child who/whom chases the dog.'

Two sentences out of twelve were object relatives containing a clitic pronoun:

(27) **Target sentence:** *Mi piace di più il bambino che il papà lava.*

'I prefer the child whom the father washes.'

**JM's production:** *Mi piace di più il bambino che il papà gli fa il bagno (lava).*

'I prefer the child whom the father washes him.'

(28) **Target sentence:** *Mi piacciono di più i bambini che il cane insegue.*

'I prefer the children whom the dog chases.'

**JM's production:** *Mi piacciono di più i bambini che il cane li insegue.*

'I prefer the children whom the dog chases them.'

We could say here that, despite the use of a clitic pronoun in both sentences, they do not have the same functions. In sentence (27), in fact, *che* ('that') corresponds to the relative pronoun *a cui* ('to whom'), as JM changed the verb from the transitive *lavare* ('to wash') to *fare il bagno* (literally, 'make a bath'). Therefore, the clitic pronoun is not an object clitic but rather a dative one.

The other sentence, instead, is a real OR with a resumptive object clitic pronoun.

A sentence was built by JM in an unconventional way, and could be classified among the "other types" of errors. At the beginning of the test, in fact, JM tended to put the relative pronoun *che* ('that') before the head of the clause. She therefore produced sentences such as (29). Given that, in my opinion, it was only a problem of attention, since that she made these types of error only with the first items, I reminded her how she had to begin every sentence (*mi piace/piacciono di più il bambino/i bambini... - 'I prefer the child/the children...'*).

(29) **Target sentence:** *Mi piacciono di più i bambini che i nonni baciano.*

'I prefer the children whom the grandparents kiss.'

**JM's production:** *Mi piacciono di più che i nonni baciano i bambini.*

'I prefer that the grandparents kiss the children.'

In the following table, data are shown in order to compare the quantity and quality of strategies used before and after treatment. As we can see, no particular differences emerge.

<b>Relative clause production strategies</b>	<b>Before teaching</b>	<b>%</b>	<b>After teaching</b>	<b>%</b>
<b>SR (reversed <math>\Theta</math>)</b>	2/12	17%	2/12	17%
<b>Ambiguous sentences</b>	8/12	67%	7/12	58%
<b>OR + clitic</b>	2/12	17%	2/12	17%
<b>Other</b>	0/12	0%	1/12	8%

**Table 4.: answers strategies used by JM when ORs were targeted before and after the teaching sessions.**

Looking at the data, it is possible to observe that JM did actually not change her strategies too much, comparing them to the pre-treatment performance.

### 6.3.4 Relative clauses comprehension

As regards to comprehension, no particular differences from the pre-treatment performance were recorded. However, JM showed a slight improvement.

The following table shows JM's results before and after treatment.

<b>RELATIVE CLAUSES COMPREHENSION</b>	<b>Pre-teaching score</b>	<b>%</b>	<b>Post-teaching score</b>	<b>%</b>	<b>Control Group's Mean Percentage</b>
AMB_SG_SG	6/6	100%	6/6	100%	100%
AMB_PL_PL	4/6	67%	5/6	83%	100%
SR_PL_SG	6/6	100%	6/6	100%	100%
SR_SG_PL	6/6	100%	6/6	100%	100%
OR_SG_SG	4/6	67%	5/6	83%	94%
OR_PL_PL	3/6	50%	5/6	83%	92%
OR_PL_SG	4/6	67%	3/6	50%	89%
OR_SG_PL	4/6	67%	3/6	50%	97%
ORp_PL_SG	0/6	0%	1/6	17%	75%
ORp_SG_PL	0/6	0%	4/6	67%	69%
<b>TOT</b>	<b>37/60</b>	<b>67%</b>	<b>43/60</b>	<b>72%</b>	<b>92%</b>
F	20/20	100%	20/20	100%	100%

**Table 5: JM's relative clauses comprehension before and after treatment**

Overall her performance improved.

We can observe from the table that the category which had the more visible positive results is that of ORp clauses. Indeed, in ORp\_PL\_SG sentences the performance increased from 0 to 16,6% and, more remarkably, in ORp\_SG\_PL clauses the results went from 0 to 67% of correctness.

According to binomial distribution<sup>21</sup>, JM performed above chance on both types of subject relative clauses, on object relative clauses in match conditions and on object relative clauses with post-verbal plural subjects. She performed below chance, instead, on object relative clauses in mismatch conditions and on ORps with singular embedded

21 As already reported in footnote 19 in chapter 5, a child is considered above chance if he/she answers correctly at least to 4 items per relative clause typology. He/she is considered above chance, instead, if he/she points correctly to all ambiguous items.

DPs.

### 6.3.5 A further investigation: relative clauses repetition task

The scores achieved by JM on relative clauses tasks left many uncertainties. For this reason, a further investigation has been considered to be useful. JM was therefore evaluated on a relative clauses repetition task.

The most striking observation, which led to the choice of submitting the subject to another test depends on the fact that in ORs comprehension results, the girl showed to have much more problems in mismatch situations, while she performed significantly better when both object and subject had the same number features (see table 5).

These patterns made us think about what happens in standard Romanian. As we have seen in chapter 4, indeed, the verb in Romanian presents the same form both for the 3<sup>rd</sup> person singular and plural<sup>22</sup>.

These characteristics, therefore, suggested that maybe JM, influenced by her L1, may feel confused when the two verbs in the sentence present dissimilar number features.

That is why JM was evaluated in her ability to repeat relative sentences, especially those with mismatch features. The expectations, indeed, was that she would have met difficulties in repeating these type of structures, given her deficit in processing verbs with different number agreement.

#### 6.3.5.1 Materials and procedure

The clauses used for the experiment were the same as those used in the comprehension task, given that several weeks had passed since the submission of the post-treatment comprehension test.

However, not all sentences were taken into consideration, but only 36 of them, on the basis of their type and subject/object number features. As regards to SRs and ORps, only those which presented a plural subject were included in the test.

The task assessed the repetition of:

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22 This feature, interestingly, is found also in a variety of Venetian dialect, namely the one spoken in the environment where JM lives now:

(1) *I canta.*  
(they) subj.CL sing<sub>3rdSING</sub>  
'They sing'.

- SRs with plural subjects and singular objects (SR\_PL\_SG):
- (30) *I leoni che guardano l'elefante.*  
'The lions that watch the elephant.'
- ORs with singular subjects and singular objects (OR\_SG\_SG):
- (31) *La gallina che il pulcino becca.*  
'The hen that the chick bites.'
- ORs with plural subjects and plural objects (OR\_PL\_PL):
- (32) *Le moto che le macchine spingono.*  
'The motorbikes that the cars push.'
- ORs with plural subjects and singular objects (OR\_PL\_SG):
- (33) *Le bambine che il bambino lava.*  
'The girls that the boy washes.'
- ORs with plural subjects and plural objects (OR\_SG\_PL):
- (34) *La giraffa che le zebre tirano.*  
'The giraffe that the zebras pull.'
- ORps with post verbal plural subjects (ORp\_SG\_PL):
- (35) *La tigre che baciano le bambine.*  
The tiger that kiss the girls.  
'The tiger that the girls kiss.'

JM was evaluated in a quiet room. She was asked to look at the corresponding picture, which was left in front of her, and listen to the clauses uttered one at a time by the experimenter. After reading each stimulus, she was asked to repeat the sentence. If JM asked to, the clause could be read twice.

A pause lasting 10-15 minutes was introduced after 18 sentences had been read and repeated. Hence, the remaining 18 were submitted.

### 6.3.5.2 Results

Here is the table providing the child's general results on this task:

RCs REPETITION TASK	SCORE	%
SR_PL_SG	6/6	100%
OR_SG_SG	6/6	100%
OR_PL_PL	5/6	83%
OR_PL_SG	6/6	100%
OR_SG_PL	4/6	67%
ORp_SG_PL	5/6	83%
TOT	32/36	89%

**Table 6: JM's score on RCs repetition task.**

JM repeated incorrectly only 4 sentences out of 36. Therefore, she did not encounter particular difficulties in this task, contrarily to what it had been predicted (see Appendix 9).

### 6.3.5.3 Qualitative analysis

Let us see in detail the sentences that caused to JM some difficulties, namely those which she failed to repeat correctly, those for which she required a further reading or those sentences that were repeated correctly, but with uncertainty. However, only the wrongly repeated sentences were counted as errors.

- RCs which were repeated incorrectly:

(36) *Target sentence: Il pinguino che i gatti guardano.* [OR\_SG\_PL]

'The penguin that the cats watch.'

*JM's production: Il pinguino e i gatti guardano.*

'The penguin and the cats watch.'

In this sentence, JM failed to produce the relative complementizer *che* ('che'), producing the conjunction *e* ('and') instead of it. The utterance, therefore, did not represent a



relative clause, but two conjoint sentences.

(37) **Target sentence:** *Il cigno che beccano i pulcini.* [OR<sub>p</sub>\_SG\_PL]

The swan that bite the chicks.

'The swan that the chicks bite.'

**JM' production:** *Il cigno che becca i pulcini.*

The swan that bites the chicks.

'The swan that the (bites) the chicks (\*bites).'

In sentence (37), JM changed the verb agreement from plural to singular features. Hence, the clause assumed a SR interpretation.

(38) **Target production:** *I serpenti che le tigri guardano.* [OR\_PL\_PL]

'The snakes that the tigers watch.'

**JM's production:** *Il serpente che le tigri guardano.*

'The snake that the tigers watch.'

This error consists in changing the number feature of the object of the clause (*I serpenti* – 'the snakes' – became indeed *il serpente* – 'the snake'). However, it does not affect much the structure, especially because the verb remains unchanged.

(39) **Target production:** *Le rane che le ragazze seguono.* [OR\_PL\_PL]

'The frogs that the girls follow.'

**JM's production:** *Le ragazze (pause) le rane che seguono le ragazze.*

'The girls (pause) the frogs that follow the girls.'

In this case, JM changed the OR into a SR, by switching the order of the verb and the pre-verbal subject. Noticing that she had begun the sentence in the wrong way, JM made a pause after *le ragazze* ('the girls'), causing perhaps an overload on the working memory capacity. Therefore, she may have produced the simplest sentence she could think of by beginning it with the right DP (*le rane* – 'the frogs'), namely a SR.

- Sentences which JM repeated in an uncertain way ((40), (41), (42), (43)) or which she asked to hear twice ((44), (45)).

(40) *Le scimmie che fermano il pinguino.* [SR\_PL\_SG]

'The monkeys that stop the penguin.'

(41) *Le moto che le macchine spingono.* [OR\_PL\_PL]

'The motorbikes that the cars push.'

(42) *La giraffa che le zebre tirano.* [OR\_SG\_PL]

'The giraffe that the zebras pull.'

(43) *Il ragazzo che i cani toccano.* [OR\_SG\_PL]

'The boy that the dogs touch.'

(44) *Le mucche che i cammelli tirano.* [OR\_PL\_PL]

'The cows that the camels pull.'

(45) *La macchina che seguono i camion.* [ORp\_SG\_PL]

The car that follow the trucks.

'The car that the trucks follow.'

### 6.3.6 Passive clauses productions

Differently from relative structures, the treatment on passive clauses gave encouraging results.

In the following table JM's scores are shown.

<b>PASSIVE SENTENCES PRODUCTION</b>	<b>Pre-teaching scores</b>	<b>%</b>	<b>Post-teaching scores</b>	<b>%</b>
PASSIVE SENTENCES	0/24	0%	10/24	41,6%
FILLER SENTENCES	12/12	100%	12/12	100%

**Table 7: JM's data on passives production before and after the teaching sessions.**

Looking at the data, we can see that JM improved in the production of passive sentences, uttering 10 clauses out of 24 (compared to the phase before teaching, when she did not produce any passive sentence) (see Appendix 8).

#### 6.3.6.1 Qualitative analysis

This section shows strategies to which JM recurred when she did not produce correct passive sentences. In order to answer to the input given by the experimenter, the strategies she recurred to in these cases are similar to those used in the pre-treatment phase.

JM sometimes produced SVO sentences. Thematic roles were not reversed, therefore these sentences did not begin with the asked noun (the patient), but with the agent's name:

(46) **Target sentence:** *Sara è amata da Marco.*

'Sara is loved by Marco.'

**JM's production:** *Nella prima foto Marco ama Sara.*

'In the first picture Marco loves Sara.'

In order to satisfy the experimenter's request which asked to start the sentence with a given noun, JM began many sentences repeating part of the question (*Cosa succede a X? A X succede che...* - 'What happens to X? To X it happens that...') and then she produced an SVO with a clitic or an NP as its object:

(47) **Target sentence:** *Marco è visto da Sara.*

'Marco is seen by Sara.'

**JM's production:** *A Marco succede che Sara vede Marco.*

'To Marco it happens that Sara sees Marco.'

(48) **Target sentence:** *La mamma è presa a calci da Sara.*

'The mother is kicked by Sara.'

**JM's production:** *Alla mamma succede che Sara \*gli scalcia.*

'To the mother it happens that Sara kicks \*him.'

Other productions were totally wrong, as there were errors in thematic roles assignment. However, similarly to what I did with relative clauses productions, when I asked her "who was doing something to whom", she answered correctly without thinking too much about it:

(49) **Target sentence:** *Il papà è amato da Sara.*

'The father is loved by Sara.'

**JM's production:** *Il papà abbraccia la bambina (exp: chi è che abbraccia?) Sara (quindi cosa succede al papà?) abbraccia... (il papà abbraccia Sara?) Sara abbraccia il papà.*

'The father hugs the girl (exp: who hugs?) Sara (so what does it happen to the father?) hugs... (the father hugs Sara?) Sara hugs the father.'

(50) **Target sentence:** *Marco è baciato da Sara.'*

'Marco is kissed by Sara.'

**JM's production:** *Sara... (devi iniziare la frase con Marco) Marco bacia Sara.*

'Sara... (you have to begin the sentence with Marco) Marco kisses Sara.'

Looking at the following table, we could make a comparison between the strategies used before and after treatment.

<b>Strategies on passive clauses production</b>	<b>Pre-teaching scores</b>	<b>%</b>	<b>Post-teaching scores</b>	<b>%</b>
<b>Passive clauses</b>	0/24	0%	10/24	42%
<b>SVO (correct <math>\Theta</math>)</b>	6/24	25%	4/24	17%
<b>SVO (incorrect <math>\Theta</math>)</b>	10/24	42%	3/24	12,5%
<b>Structures with clitic</b>	1/24	4%	2/24	8%
<b>Other structures (correct <math>\Theta</math>)</b>	2/24	8%	5/24	21%
<b>Other structures (incorrect <math>\Theta</math>)</b>	5/24	21%	0/24	0%

**Table 8: JM's strategies on passives elicitation task before and after explicit teaching.**

It is interesting to observe that the main improvements JM made after the explicit teaching involved not only the production of passive clauses, but also the lower number of errors in thematic roles assignment.

### 6.3.7 Passive sentences comprehension

This task was the one which gave the most positive results. Let us look at the following table to see JM's score on passive clauses comprehension.

<b>PASSIVE SENTENCES COMPREHENSION</b>	<b>Pre-teaching score</b>	<b>%</b>	<b>Post-teaching score</b>	<b>%</b>	<b>Control group's mean percentage</b>
ACTIONAL_ESSERE	5/6	83%	6/6	100%	100%
ACTIONAL_VENIRE	6/6	100%	6/6	100%	100%
NON-ACT_ESSERE	1/4	25%	4/4	100%	75%
NON-ACT_VENIRE	1/4	25%	4/4	100%	100%
ACT_ESSERE_BY-PHR	6/6	100%	6/6	100%	100%
ACT_VENIRE_BY-PHR	5/6	83%	6/6	100%	93%
NON-ACT_ESSERE_BY-P	0/4	0%	4/4	100%	71%
NON-ACT_VENIRE_BY-P	1/4	25%	4/4	100%	86%
<b>TOT (PASSIVE SENT.)</b>	<b>25/40</b>	<b>62,5%</b>	<b>40/40</b>	<b>100%</b>	<b>92%</b>
FILLER SENTENCES	10/10	100%	10/10	100%	100%

**Table 8: number and % of accuracy JM's data on passives comprehension before and after the treatment sessions.**

As we can see, JM did not make any mistake in the post-treatment passive clauses comprehension task.

### 6.3.8 Discussion

According to the tests assessing relative clauses production, no particular improvement has been observed. The strategies used before and after the explicit teaching sessions were overall maintained, especially the great amount of ambiguous sentences.

The comprehension task showed a slight improvement in JM's performance. Interestingly, it has been observed that the child's scores were higher in those sentences characterized by match conditions of the verb arguments, namely when both the subject and the object were either plural or singular. This pattern goes in the opposite direction of what it has been attested for monolingual Italian-speaking children in several studies (conducted by Adani et al., 2009; Volpato, 2010; Adani et al., 2014) affirming that the manipulation of the arguments number features improves object relative clauses comprehension.

According to this observation, it has been hypothesized that, given that standard Romanian presents a homophone and homograph form both for the 3<sup>rd</sup> person singular and plural of the verb, the mismatch condition could have caused confusion for the child, rather than constituting a helping clue. That is why a relative clauses repetition test was included in the post-teaching testing phase.

In the repetition task, looking at the data and at all the sentences which constituted a difficulty for JM, we could observe that one of the hardest typologies for the participant were the ORs\_SG\_PL, the ones that caused more problems also in the comprehension assessment. However, no systematic errors were observed, neither did all of them recur to only one typology of relative clause. Only one general assumption could be made, perhaps, on the fact that all the errors and the uncertainties were related to sentences with a plural verb (indeed, all the ORs\_SG\_SG and the ORs\_PL\_SG were processed without any problem).

If we think about the observation we made on standard Romanian, we may assume that JM's results on this task could be slightly influenced by her first language.

As far as passive clauses tasks are concerned, the obtained scores are to be pointed at as positive and encouraging.

Despite being the produced passive sentences few, they are indeed less than half of the total items, we have to take into consideration that in the pre-teaching testing JM did not produce any passive constructions at all.

All the uttered passive clauses presented “*essere*” ('to be') as auxiliary, they always had

the by-phrase and were never produced when the sentences contained the verbs *sentire* ('to hear'), *amare* ('to love') and *imboccare* ('to feed').

It is not a case, in fact, that these three verbs were the ones most subject to variation, namely JM often resorted to other expressions in order to convey the same meaning: *urlare/parlare nelle orecchie* ('to scream/talk in someone's ears') or *sentire la voce di* ('to hear someone's voice'), instead of *sentire*, *abbracciare* ('to hug') instead of *amare* and *dare da mangiare* ('give someone something to eat') instead of *imboccare*, in some cases using actional verbs where non-actional ones were required.

Also *prendere a calci* ('to kick') and *inseguire* ('to chase') were turned into *scalciare* (incorrect expression to say 'to kick') and *acchiappare* ('to catch'), but this did not prevent JM to produce a passive sentence. If we think about it, in fact, it is not possible to produce a passive sentence with verbal expressions such as *parlare nelle orecchie*, *sentire la voce di* or *dare da mangiare*.

On the comprehension task, I observed that JM had some difficulties with sentences containing the verb *sentire* ('to hear'), namely she had to think about them more carefully. Despite that, her performance was perfect.

Looking at the sharp difference between the results on relative and passive clauses, some possible explanations can be taken into consideration.

On the basis of previous studies, a greater success after the treatment would have been expected, especially as regards ORs comprehension and production.

However, it is important to keep in mind the deeply experimental nature of this project, both for the characteristics of the child and for the tasks used during the treatment sessions. The fact that standard Romanian, i.e. the native language of the child, presents a particular pattern in its verbal paradigm, may have influenced the whole impact of JM towards the treatment and the testing phase. The RCs repetition test, indeed, partially seems to support this theory, even though it has not been too much helpful.

The treatment of passive sentences showed far more effectiveness than the one on relative structures: therefore, we could say that the strategies and the activities used to teach the syntactic movement in passive structures were more successful than those used for relative clauses. However, doubtlessly, teaching materials for both relatives and passives could be revised and improved.

However, it is important to consider the fact that, while the tests on relative clauses included sentences with both singular and plural arguments, the tests assessing passive clauses always involved singular arguments and, therefore, always presented the verb at



its 3<sup>rd</sup> person singular form. It would be interesting to see whether manipulating the number features of the arguments also in passive clauses tests would lead to any change in the child's performance. Indeed, one of the weaknesses of the explicit teaching can be due to the fact that, during the activities, number features were not systematically manipulated, but were assigned rather randomly. This happened because, in order to maintain the child's attention and collaboration as high as possible, she was more than once allowed to invent the sentences that she had to switch into the relative or passive form.

The errors found with agreement features can be related to a possible influence from her first language, namely Romanian. As we have seen in chapter 1, the more recent opinions affirm that a bilingual situation is always positive for the child, but many factors can influence it, such as the age of onset and the quantity and quality of input received from each language (Unsworth et al., 2012). However, some authors assumed that a condition of bilingualism can lead also to difficulties or even to the avoidance, by the bilingual subject, of some complex structure belonging to the less dominant language (Schachter, 1974; Paradis et al., 2004).

It would be worth assessing JM also on Romanian relative and passive clauses, in order to verify whether her difficulties are due exclusively to the Italian system or to a more general linguistic delay.

We have then to take into account the issue of time. The explicit teaching of relative clauses has been carried out before that of passive clauses and, maybe, relative clauses were not revised enough at the end of the whole teaching. The child could have therefore focused more on passive sentences and, having those rules in mind, may have not been able to respond to relative structures tasks correctly.

We could say that, if any effect had been produced by the treatment on relative clauses, it was not consistent.

Moreover, we have to highlight the fact that, according to existing data on monolingual children, the acquisition of passive clauses reaches 100% at the ages of 6-7 years old, whereas ORs could be problematic even for older children (Adani, 2011; Volpato et al., 2013).

Another issue that should never be underestimated deals with child's interests. While I was working with JM, indeed, I could not help but noticing how she preferred the activities on passive sentences, compared to those designed for relative clauses.

As we have seen in chapter 1, children remember what they like. It is not a case,

therefore, that JM performed very good on what she did with more pleasure.

It is obvious that we have to rely on data, as they are the most objective and tangible means to evaluate someone's level. Anyway, we should never disregard other factors, less scientific, but very important, that maybe only those people who works with the direct experiments addressees can notice. Working with JM, in fact, especially for what relative clauses were concerned, I could observe that, despite the results, her way of approaching the tasks was different. I noticed deeper reflection and attentiveness, since she often repeated to herself the heard clauses or the items, and she waited, sometimes for a long time, before giving to me her answer: things which she never did during the tests before the teaching sessions.

We can not say that the training was effective as far as relative sentences are concerned, but it absolutely helped JM from a metalinguistic point of view, namely to be more aware of language mechanisms and to think about them.

## Conclusions

The present study faced a rather unexplored domain, namely the explicit syntactic teaching of the mechanisms involved in the acquisition of two complex structures in Italian, addressed to a consecutive bilingual child.

The addressee of the experiment was a subject who has different characteristics, if compared to the participants described in other cases of explicit syntactic teaching. Indeed, JM is a sequential bilingual child, speaking Romanian as her first language, who has been exposed for the first time to Italian since, more or less, her 3<sup>rd</sup> birthday.

The authors' views with regard to this type of bilingualism are still today controversial. The overall accepted opinion, however, supported also by the most recent studies (reported in chapter 1), is that acquiring a new language even successively always constitutes a benefit for the child, from a social, linguistic and cognitive point of view.

Several issues, however, are to be taken into account when dealing with this phenomenon, as both internal and external factors constantly affect the bilingual experience of a person (Paradis et al., 2004). In fact, according to Unsworth et al. (2012), besides being the age of onset an important question in a bilingual situation, an even more crucial role is played by the quality and the quantity of input that a child is exposed to.

A particular experience, moreover, is represented by immigrant people's children, who are born in their host country, or migrate from their native land as they are very young. Until the proper age for kindergarten, if they attend it, they are exposed almost exclusively to their parents' language, therefore the impact with the host country language comes after some years. Furthermore, families leaving their countries to move to other ones are usually subject to not completely favourable conditions, from economic, educational, and social point of views.

All the just mentioned factors deeply influence the linguistic experience of these children, so much so that sometimes we talk about “cultural shocks” (Verhoeven et al., 2007; Pàez et al., 2007).

Studies carried out by Spiess et al. (2003), Hyltenstam and Abrahamsson (2003) and Beltrame (2010-2011) have demonstrated that the attendance of these subjects to kindergartens, or to any kind of pre-school daycare environments, positively affects their lives even from a linguistic perspective.

JM, who was born in Italy, but who successively moved with her family to Romania until she was almost 3, partly reflects the figure of these immigrant children.

The child is well integrated in the Italian community, her Italian language is totally comprehensible and she speaks both Romanian (at home) and Italian (at school and with friends) without any problems.

On the basis, however, of the assumptions made above, and also accounting on an intuition based on the difference of first input between L1 and L2<sup>23</sup>, the main goal of the study was twofold.

First, it would have been interesting verifying whether there were any dissimilarities in the processing of some Italian complex structures between JM and monolingual Italian-speaking peers. Secondly, if different patterns had emerged, it would have been worth seeing if an explicit teaching of the syntactic mechanisms of the assessed structures could have had positive outcomes also on JM, like other studies on different populations had demonstrated (Roth, 1984, Ebbels and van der Lely, 2001; Levy and Friedmann, 2009; Thompson and Shapiro, 2005; D'Ortenzio, 2014).

Relative and passive structures have been considered in the experiment, given their complex processing nature.

JM was submitted to some tests assessing her general level in the Italian language, and her comprehension and production of both relative and passive sentences.<sup>24</sup>

As predicted, JM had overall lower results in all the tests, compared to the control groups taken into consideration.

Thence, a set of explicit teaching sessions was planned. The most inspiring examples taken into account for this experiment were the treatments carried out by Ebbels and van der Lely (2001), Levi and Friedmann (2009), and D'Ortenzio (2014), however, it was necessary to remove, change and add many details in order to reconcile all the issues involved: child's characteristics, time, context requirements, etc.

The activities always took advantage of shapes and colours in order to discriminate the syntactic elements between them. The teaching of every topic went through more steps,

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23 As I mentioned also in the introduction, her first “full” impact with the Italian language had place at the kindergarten. This means that, apart from the teachers, the majority of input she was exposed to came from children aged 3-5/6. On the contrary, her L1 first input were adult-like, as they came from her family members. One may wonder whether this “difference of input” could influence the acquisition of some specific structures of the L2, especially those which are more complex.

24 The child's results, as far as RCs were concerned, were compared to monolingual peers, whereas as regards to passive clause, the control group was formed by younger children. However, considering the results on TCGB, we could say that JM and the control group for passives had the same linguistic age (see chapter 5).

characterized by a decreasing level of tangibility, once the issues were completely understood. Two meetings were devoted to the explanation of argument structure and thematic criterion, three sessions dealt with subject relative clauses, first, and then object relative clauses processing, while three other following meetings were spent teaching the mechanisms underlying passive structures. Two further lessons were left to general review and checking.

As we saw in chapter 6, the teaching experience provided positive outcomes especially as regards passive structures, both in production and comprehension. TCGB results, even though slightly improved, still set JM's performance below her peers' mean. Relative clauses assessment showed an overall improvement in comprehension, but no significant changes were observed, with respect to the pre-teaching testing stage, according on production.

It is important to note, however, that relative clauses production and comprehension are not at ceiling in JM's monolingual peers as well, while passive clauses are processed with very high accuracy already since the age of 6-7 (Adani, 2011; Volpato et al., 2013).

Several observations spring from these results.

The low effectiveness of the teaching on relative clauses constructions was rather unexpected, considering the previous studies that deal with treatment cases on this type of structure. However, different aspects are involved in our situation, one of the most striking being indeed the fact that some aspects of the child's first language, i.e. Romanian, may have influence her performance (that is why a further repetition test was included in the post-teaching phase).

This possibility, combined with the fact that number features have not been manipulated enough during the activities of the teaching attempt, may have affected JM's execution.

The fact that, furthermore, while the tests on relative constructions involved verbs agreeing both with singular and plural arguments, the tests assessing passive structures presented exclusively verbs at their 3<sup>rd</sup> person singular form, may cause a difficulty in comparing the results between them in a total equivalent way.

More practical issues can also have influenced the whole experiment. For example, having dealt with passive clauses as last thing, just before post-teaching testing, may have made possible that JM remembered better that topic. Moreover, the fact that the child clearly liked the activities on passives more than those on relative clauses, should have constitute a relevant factor.

It would therefore be useful and interesting to manipulate the number features also on the tests assessing passive sentences, to change the order of the activities, or accentuate the reviewing part in order to make possible that the child equally remember all the topics, to vary some of the exercises, especially on relative clauses, to make them more interesting and involving.

Besides, another attempt which would be worth doing consists in verifying JM's level on the same structures also in Romanian. We must not exclude, indeed, that a general linguistic delay could be present.

We have therefore demonstrated that an explicit teaching attempt on complex relative structures can be possible in such a situation. However, we have to consider that an enormous amount of issues can influence it, and that many variables must be taken into account, exactly as the bilingual experience can be affected both in positive and negative ways by several situations. We could hypothesize that the low performance of JM on these structures, slightly improved after the explicit teaching, is also due to her particular condition of bilingual child, belonging to an immigrant family (which still speaks to her exclusively in Romanian), and firstly exposed to Italian at the kindergarten, namely through monolingual Italian-speaking peers' input.

To conclude, we must not keep unmentioned the effectiveness of the explicit teaching on the general attitude of the child towards the language environment. Indeed, an increasing reflective approach has characterized JM during the treatment, demonstrated through her way of dealing with the activities or the tasks involved in the tests. Hopefully, the child's metalinguistic awareness has developed during this period, and has helped her to understand that being able to think about one's own language can have extremely positive outcomes. According to Kaushanskaya & Marian (2009), moreover, this aspect is even emphasized in bilingual people: a further reason to enhance the advantages of explicit teaching experiences with bilingual children.

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## Appendix 1 – JM's relative clauses production before the teaching sessions

### Subject relative clauses:

- (1) A me mi piace di più il bambino che pettina la mamma.
- (2) A me mi piace i bambini che prendono le farfalle.
- (3) A me mi piace più il bambino che rincorre il gatto.
- (4) A me mi piace il bambino che guarda la tigre.
- (5) A me mi piacciono i bambini che guardano i cavalli.
- (6) A me mi piace di più i bambini che salutano il bambino.
- (7) A me mi piacciono i bambini che tirano i topi.
- (8) A me mi piace di più il bambino che rincorre il cane.
- (9) A me mi piace il bambino che bacia il cane.
- (10) A me mi piacciono i bambini che lava il cane.
- (11) A me mi piace il bambino che alza l'elefante.
- (12) A me mi piace il bambino (*i bambini*) i bambini che accarezza il gatto.

### Object relative clauses:

- (1) A me mi piace di più i bambini che .. che baciano la nonna e il nonno.
- (2) Mi piace di più il bambino che accarezza l'orso.
- (3) A me mi piace di più il dottore (*barbiere*) barbiere che pettina i bambini.
- (4) Il bambino che mi piace è la mamma che lo bacia.
- (5) A me mi piace il bambino che il dottore lo visita.
- (6) A me mi piace di più i bambini che sgridano la maestra.
- (7) A me mi piace di più il bambino che rincorre il leone.
- (8) A me mi piacciono di più i bambini che salutano i vigili.
- (9) A me mi piacciono i bambini che rincorrono i leoni.
- (10) A me mi piace il bambino che lava il papà.
- (11) A me mi piace il bambino che bacia il bambino (*il bambino che bacia?*) il papà.
- (12) A me mi piace i bambini che rincorre il cane.

### Filler sentences:

- (1) Il bambino mangia la torta.
- (2) Il coniglio scrive una lettera.
- (3) Il vigile ferma le macchine.
- (4) Il coniglio scrive una lettera.
- (5) L'orso legge un libro.

- (6) La bambina tiene in mano un pallone da calcio.
- (7) La scimmia mangia la banana.
- (8) L'elefante guarda nel fiume.
- (9) I bambini corrono nell'erba.
- (10) La bambina va in bicicletta sulla strada.
- (11) Il bambino mangia un gelato fuori.
- (12) Sulla sedia (*il gatto è*) sulla sedia.

## Appendix 2 – JM's passive clauses production before the teaching sessions

### Passive sentences

- (1) Mar... Sara spinge Marco.
- (2) A Marco, Sara imbocca Marco.
- (3) Sara guarda Marco.
- (4) Sara colpisce la mamma sul sederino.
- (5) (*Cominciarmi la frase con 'Sara'*) Sara colpisce il papà.
- (6) A Sara succede che Marco urla nelle orecchie.
- (7) Allora a Marco succede che Sara la bacia.
- (8) Al papà succede che ama la Sara.
- (9) Marco spinge la mamma.
- (10) Sara prende la mamma ... insegue.
- (11) Sara abbraccia Marco.
- (12) Sara guarda Marco.
- (13) Marco colpisce Sara.
- (14) Il papà urla nelle orecchie di Marco.
- (15) Il papà ... ehm ... (*cosa sta facendo?*) sta parlando nelle orecchie del bambino.
- (16) Sara dà da mangiare a Marco.
- (17) A Sara succede che bacia Marco sulla guancia.
- (18) Il papà guarda Marco.
- (19) Il papà abbraccia Sara.
- (20) Marco annusa Sara.
- (21) Sara prende la mamma con i calci.
- (22) Al papà succede che Marco urla nelle orecchie.
- (23) Alla mamma succede che la bambina prende la mamma.
- (24) A Sara succede che Sara annusa Marco.

### Filler sentences

- (1) Marco spinge la sedia con la forza.
- (2) Sara prende il profumo della rosa.
- (3) Marco colpisce la sedia.
- (4) Marco prende a calci il cuscino.
- (5) Marco ascolta la radio.
- (6) Sara bacia il cagnolino.
- (7) Sara dà da mangiare alla piccola.
- (8) Sara guarda la palla.

- (9) Marco sta calciando la palla.
- (10) Marco ascolta la radio.
- (11) Sara annusa la rosa.
- (12) Sara abbraccia molto il suo orsacchiotto rosa.

### **Appendix 3 – SVO sentences used during the first teaching meeting**

- (1) I bambini comprano la pizza.
- (2) Le maestre sgridano Paolo.
- (3) Tu ridi.
- (4) La principessa bacia il principe.
- (5) Il principe chiede un favore ai nonni.
- (6) Sofia ama Paolo.
- (7) Luca parla.
- (8) Il gatto dipinge il vaso.
- (9) Le fate domandano dei regali ai bambini.
- (10) Il prete mangia la pasta.

## **Appendix 4 – Sentences used in the grammatical judgement task (second meeting)**

- (1) Toby gioca la palla.
- (2) Laura bacia.
- (3) Luca dorme sul letto.
- (4) Sofia raccoglie.
- (5) Il cane insegue.
- (6) Andrea disturba Giada la chitarra.
- (7) I gattini miagolano.
- (8) Jessica abbraccia la mamma.
- (9) Il sole splende.
- (10) Giacomo ride la barzelletta.
- (11) Violetta canta gli ammiratori.
- (12) Il papà guida la strada.
- (13) La nonna regala a Jessica.



## **Appendix 5 – Subject relative clauses used in the activities during the fourth meeting**

- (1) Mi piace il postino che visita i vicini.
- (2) Mi piace la mamma che ama i bambini.
- (3) Mi piacciono le fate che guardano il mago.
- (4) Mi piacciono i genitori che abbracciano il pesce.
- (5) Mi piacciono i criceti che disturbano i conigli.
- (6) Mi piacciono le ballerine che amano le maestre.
- (7) Mi piace il cavallo che colpisce le pecore.

## **Appendix 6 – SVO sentences used to introduce the topic on passive sentences**

- (1) Il cowboy accarezza il cavallo.
- (2) La bambina bacia il cane.
- (3) Il cane morde la padrona.
- (4) La donna bagna il ragazzo.
- (5) La bambina ama il bambino.
- (6) Il gatto graffia il tronco.
- (7) La ragazza colpisce la palla.
- (8) I ragazzi guardano le stelle.
- (9) Lo scoiattolo annusa il fiore.
- (10) Il bambino tocca il papà.
- (11) L'uomo insegue la donna.
- (12) Il karateka prende a calci l'avversario.
- (13) La bambina lava i piatti.
- (14) La mamma imbecca il bambino.
- (15) Il truccatore trucca la modella.
- (16) La ragazza sente l'amica.
- (17) La padrona pettina il gatto.
- (18) L'elefante spinge la macchina.

## Appendix 7 - JM's relative clauses production after the teaching sessions

### Subject relative clauses:

- (1) Mi piace di più il bambino che pettina il cane.
- (2) Mi piacciono di più che i bambini prendono le farfalle (*Mi devi dire 'mi piacciono di più i bambini...)* che prendono le farfalle.
- (3) Mi piace di più che il bambino insegue il gatto (*mi piace di più il bambino...)* che rincorre il gatto.
- (4) Mi piace di più il bambino che guarda il leone (la tigre).
- (5) Mi piacciono di più i bambini che guardano i cavalli.
- (6) Mi piacciono di più i bambini che salutano il papà.
- (7) Mi piacciono di più i bambini che tirano i topi.
- (8) Mi piace di più il bambino che bacia la bambina.
- (9) Mi piace di più il bambino che rincorre il bambino.
- (10) Mi piacciono di più che i bambini lavano il cane.
- (11) Mi piace di più il bambino che alza l'elefante.
- (12) Mi piacciono di più i bambini che accarezzano il gatto.

### Object relative clauses:

- (1) Mi piacciono di più che i nonni baciano i bambini.
- (2) Mi piace di più il bambino che accarezza l'orso.
- (3) Mi piacciono i bambini che pettinano il papà.
- (4) Mi piace di più il bambino che bacia la mamma.
- (5) Mi piace di più il bambino che saluta il dottore.
- (6) Mi piacciono i bambini che premiano la maestra (*chi è che premia?*) La maestra.
- (7) Mi piace di più il bambino che segue il cane.
- (8) Mi piacciono di più i bambini che salutano i vigili.
- (9) Mi piacciono di più i bambini che tirano i leoni (*chi è che tira?*) eeh...aspetta (*chi è che tira chi?*) i leoni (*i leoni tirano i bambini?*) sì.
- (10) Mi piace di più il bambino il papà gli fa il bagno.
- (11) Mi piace di più il bambino che bacia il papà.
- (12) Mi piacciono di più i bambini che il cane li insegue.

### Filler sentences:

- (1) Il bambino mangia una fetta di torta.
- (2) Il coniglio scrive una lettera al suo amico.

- (3) Il vigile ferma le macchine.
- (4) L'orso legge una fiaba.
- (5) Dorme.
- (6) La bambina tiene in mano un pallone da calcio.
- (7) La scimmia mangia una dolcissima banana.
- (8) L'elefante beve una dolcissima acqua.
- (9) I bambini giocano a calcio.
- (10) La bambina va in bicicletta.
- (11) Mangia il gelato molto buono.
- (12) Il gatto è sulla sedia molto comoda.

## Appendix 8 – JM's passive clauses production after the teaching sessions

### Passive clauses:

- (1) Marco è spinto da Sara.
- (2) A Marco succede che Sara l'imbocca la pappa.
- (3) A Marco succede che Sara vede Marco.
- (4) Alla mamma succede che Sara gli scalcia.
- (5) Sara è colpita dal papà.
- (6) A Sara.. Sara... parla nelle orecchie di Marco.
- (7) Sara (*devi iniziare la frase con Marco*) Marco bacia Sara.
- (8) Il papà abbraccia la bambina (*chi è che abbraccia?*) Sara (*quindi cosa succede al papà?*) abbraccia... (*il papà abbraccia Sara?*) Sara abbraccia il papà.
- (9) La mamma è spinta da Marco.
- (10) Nella seconda foto Sara la mamma acchiappa la Sara.
- (11) Nella prima foto Marco ama Sara.
- (12) Sara è vista dal binocolo di Marco.
- (13) Sara colpisce Marco (*e a Marco cosa succede?*) colpisce (*Marco...*) è ... è ... colpito da Sara.
- (14) A Marco... Marco [passa un po' di tempo] il papà sente la voce di Marco.
- (15) Il papà sente la voce di Marco.
- (16) A Sara succede che Marco dà della pappa a Sara.
- (17) Sara è baciata da Marco.
- (18) Nella seconda foto Marco è visto dal papà.
- (19) Al papà succede che Sara ama il papà.
- (20) Nella seconda foto succede a Marco che Sara annusa la puzza di Marco.
- (21) Sara è scalciata dalla mamma.
- (22) Il papà sente la voce di Marco.
- (23) La mamma è accoppiata dalla bambina.
- (24) A Sara ... Sara è annusata da Marco.

### Filler sentences:

- (1) Nella seconda foto succede che Marco spinge la sedia.
- (2) Sara annusa il fiore.
- (3) Nella seconda foto Marco spinge la sedia... colpisce.
- (4) Marco scalcia il cuscino.
- (5) Nella seconda foto Marco sente la radio.
- (6) Nella prima foto Sara bacia il cagnolino.

- (7) Sara imbocca la bambola.
- (8) Sara vede la palla.
- (9) Marco colpisce la palla.
- (10) Nella terza foto Marco sente la radio.
- (11) Sara annusa il fiore.
- (12) Sara abbraccia l'orsacchiotto.

## Appendix 9 – JM's performance on relative clauses repetition task

- (1) La gallina che il pulcino becca.
- (2) I leoni che guardano l'elefante.
- (3) Il pinguino e i gatti guardano (Il pinguino che i gatto guardano).
- (4) I gatti che la pecora colpisce.
- (5) Le scimmie che fermano il pinguino.
- (6) Il nonno che i pinguini lavano.
- (7) I cani che toccano il ragazzo.
- (8) Le scimmie che l'elefante insegue.
- (9) L'elefante che l'uccellino porta.
- (10) Le moto che le macchine spingono.
- (11) La pecora che tirano le scimmie.
- (12) La giraffa che le zebre tirano.
- (13) La lepre che la giraffa saluta.
- (14) Il cammello che lavano gli orsi.
- (15) Le tartarughe che l'orso saluta.
- (16) Le oche che i pinguini fermano.
- (17) L'uccellino che guardano i cani.
- (18) Le tigri che mordono il cavallo.
- (19) Le bambine che il bambino lava.
- (20) Il bambino che la nonna pettina.
- (21) Il ragazzo che i cani toccano
- (22) Il cigno che becca i pulcini (Il cigno che beccano i pulcini).
- (23) Gli asini che i cani lavano.
- (24) Il leone che la tartaruga tira.
- (25) Le mucche che i cammelli tirano.
- (26) La macchina che seguono i camion.
- (27) Il pinguino che le scimmie fermano.
- (28) L'elefante che la scimmia insegue.
- (29) I pinguini che lavano il nonno.
- (30) Il serpente che le tigri guardano (I serpenti che le tigri guardano).
- (31) I leoni che l'elefante guarda.
- (32) La tigre che baciano le bambine.
- (33) Le zebre che tirano la giraffa.
- (34) Il cavallo che le tigri mordono.
- (35) Le ragazze ... le rane che seguono le ragazze (Le rane che le ragazze seguono).
- (36) Gli orsi che la giraffa pettina.