Internet Celebration for
Adriana Belletti 60th Birthday

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti.

Edited by
Carla Contemori and Lena Dal Pozzo

CISCL PRESS
ISBN 9788890794322

Centro di Studi Cognitivi sul Linguaggio, Università di Siena
Complesso S. Niccolò, Via Roma, 56
I-53100 Siena, Italy

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www.ciscl.unisi.it

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This e-book collects a number of contributions written in honour of Adriana Belletti. The contributors are some of Adriana's colleagues and former students representative of a wider community, who have been part of CISCL's inspiring community, either as students or visiting scholars.

Content

Foreword

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This electronic volume collects papers dedicated to Adriana Belletti on her 60th birthday. With this and other parallel initiatives, former students and colleagues close to her want to honor and thank Adriana for her long-standing contributions to linguistics, and for her personal dedication and friendship.

Ever since the late 1970's Adriana's research has profoundly influenced central themes of theoretical syntax, such as the study of case, unaccusativity and other verb classes, of subject positions, agreement, clitics and doubling constructions; her work on the positions of verbs in the inflectional structures was an important source of inspiration for the subsequent cartographic projects, which she successively contributed to with influential analyses of the peripheries of the clause, and of the interface between syntax and discourse organization. More recently, Adriana's work on the acquisition of A'-constructions, clitics and interface properties has contributed in a decisive manner to constitute and consolidate the trend of theoretically inspired experimental linguistics.

Adriana has played a key role in the constitution of an internationally visible pole of formal linguistics at the University of Siena. She brought all her qualities to the task, as a researcher and as a teacher. Adriana was one of the founding members of the Centro Interdipartimentale di Studi Cognitivi sul Linguaggio (CISCL), and has directed many doctoral dissertations in about ten years of life of the doctoral program in Cognitive Sciences of the University of Siena, and in the Florence-Siena doctoral consortium. She has supervised about one hundred undergraduate theses at the MA and BA levels, and has directed for many years the MA degree in Linguistics and cognitive studies. Her dedication to the students of all levels is proverbial in Siena. A very visible sign is the formidable crowd of students which gathers in the corridor in front of her office in the days of reception; this has almost become a social event, in which students even come ahead of time to have the opportunity to chat on their research themes and exchange their experiences with other students while waiting in line. These unusual discussion groups give a perceptible image of the sense of a community that Adriana has managed to build.

Adriana’s research and teaching has inspired many in Siena, in Geneva, and elsewhere in the world of linguistic studies. This electronic volume is a sign of gratitude for her hard work, ideas, achievements over many decades, and a heart-felt wish for her future projects.

Disentangling responses to Wh-questions: TOM and syntactic abilities

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1. Introduction

Several different abilities are involved in answering a Wh question like "Which linguist did the conference attendees celebrate birthday for?". Among them are the syntactic ability to understand who did what to whom in a sentence that involves Wh-movement and intervention, and the ability to convey the response in a way that the person who asked the question would be able to identify the reference of the answer. Correspondingly, the answer "Adriana Belletti" would be correct, but an answer that reveals that the hearer thought that the linguist is celebrating a birthday to the conference attendees would be incorrect for syntactic reasons: the Wh dependency caused confusion as to the agent and theme in the question. A different type of response – "she" or "the linguist who draws syntactic trees" would also be inappropriate, but for other reasons: such response reflects a ToM (Theory of Mind) difficulty, causing inability to provide an answer that would allow the person who asked the question to identify the person referred to in the response.

In more detail, the syntactic operation that takes place in Wh-questions is a movement of the Wh- phrase from its original position in either subject or object position to the specifier node of the complement phrase (spec-CP). This movement (i.e., A' movement/ wh-movement) places the Wh-phrase in the beginning of the sentence. (Chomsky, 1981; Rizzi, 1990). Importantly, there is a crucial difference between subject and object wh-questions. In subject-questions the moving of the wh-phrase does not create any change in the canonical order of the sentence constituents, it remains SVO (in English, for example, as well as in Hebrew, the language under investigation in the current study), and the subject does not cross any other DP it is movement (Friedmann, Belletti, & Rizzi, 2009; Belletti & Rizzi, 2009; Belletti & Contemori, 2010). In object questions the Wh dependency includes intervention, as the moved object crosses the subject.

Difficulty in comprehending and producing object movement that crosses the subject is characteristic of syntactic impairment in various populations: children with

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Syntactic-SLI (Specific Language Impairment, Friedmann & Novogrodsky, 2004, 2007, 2011; Novogrodsky & Friedmann, 2006), children with hearing impairment that are orally trained (Friedmann & Szterman, 2006, 2011; Friedmann & Haddad-Hanna, 2014), and patients with agrammatic aphasia (Friedmann, 2001, 2006; Grodzinsky, Piñango, Zurif, & Drai, 1999).

Wh-questions place a different kind of demand on the ToM ability of the replier. The TOM task that wh-questions pose is to tailor an answer that meets the informational requirement of the hearer. In other words, when asked "Which linguist did the conference attendees celebrate birthday for?" an appropriate answer would be to name an attribute that is both unique to the intended referent and is familiar to the person asking the question. The answer “likes to draw syntactic trees” is infelicitous because many linguists share this feature (definitely all linguists who attend a cartography conference), and the answer “she” can only be felicitous if both the conversers were standing near the intended referent and the speaker would be gesturing towards her (Ariel, 1990; Sperber & Wilson, 1986). TOM impairment occurs in various populations, most notably in people after right hemisphere brain damage (Apperly, 2011; Balaban, Friedmann, Ariel, & Ziv, submitted; Happé, Brownell, Winner, 1999; Penn, 1999; Sabbagh, 1999; Saxe & Powell, 2006; Saxe & Wexler, 2005; Tompkins, 2012) and individuals with autism (Baron-Cohen, Leslie, Frith, 1985; Baron-Cohen, Tager-Flusberg, & Cohen, 1993; Frith, 1989; Taylor, 2012).

In the current study our aim was to disentangle these syntactic ability and the TOM ability involved in answering a Wh question. We assume that participants who have difficulty in considering the informational requirements of wh-questions will produce errors that reflect their inability to consider their conversation partner’s point of view and provide answers that do not allow appropriate identification of the intended referent. TOM impairment can be selective, so TOM abilities can be impaired without syntactic impairment. Therefore, we do not expect that TOM impaired participants will produce syntactic errors. According to this view, ToM impairment is distinct from a grammatical impairment (Apperly, 2011, Blake, 2006, 2007; Johns, Tooley, & Traxler, 2008) but may affect language production and comprehension (Balaban, Friedmann, Belletti, & Rizzi, submitted; Belletti, 2008).

We explored this disentangling approach in this study with people who suffered right brain damage and were found to have aTOMia, a TOM impairment (Apperly, 2011; Blake, 2006, 2007; Gallagher, Happé, Brunswick, Fletcher, Frith, & Frith, 2000; Happé, et al., 1999; Martín-Rodríguez, & León-Carrión, 2010; Winner, Brownell, Happé, & Blum, 1998). The question we ask in the current study is whether these patients, as speakers, show a reduced ability to represent their hearers' mind and therefore show difficultly in choosing the appropriate differentiating feature in accordance to its accessibility in the mind of their hearer, while retaining their syntactic abilities.

The rationale was that if aTOMic patients (patients that show a ToM impairment) produce infelicitous answers to wh-questions even though their syntactic understanding is intact, we could infer that this ability is dependent, partly, upon the consideration of others' point of view. On the other hand, if these patients are able, despite their aTOMia, to provide appropriate informative relevant answers this would lead to the conclusion that only syntactic knowledge is responsible for this. This approach was tailored to the aim of disentangling the grammatical aspects from the TOM related aspects of wh-question understanding (for more on this disentangling approach see Balaban, Friedmann, Belletti, & Rizzi, submitted).

2. Participants

A group of 17 right-hemisphere brain damaged patients took part in the study, 6 of them female and 11 male (See Table 1 for a detailed description of the participants' background). Their mean age was 49;1 years (ranging between 25-64 years SD = 10.9). Sixteen of the participants were native Hebrew speakers. One spoke the language for more than 55 years (Dror, since 1950). Sixteen of the patients suffered one incident of CVA in their right hemisphere. One patient was surgically treated for removal of parieto-frontal-temporal tumor (Sachar). Ten of the participants suffered left hemispatial neglect, a neurological phenomenon characterized by difficulty to attend to the left side of the visual field. Two participants had hemianopia, a loss of visual ability to half of the visual field (Sigalit and Tzvi). All the participants were tested at least 2 months post their brain damage. A control group of 6 non brain damaged adults was also tested. Their mean age was 51;3 years (ranging between 27-66 years SD = 15.8. The aTOMic battery, a comprehensive test of Theory of Mind, was administered to all the participants. The battery included items testing eight categories of TOM, two items per category: first order false belief, 2nd order false belief, understanding knowledge gaps, understanding scenarios in which teaching was initiated, understanding white lies, embarrassing social situations, and cartoons (Balaban et al., 2008). Ten of the right-hemisphere damaged participants had a severe aTOMia, ToM deficit, their scores in the aTOMic battery ranging between 27%-68% correct. Seven other participants had normal TOM: 3 scored 100%, 3 scored 95% and one 85% correct. The control group of scored between 95%-100% (this battery has a large body of healthy adults control data, Balaban et al., submitted A).

Table 1: Participant's background

	Gender	Age	Spoken Language	Education	Neglect	Hand-edness	Lesion site and Etiology	Mon. post Onset
Tzvi	M	25	Hebrew	Academic	Hemi-anopsia	R	Ischemic infarct in the territory of the Right MCA, with brain edema and pending herniation.	7
Sigalit	F	62	Hebrew, English	Academic	Hemi-anopsia	L	Right occipital infarct. Spontaneous intraparenchimal hemorrhage	2 years
Moshe	M	59	Hebrew	High School	No	R	Subacute infarct in the RH, adjacent to the internal capsule, caudate body, across to the Globus Pallidus	10
Sharon	F	38	Hebrew, English	High School	Yes	R	Ischemic infarct in the territory of the Right MCA.	5
Ahuva	F	32	Hebrew	High School	No	R	Ischemic infarct in the territory of the Right MCA.	4
Ayal	M	47	Hebrew	Academic	No	R	Ischemic infarct in the territory of the Right MCA. Right periventricular infarct.	7

	Gender	Age	Spoken Language	Education	Neglect	Hand-edness	Lesion site and Etiology	Mon. post Onset
Tzipora	F	60	Hebrew	High School	Yes	R	Ischemic infarct in the Right MCA territory	5
Dafna	F	50	Hebrew, English	High School	Yes	R	Ischemic CVA Pones	4
Abraham	M	52	Hebrew	High School	Yes	R	Ischemic infarct in the Right MCA territory	2 years
Arye	M	48	Hebrew	High School	Yes	R	Ischemic stroke with hemorrhagic transformations Right MCA	8
Dror	M	64	Hebrew, Arabic	High School	Yes	R	Ischemic infarct involving Right fronto-temporal-parietal areas.	6
Jacob	M	51	Hebrew	High School	Yes	R	CVA- Ischemic stroke (Talamus, Internal Capsule)	
Yigal	M	54	Hebrew	High School	No	R	Recurrent right ischemic infarct involving frontal areas and the Corona Radiata.	6
Daniel	M	55	Hebrew, Arabic	High School	No	R	Ischemic infarct in the territory of the Right MCA, complete block of Rt. ICA	2
Sachar	M	36	Hebrew	High School	Yes	R	Craniotomy for removal of Right parieto- frontal-temporal tumor.	7
Gila	F	56	Hebrew	High School	Yes	R	Right Frontal covernoma – Craniotomy and evacuation of intra cerebral Rt. Frontal Hematoma CVA Ischemic Infarction in Right Capsular Putaminal and Right Thalamic regions	2
Yaron	M	46	Hebrew	High School	Yes	R	Ischemic infarct involving the Right Corona Radiata.	7

3. Material and procedure

Twenty pictures were presented, each picture included three figures: two of the same type (e.g., two giraffes) and a third figure of a different kind (e.g., a girl). In each picture, the first figure was performing an action on the second, and the second figure was performing the same action on the third figure, which was of the same type of the first one (see Figure 1).

Importantly, the two figures of the same kind differed in at least one feature. For example, when two giraffes were presented, one was tall and one short; in the picture with two elephants, one was purple and the other blue.

We asked two which questions about each picture, a subject (1) and an object question (2).

(1) Eize girafa modedet et ha-yalda?
Which giraffe measures ACC the-girl?
Which giraffe is measuring the girl?
(2) Et eize girafa ha-yalda modedet?
ACC which giraffe the-girl measures?
Which giraffe the girl is measuring?

Figure 1. An example of the pictures presented with the Wh questions.

We presented the task in two sessions. In the first session, 20 pictures were presented, 10 coupled with a subject question, and 10 with an object question, in random order. In the second session, the same 20 pictures were presented with the alternate question (an object question for a picture that had been presented with a subject question and vice versa). The participants were asked to respond aloud.
Coding. The responses were coded twice:
Syntax: an answer was classified as syntactically correct if the participant chose the appropriate figure in answer to the wh-question and incorrect if s/he chose another figure. Cases in which the participants did not supply enough information in their answers were coded according to a follow up question – point to the figure.
TOM: If the participant mentioned a feature that differentiated between the two similar characters the answer was classified as TOM-appropriate, and if s/he mentioned a feature that did not differentiate or did not mention any feature, it was classified TOM-inappropriate.
For example, Abraham, an aTOMic patient, answered to both the question in (1) and the question in (2) with a description that did not discriminate between the two giraffes (3). Accordingly, both answers were coded as ToM inappropriate.

(3) Abraham: The yellow giraffe with the brown spots.

Importantly, answers in which the participant produced an appropriate identifying feature that described the figure that was not the right syntactic choice, was coded as a TOM-appropriate answer.

4. Results
The results of the right hemisphere brain damage and of the control group are summarized in Table 2. Whereas all the participants demonstrated good performance in the syntactic aspects of the Wh questions task, the aTOMic participants often failed

to provide a differential description that would allow their hearer to pick the right reference and demonstrate their good syntax.

Table 2. The average performance of Tomic, non-aTOMic and control group: % correct (SD)

	Syntax	TOM
aTOMic n=10	94.8% (3.5%)	81.8% (19.4%)
Non-aTOMic n=7	99.7% (0.8%)	99.3% (1.9%)
Control n=6	99.6% (31.3%)	99.6% (30.9%)

Using t-test for correlated samples we found the TOMic group performed significantly better in producing syntactically appropriate answers than producing appropriate differentiating description in answer to the wh-questions ($t(9) = 2.42$, $p = .002$). The non-aTOMic brain damaged patients and the age matched control group performed close to 100% correct on both aspects and no difference was found in either groups (non aTOMic : $t(6) = 0.42$, $p = 0.35$; controls: $t(5) = 0.5$, $p = .50$).
For example, when seeing the picture in Figure 2, Arye was asked "who does the boy spray", and he answered "dad", clearly an answer that could not distinguish between the two men in the picture. When he was then asked to point to the picture, he pointed at the syntactically correct figure.

Figure 2. An example of a picture used in the test

To another question, in which Daniel was asked "Which boy is the clown feeding?", he responded "The disappointed boy", where both boys seemed equally disappointed.

5. Discussion

The findings of this study supported a disentangling approach to Wh-questions responses. The results show that the ability to correctly assess the conversational partner's informational needs and her point of view regarding the situation is a distinct crucial component in the ability to produce appropriate answers to wh-questions. The participants we tested were adults that had right brain damage that did not cause damage to their syntax ability although their TOM abilities were impaired. We found that their scores in comprehending wh-questions, that are a critical difficulty for syntax-impaired groups, was intact. The difficulty of the right brain damage aTOMic group centered in their ability to choose the appropriate feature that discriminates between two similar characters.

These findings join a wider disentangling approach, led by Adriana Belletti, suggesting that syntactic and TOM abilities interact in various language domains, but can be disentangled, for example, in cases of aTOMia.

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Gender in L2 German

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This paper deals with the mastery of gender in German by adult Italian native speakers who are learning German as their second language. Data support the idea that gender is a struggling phenomenon to be acquired for the L2 learners but eventually L2ers can perform native-like. Furthermore, the data show that *feminine* is the favorite gender to be chosen by Italian native speakers and *transfer* cannot be the sole phenomenon that justifies the choices of the Italian L2ers in German.

Thanks for your support and for having believed in my potentiality

1. Introduction

Several studies on the second language acquisition (SLA) of gender in various languages have shown that gender is a difficult area to master for L2 learners (L2ers) at least in the earliest stages of acquisition, with different conclusions pertaining to its mastery at the ultimate attainment (Chini, 1995, 1998; Oliphant 1998; Bianchi 2013 for L2 Italian, Dewaele and Véronique 2001, Granfeldt, 2005, Renaud 2009 for L2 French, Franceschina, 2001, 2005, Hawkins and Franceschina, 2004, McCarthy 2008; Montrul et al. 2008; White, Valenzuela, Kozlowska and Leung 2004 for L2 Spanish; Sabourin; Stowe and de Haan, 2006 for L2 Dutch; Matteini, 2010; Spinner and Juffs 2008 for L2 German). Two major hypotheses can account for the ultimate attainment of gender in L2 acquisition. The Failed Functional Features Hypothesis (FFFH, Hawkins and Chan, 1997) predicts that native speakers of non-gendered languages cannot acquire the uninterpretable features of gendered languages due to a permanent impairment at the level of the grammatical representation of formal features, a view which is supported by Hawkins and Franceschina (2004) in their study on the acquisition of gender in French and Spanish by English native speakers. On the other hand, the Missing Surface Inflection Hypothesis (MSIH, Prévost and White 2000) claims that morphological variability in adult L2 acquisition is due to difficulties in production and performance limitations, as supported by White et al. 2004 and

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ultimately gender can be acquired even by native speakers of non-gendered languages (Bianchi 2013).

A further issue that is often taken into account in studies on SLA is the role of the first language in the acquisition of an L2. Different hypotheses have been put forth in the literature that can account for the phenomenon of *transfer* or *cross-linguistic influence*. The Full Transfer/Full Access hypothesis (FT/FA, Schwartz and Sprouse, 1994, 1996) claims that the initial state of the L2 grammar is the L1 steady state grammar in its entirety. Both the functional and the lexical categories of the L1 and their linear orientation are transferred into the early L2 grammar. Once the L1 fails to match the target language (TL), parameter resetting and restructuring of grammar takes place via Universal Grammar (UG). According to this hypothesis exposure to the target language plays a crucial role in developing grammars. Similarly, the Minimal Tree hypothesis (MTH) (Vainikka and Young-Scholten, 1994, 1996) and the Valueless Feature Hypothesis (VFH) (Eubank 1993/1994, 1994) claim that the L1 plays a role in the first stages of acquisition of an L2, but they respectively differ from the FT/FA with regard to the type of categories that are transferred into the L2 grammar or the strength of features associated with functional categories at the initial stages. Contrary to the above mentioned hypotheses, the Initial Hypothesis of Syntax (HIS) (Platzack, 1996) and the Full Access Hypothesis (FAH, Flynn, 1996, Epstein et al. 1996, 1998) reject that the L1 constitutes the initial grammar of an L2 and assume that the initial state of L2 acquisition is UG.

Finally, a further issue that is discussed in the literature is whether adult L2ers are able to achieve a near-native or even native knowledge of the L2 grammar. Several studies have been conducted pertaining to this issue that can corroborate or cannot the fact that restructuring takes place in L2 acquisition. A positive answer to this matter has been provided in studies conducted by, under alias, Bianchi (Bianchi, 2008, 2013), which show that L2 acquisition proceeds through stages and that L2ers with a high level of proficiency of the L2 can perform comparably to native speakers in the target language (TL).

The goal of this paper is to investigate the mastery of the German gender system by twenty adult Italian native speakers who are acquiring German as their L2. The following research questions will be investigated:

(1) Are the Italian L2ers able to master the German gender system and attain a native-like competence?
(2) What is the role of their L1 in the choices made in their L2?
(3) Do the Italian L2ers of German opt for a particular gender in German? Which one?

The paper is organized as follows: section 2 presents the theoretical part pertaining to gender in German and Italian, section 3 offers some details about the study conducted, in section 4 the data are analyzed, and section 5 concludes the paper.

2. Gender in Italian and German

Gender is a lexical property of the noun (Carroll, 1989). Italian and German differ in the number of grammatical genders they have: German has three genders, masculine, feminine and neuter, whereas Italian has only two, masculine and feminine. Both in Italian and German gender assignment follows both semantic and morpho-phonological rules (Chini, 1995, 1998 for Italian; Heidolph, Fläming and Motsch, 1984; Köpcke, 1982, Köpcke and Zubin, 1983; 1984; Mills, 1986 for German). In German and Italian, gender manifests not only in nouns but also in other elements that agree in gender with the head noun. In both languages, gender is marked on determiners, personal pronouns and attributive adjectives. Since this paper deals with the mastery of grammatical gender on nouns and personal pronouns some examples are provided both for Italian and German pertaining to gender on nouns and personal pronouns:

Italian:

(1) a. Vedo la ragazza.
(I) see the-F girl-F
'I see the girl.'
b. La vedo.
her-F see (I)
'I see her.'

German:

(2) a. Ich sehe die Frau.
I see the-F woman-F
'I see the woman.'
b. Ich sehe sie.
I see her-F
'I see her.'

As shown in (1) and (2) gender is marked both on the noun and the pronoun both in Italian and in German.

3. The study

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Data from an elicited production task (EPT) aimed at testing the use and placement of weak object pronouns (Bianchi 2008) for the purpose of testing mastery of gender in German as L2.

3.1 Participants

20 Italian native speakers participated in the EPT. They were all learning German at university at the time of testing. Their proficiency in German was classified on the basis of the Common European Framework of Reference for Language (CEFR). According to the CEFR, they were divided into intermediate (15 speakers), namely those attending classes at B1/B2 level and advanced (5 speakers), namely those attending classes at C1/C2 level. Participants' ages ranged between 19 and 26 years old. 14 German native speakers served as a control group.

3.2 The task

Participants taking part in the EPT were required to listen to a statement such as (3) made by a girl (Lydia) and to answer the question (4) that was asked 500ms after the statement had been uttered. Both the statement and the question were auditory and visually presented. In order to answer the question, participants were instructed to use the complementizer …**dass** introducing declarative subordinate clauses in German, which appeared on the PC screen immediately after the question had been asked (5). They were also instructed to pronominalize the object whenever they felt it natural.

(3) Lydia: Ich lese jeden Abend das Buch.
I read every evening the-NT book-NT
'I read the book every evening.'

(4) Question: Was hat Lydia über das Buch gesagt?
What has Lydia about the-NT book-NT said?
'As for the book, what has Lydia said?'

(5) a. Expected answer: . dass sie es jeden Abend liest.
that she it-NT every evening reads
'(She has said) that she reads it every evening.'

b. Non target answer: *dass sie sie jeden Abend liest
that she it-F every evening reads
'(She has said) that she reads it every evening'

c. Non target answer: *dass sie ihn jeden Abend liest.
that she it-M every evening reads
'(She has said) that she reads it every evening.'

Participants were given 8000 ms to answer the question. Twenty-four items were used. Thirty-four fillers were also inserted. As far as gender matching in the two languages is concerned, 13 items in the test had the same gender and 11 items had different genders in Italian and German.

4. Results and error-analysis

4.1 Overall accuracy in gender production

The overall accuracy of the L2ers in producing target gendered nouns or pronouns was lower in comparison to the native speakers of German. Indeed, the accuracy of the L2ers was lower than 95%, as shown in table 1, which means that gender has not been acquired at a native level by the Italian native speakers:

Table 1: Overall accuracy in producing target gender

	L2ers (n=20)	**Controls (n=14)**
Target gender	82% (352/428)	100% (332/332)

In the next section we will focus on the type of gender-errors produced by the L2ers.

4.2 Production of non-target gender

76 out of the 428 sentences (18%) were non-target like in that the L2ers produced non target gendered pronouns or nouns. As far as error-types are concerned, 16 errors were made with feminine words (21%), 34 errors were made with masculine words (45%) and 26 errors were made with neuter words (34%).

As for feminine words, the Italian L2ers realized 6 feminine items as masculine (37.5%) and 10 feminine items as neuter (62.5%). As for masculine words, the Italian L2ers produced 21 items (62%) in the feminine gender and 13 items in the neuter gender (38%). As for neuter gender, the L2ers produced 15 items as feminine (58%) and 11 items as masculine (42%). Whereas with words with feminine gender the neuter gender was the most produced, this was not the case for masculine words where the feminine gender was the most produced. Both with masculine and neuter words, the feminine gender was the most produced in comparison to the two other genders. An overall picture of the gender-errors produced by the L2ers is provided in table 2:

Table 2: Error analysis according to gender

Target gender	***Target-deviant produced gender**

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	M	F	N
Masculine	-	62% (21/34)	38% (13/34)
Feminine	37.5% (6/16)	-	62.5% (10/16)
Neuter	42% (11/26)	58% (15/26)	-

Overall, the feminine gender is most preferred by the L2ers with masculine and neuter words. It is then possible to claim that the L2ers choose the feminine as *default* gender in their L2. Whenever the feminine gender is not chosen the neuter gender is preferred, as shown by the L2ers' performance with feminine words, where the neuter gender is preferred over the masculine.

4.3 Transfer

In order to check whether the errors made by the L2ers were due to transfer phenomena, we looked at the gender of the words in Italian and the gender of the pronoun or the noun produced in the L2. 41 productions (54%) out of the 76 were counted as possible transfer elements in that they have a different gender in the two languages. We found out that in 27 cases out of 41 (66%), pronouns or nouns were realized with the same gender as it is expected in Italian, whereas in the other 14 cases (34%) the L2ers produced a gendered nominal phrase that differed both from their L1 and the target language. Transfer seems then to play a crucial role in the choice made by the L2ers. The relevant data are provided in table 3:

Table 3: Transfer in L2 acquisition

	Transfer (DP produced with the same gender as in Italian)	No transfer (DP produced with a different gender than in Italian)
Transfer items realized as ungrammatical	66% (27/41)	34% (14/41)

Surprisingly, however, in 35 cases out of 76 (46%), in which Italian and German realize the same gender, the L2ers did not rely on their mother tongue, thus not producing the target gender in the L2 but chose a gendered nominal phrase which deviate both from their L1 and the TL. There seems to be a mismatch between the choice of the L2ers in the TL and their reliance on their mother tongue. Gender realization in the L2 is provided in table 4:

Table 4: Error analysis according to gender

Gender in Italian and German	***Target-deviant produced gender**		
	M	**F**	**N**
Masculine	-	56% (14/25)	44% (11/25)
Feminine	40% (4/10)	-	60% (6/10)

As shown in table 4 there seems to be a slight preference for feminine gender with masculine words, whereas the neuter is the most chosen gender with feminine words. In the following, some examples are provided concerning the performance of the L2ers with regards to words that have the same gender in Italian and German and were produced with a gender that does not match either language:

<u>Masculine words</u>:

German = der-M Artikel-M Italian = l'-M articolo-M English = the article

(6) a. Context sentence:
Ich rezensiere am Abend den Artikel
I proof-read in-the evening the-M article-M
'I proofread the article in the evening.'

b. Question:
Was hat Lydia über den Artikel gesagt?
What has Lydia on the-M article-M said?
'As for the article, what did Lydia say?'

c. Expected answer:

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dass sie ihn am Abend rezensiere
that she it-M in-the evening proof-reads
'that she proof-reads it in the evening.'

d. Non-target answer: (S1, intermediate, s. 125)
dass sie am Abend die rezensieren
that she in-the evening it-F to proof-read
'that she proof-reads it in the evening.'

Feminine words:

German = die-F Pizza-F Italian = la-F pizza-F English = the pizza

(7) a. Context sentence:
Ich kaufe einmal in der Woche die Pizza
I buy once in the week the-F pizza-F
'I buy pizza once a week.'

b. Question:
Was hat Lydia über die Pizza gesagt?
What has Lydia on the-F pizza-F said?
'As for the pizza, what did Lydia say?'

c. Expected answer:
dass sie sie einmal in der Woche kauft
that she it-F once in the week buys
'that she buys it once a week.'

d. Non-target answer: (S7, intermediate, s. 112)
dass sie isst am Morgen es
that she eats in-the morning it-N
'that she eats it in the morning.'

4.4 Results according to level of proficiency and individual performance

The L2ers were classified according to level of proficiency. In this section we will show the performance of the two groups of speakers with regard to target gender production. Results show that the Intermediate L2ers produced 63 ungrammatical sentences out of 314 (20%), whereas the advanced L2ers produced 13 ungrammatical genders out of 114 productions (11%). A clear picture of the grammatical and

ungrammatical production of the L2ers according to their level of proficiency is offered in table 5.

Table 5: Performance of the L2ers with regard to gender according to level of proficiency

	Intermediate L2ers (n=15)	**Advanced L2ers (n=5)**
Target gender	80% (251/314)	89% (101/114)
Non-target gender	20% (63/314)	11% (13/114)

These findings clearly show that restructuring takes place in L2 acquisition and L2ers can achieve near native competence. This claim is confirmed by the fact that the only speaker who made no errors with regard to gender production belongs to the group of the advanced L2ers. Among the Italian speakers tested, the subject who performed native-like with regard to gender, is the one who has had the longest exposure to German, particularly with regard to his experience in a German-speaking country (8 months). Individual performance of the L2ers with information pertaining to level of proficiency, years of study of German and experience in a German-speaking country is provided in the table 6:

Table 6: Individual performance of the L2ers and information about their exposure to German

	Years of study of German	**Experience in a German speaking country**	**Target productions %**	**Non-target productions %**
Intermediate				
S1	5	15 days	75	25
S2	1	1 week	83	37
S3	4	1 month	78	32
S4	1	3 months	87	13
S5	6	1 week	88	12
S6	1	8 months	95	5
S7	4	1 week	59	41
S8	4	3 weeks	87	13
S10	4	2 weeks	79	21
S13	1	None	82	18
S14	2	8 weeks	63	37

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S16	5	5 days	75	25
S17	5	1 week	82	18
S18	5	5 days	87	13
S19	5	5 days	86	14
Advanced				
S9	6	1 month	96	4
S11	2	3 months	77	23
S12	6	8 months	100	0
S15	4	3 months	87	17
S20	5	6 months	86	14

Table 6 clearly shows that there is a connection between native-like performance and length of exposure to the target language. In fact, the two speakers who performed native-like were the two who had had a longer exposure to the target language, namely S6 from the group of the intermediate and S12 from the group of the advanced.

5. Discussion and conclusions

In the present paper mastery of grammatical gender in German as L2 by 20 adult Italian native speakers at different levels of proficiency of the target language was taken into account. Results have shown that overall gender was not mastered target-like by the Italian L2ers whose accuracy on gender was lower than 95%. This result confirms that gender is a difficult phenomenon to be acquired in an L2 even for speakers of gendered languages. However, the group and the individual performance reveals the following: (a.) speakers with a higher proficiency of the target language (Advanced) performed better than those with a lower proficiency of the target language (Intermediate), which implies that there is improvement in gender mastery once the non-native speakers reach a better knowledge of their TL. This result is in line with among others Bianchi (2008), who claims that acquisition of an L2 proceeds through stages; (b.) the two speakers with a longer experience in a German-speaking country performed native-like, which confirms that length of exposure has a positive effect on the acquisition of a second language (Bianchi 2013) and gender can be mastered target like by adult L2 learners. This result goes contra those hypotheses that advocate a permanent impairment at the level of representation of formal features (FFFH, Hawkins and Chan 1997).

A far as *transfer* is concerned, results have shown that the L2ers mostly relied on their mother tongue with words that have different genders in the two languages but behaved in a surprising manner when faced with words that do have the same gender in Italian and German. In this latter case the L2ers produced a gendered DP which differed both from their mother tongue and the TL. *Transfer* then cannot solely be the

phenomenon that can account for the performance of the Italian native speakers in their L2. We can claim that both *transfer* and language-specific phenomena can account for the productions of the L2ers (see Bianchi 2013 for similar conclusions). It is worth remembering that the speakers tested were not beginners but already at a more advanced level of proficiency of the target language. It is possible to assume that *transfer* plays a major role at the earliest stages of acquisition but at more advanced levels, when the speakers are more conscious of the grammar of the language they are acquiring, they feel uncertain about the gender realization in the TL thus opting for a gender that both differ from their mother tongue and the L2. We can call this the *phase of the uncertainty* (see Bianchi 2008 for similar conclusions on the acquisition of pronouns in German as L2).

Finally, data have shown that both with masculine and neuter words the most chosen gender was the feminine. The claim can be made that L2ers choose the feminine gender as the *default* in their L2. But why the feminine? A possible explanation to this can be the fact that the feminine is the most represented and then the most frequent in the German paradigm. In fact, the article *Die* (The-F) is not only found in the feminine nominative and accusative singular, but also for all the genders in the plural. Frequency of the feminine in the German paradigm could lead the Italian native speakers to an overgeneralization of the feminine itself[1]. The fact that the Italian L2ers opt for the feminine in their L2 is a very interesting result considering that the default gender in Italian is the *masculine* (Oliphant 1998). This means that transfer of the default gender of their L1 does not take place in their L2 German, corroborating then the claim that transfer cannot be the sole phenomenon that can account for the choices made by the L2ers in their L2 German. Further research is needed on this issue however, as for example, to check whether there is a connection between the chosen gender and the morpho-phonology of the word produced.

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[1] Thanks to Tonjes Veenstra and Tanja Kupisch for discussions on this point.

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Some questions (and some experimental answers) about Italian subjects: Subject positions in main and embedded questions in L1 and attrition*

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In Italian, main questions introduced by wh-elements like *dove* ('where') disallow preverbal subjects, while main yes-no questions and wh-questions introduced by elements like *perché* ('why') allow preverbal subjects (Rizzi, 2001).
In this paper, we investigate the extent to which the availability of a pre-verbal subject in Italian interrogatives is modulated by the structure in which it is found (main vs. embedded) and the presence of different interrogative elements (*perché*, dove, yes/no operators). Our results show that the pattern observed for main questions is mirrored in embedded questions: when the discourse disallows a topic or narrow focus interpretation of the subject, pre-verbal subjects are preferred and rated more highly than post-verbal subjects in both yes-no and *perché*-questions. *Dove*-questions display the opposite pattern.
Capitalizing on Belletti's (2001) analysis of subject-inversion in declarative, we speculate that the licensing of subject-inversion in interrogatives is modulated by syntactic context. In questions that allow preverbal subjects, post-verbal subjects must be licensed under either a narrow focus or a topic interpretation, while this is not the case in questions that disallow preverbal subjects (e.g., *dove*-questions). To investigate whether, in addition to being influenced by the syntactic contexts in which they are found, the placement and interpretation of subjects in Italian interrogatives can be influenced by the syntactic properties of a competing grammar, we elicited acceptability judgments from native speakers of Italian who

* This research was partially supported by a post-doctoral research fellowship awarded by the Marica De Vincenzi Foundation Onlus to Lucia Pozzan and by a fellowship associated to the International Research Chair Blaise Pascal funded by the French State and Ile-de-France Region and assigned to Giuliano Bocci.

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differ in terms of their English exposure and everyday use. We observe a selective of English pressure on main but not in embedded contexts. We speculate that the pressure exerted by the L2 more strongly impacts on discourse-related, rather than core syntactic properties.

"La clef de toutes les sciences est sans contredit le point d'interrogation, nous devons la plupart des grandes découvertes au: Comment ? et la sagesse dans la vie consiste peut-être à se demander à tout propos: Pourquoi ? (Honoré De Balzac)"

1. Introduction

In this paper, we present an experimental investigation of the distribution of subjects in different types of Italian interrogative structures.

Our main aim is to investigate the extent to which the distribution of subjects in Italian is influenced by the syntactic contexts in which subjects are found (i.e., root vs. embedded contexts, presence of different interrogative elements) and the properties of a dominant language system with competing syntactic properties.

We thus begin by providing an empirical investigation of the syntactic properties that affect the distribution of pre- and post-verbal subjects in different interrogative structures, and then informally discuss the informational import of post-verbal subjects in syntactic contexts in which the pre-verbal position is not available. After having established the empirical generalization, we investigate the extent to which the interplay between syntactic and informational properties can be affected by the properties of a competing L2 grammar (i.e., English).

Taken together, our experimental results show that the patterns described in the literature for Italian main questions are mirrored in embedded contexts (with indicative mood): interrogative elements like *dove* 'where' are incompatible with the occurrence of preverbal subjects, while *perché* ('why') shows the same pattern as *se* ('if'): both can felicitously be followed by pre-verbal subjects.

We argue that the informational import associated with (non-right dislocated) post-verbal subjects in interrogative structures depends on the nature of the wh-element. When the preverbal subject position is structurally available, the post-verbal subject position is necessarily associated with a narrow focus import. This is the case for yes/no and *perché*-questions. For questions introduced by *dove*, post-verbal subjects in main contexts qualify as non-focal, while in embedded questions, their information structure import depends on the discourse context.

As can be seen, in Italian interrogative structures syntactic and the informational properties interact together in complex ways. This makes these structures a good test case for examining how syntax/discourse interface properties are affected in native speakers in potential L1-attrition (e.g., Montrul, 2004; Sorace, 2004; Tsimpli et al., 2004) by the pressure of a dominant L2 grammar (e.g., English) where subjects consistently appear after an inflected verb in main questions, but never do so in embedded contexts, regardless of information structure.

In our investigation, we used a forced choice paradigm to investigate whether Italian native speakers' preference for a pre- vs. post-verbal subject in interrogative

structures changes as a function of syntactic structure (root vs. embedded, yes-no vs. *perché* vs. *dove*) and protracted English exposure.
To foreshadow the critical results, we found that in main interrogative structures, speakers in potential L1-attrition exhibit a stronger preference for post-verbal subjects in yes-no and *perché*-questions as compared to monolingual speakers, while no difference was observed for *dove*-questions. In contrast, in embedded questions, no asymmetry between the two groups was observed: they similarly preferred post-verbal subjects with *dove*-questions, and preverbal subjects with *perché* and yes-no questions.
Our results thus suggest that the L2 can selectively affect the L1. In main questions, speakers in potential L1 attrition appear to be in the process of shifting their preferences towards a word-order that more closely mirrors that of their dominant L2, but that is also permissible in their L1, albeit with a specific information structure value. In contrast, no effect of the L2 is found in embedded questions, where mirroring the English order would require placing the subject in a preverbal position in *dove* questions – an option that is not made readily available by the syntax of Italian. These results can be accounted for under the hypothesis that discourse-related properties, but not the core syntax, are affected under L2 pressure (see Tsimpli et al., 2004, 2007 and much related work).

2. Background and Experimental Prospectus

2.1. Subjects and wh-questions in Italian

The distribution of subjects in wh-questions is a long standing issue in the literature on the syntax of Italian (Rizzi 1996; Poletto 2000; Cardinaletti 2007; among many others), and Romance languages in general (Torrego 1984; Barbosa 2001; Zubizarreta 2001, among others).
Although not unanimously, it is generally assumed that the basic word order of Romance languages is SVO. Nonetheless, the availability of the pre-verbal subject position is strikingly restricted in main wh-questions. In many cases, the occurrence of a subject between the wh-element and the main verb (or between an auxiliary and the lexical verb) leads to ungrammaticality. Consider the Italian examples in (1): the subject may appear postverbally (1d) or in a high left-peripheral (clitic left dislocated) position (1c), but it cannot surface between the wh-element (1a) and the verb, or between the inflection and the lexical verb (1b).

(1) a. *Dove Gianni dorme?
where John sleep-III-sg
'Where does John sleep?'
b.*Dove ha Gianni dormito?
where AUX John slept
'Where did John sleep?'
c. Gianni dove dorme?
John where sleep-III-sg
'Where does John sleep?'

d. Dove dorme Gianni?
where sleep-III-sg John
'Where does John sleep?'

The restriction against pre-verbal subjects in wh-questions is not indiscriminate. Following Rizzi (2001; 2006) and related work, we can identify two classes of wh-elements that differ from each other with respect to the distribution of subjects. Pre-verbal subjects are disallowed with wh-elements that belong to the first class, e.g., bare (mono-morphemic) wh-elements (corresponding to complements or adjuncts like *cosa* 'what', *quando* 'when', *dove* 'where', etc.), but are allowed with wh-elements belonging to the second class, e.g., *perché* ('why') and *come mai* ('how come'), as can be seen in (2). At least to some extent, D-linked and lexically restricted wh-elements also belong to this second class, as shown in (3).

(2) Perché Gianni dorme?
why Gianni sleep-III-sg
'Why is Gianni sleeping?"

(3) Chi di voi Gianni ha contattato per primo?
who of you Gianni AUX contacted for first
'Which one of you did Gianni contact first?'

While all the analyses proposed in the literature agree with the empirical characterization of the phenomenon, they diverge considerably on how the ban against preverbal subjects in questions headed by wh-elements of the first class should be accounted for. For example, Rizzi (1996; 2001; 2006) proposes that the ban against preverbal subjects results from the occurrence I-to-C movement. Under this analysis, all wh-elements are hosted in the CP system, but do not target the same position. The wh-elements that require verb adjacency are hosted in the focus projection (FocP) in main questions and in a lower projection (WhP) in indirect questions. With this class of elements, the T head bears a Q-feature, and is required to establish a local configuration with the wh-element in CP by the Q/Wh-Criterion: T must thus move via head-movement (Rizzi 1996) or phrasal-movement (Rizzi 2006) to the C-system; this movement prevents subjects from intervening between the wh-element and the inflected verb. Elements that do not require inversion, like *perché*, are generated in a higher position in the C-system (i.e., IntP, the same position that hosts se 'whether' in indirect yes-no question). Since the Int head is assumed to be intrinsically endowed with a Q feature, I-to-C does not take place; preverbal subjects are thus allowed in these structures.
A different line of analysis proposes that in Romance questions operators target Spec-TP rather than a projection in the CP system (Vallduví 1992; Dobrovie-Sorin 1994; Zubizarreta 1998). Barbosa (2001), in particular, argues that in Romance null subject languages, (non-focused) pre-verbal subjects are always clitic left dislocated and target a position higher than Spec-TP. Accordingly, subjects cannot intervene between

wh-elements and the inflection since they are structurally higher than TP, where wh-elements are hosted.
Cardinaletti (2006) rejects both of these accounts and argues, on the one hand, that I-to-C does not take place in Romance questions and, on the other, that wh-elements are hosted in CP, while preverbal subjects are hosted in a lower SubjP position in the IP field. According to this analysis, the ban against pre-verbal subjects in wh-questions is to be conceived of as a selective intervention effect that rules out subjects in Spec-SubjP in wh-questions (see also Zubizarreta, 2001 for a different analysis in terms of intervention).
For the main aim of this paper nothing crucial hinges on the adoption of a specific analysis, since all of them agree on the empirical characterization: preverbal subjects cannot precede the inflection with the first class of wh-elements, while they can with the second. Notably the competing analyses largely rely on different assumptions concerning related syntactic aspects (e.g. the occurrence of I-to-C movement, the status of preverbal subjects in Romance, etc.). These issues have been discussed at length, but less attention has been devoted to providing a more fine grained characterization of how subject placement in wh-questions is affected by different syntactic contexts (e.g., root vs. embedded), which is at the same time firmly grounded in the current syntactic literature and informed solid experimental results.
For example, unlike English, Romance languages do not seem to display a clear asymmetry between main questions and indirect questions: the same wh-elements that require adjacency in main questions tend to require adjacency in indirect questions. It has in fact been reported that with the first class of wh-elements the occurrence of an intervening preverbal subject in embedded questions leads to clear ungrammaticality in Spanish (Torrego 1984), Catalan (Solà 1992), and Rumanian (Soare 2009). While several authors (Rizzi 1996, Guasti 1996, Poletto 2001, among others) have argued that this also holds true in Italian, the degradation seems to be generally less severe. One of the aim of the present paper is to empirically validate this intuition.

2.2. Free subject inversion and subject inversion in wh-questions
As sketched out in the previous section, in questions that require verb-adjacency, subjects can surface post-verbally (cf. 1.d). As is well-known, however, subjects in Italian can be licensed in a post-verbal position independently of the occurrence of an interrogative operator. This property is often referred as “free subject inversion”, where “free” indicates that subjects can occur post-verbally in the absence of a trigger (e.g., a wh-element). As Belletti (2001, 2004) shows, only in this sense can subject inversion be considered “free” in Italian, since it is linked to changes in information structure.[1]
Given this, to what extent are post-verbal subject in wh-questions that require verb-adjacency akin to "free" inverted subject in declarative sentences? Before addressing

[1] For the sake of simplicity, we leave aside the cases of subject inversion with unaccusative verbs (cf. Belletti 1988 and related work) that are not immediately pertinent for the current discussion.

this question, we briefly discuss the status of post-verbal subjects in Italian, capitalizing on the analysis proposed by Belletti (2001, 2004).
In Italian declarative sentences, subjects typically surface in a post-verbal position when they express narrow focus, as in answers to subject wh-questions (Belletti, 2009). For instance, in the context of (4a), the subject can felicitously occur only postverbally, as shown by the inappropriateness of (4c).

(4) a. Chi ha telefonato?
Who AUX called?
'Who called?'

b. Ha telefonato Gianni.
AUX called John
'John called'

c. #Gianni ha telefonato.
John AUX called
'John called'

In her seminal analysis, Belletti (2001, 2004) proposed that the low area of IP hosts a "low periphery", populated by functional projections dedicated to express discourse-related properties: an IP-internal focus projection surrounded by topics projections. According to this analysis, in a sentence like (4)b, a null pronominal *pro* is inserted in the preverbal subjection position, while the subject, endowed with the relevant focus feature, moves from its thematic position to the low focus projection above vP to establish a local spec-head relationship with the focus head.
In many respects, then, the low periphery partially parallels the left periphery in the CP-system (Rizzi 1997); the discourse-related properties encoded in the two peripheries, however, differ in important respects. In particular, the focus projection in the left periphery is incompatible with a new information focus interpretation and it appears to encode specific imports of focus, like mirative and corrective focus (Bianchi & Bocci 2012, Cruschina 2012, Bianchi et al. submitted). By contrast the low IP-internal position expresses new information focus and merely contrastive focus, i.e., a contrast internal to the sentence that does not imply the correction of a previously asserted proposition (Bianchi & Bocci 2012).
In light of this articulated structure of the low periphery, one may wonder whether the post-verbal subject in main wh-questions that require verb-adjacency is located in the low focus projection and convey narrow focus. For main questions, Belletti (2004:39-41) concludes that this cannot be the case, and that the activation of left peripheral and low focus projections are mutually incompatible. Under the assumption that the wh-elements that require verb-adjacency are hosted in the high focus projection in the CP (Rizzi 1997, 2001), the low focus projection cannot be available in this type of questions. Along similar lines, Bocci (2013:162-172) argues that, in contrast to declarative sentences, prosodic prominence cannot be shifted freely in this type of wh-questions. This suggests that in these questions the focus structure is constrained.

In a sentence like (5), for instance, if a narrow focus interpretation could be assigned to the post-verbal complement *a Marina*, this constituent should be pronounced with a the relevant degree of prominence. However, this is impossible: as long is (5) is interpreted as a genuine question, a Marina cannot be assigned any special prominence.

(5) Chi (diavolo) hai presentato a Marina durante la cena?
who (the hell) AUX-II-sg introduced to Marina during the dinner
'Who did you introduce to Marina during the dinner?'

It is important to notice that post-verbal subjects in declarative sentences do not necessarily express focus, but can also function as right-dislocated topics. In these cases, the subject moves to a topic projection above vP (e.g., Cecchetto, 1999; Belletti, 2001). The possibility thus arises that post-verbal subjects in wh-questions that require verb-adjacency are right-dislocated elements. However, Cardinaletti (2001) convincingly shows that this is not necessarily the case and that post-verbal subjects in wh-questions can remain in situ, i.e., in their thematic position. This is exemplified in (6), where *nessuno* ("nobody"), an element that can never undergo right-dislocation, can nonetheless occur post-verbally in wh-questions.

(6) A chi non ha telefonato nessuno?
to whom not AUX-III-sg telephoned nobody
'Who did anybody telephone?'

Following Cardinalletti's analysis, we assume that in wh-questions that disallow preverbal subjects, subjects can stay in situ in their thematic position, without a conveying specific information structure value: they qualify neither as topic nor as focus.
Having established this, the issue now concerns the status of post-verbal subjects in questions that allow preverbal subjects, together with their information structure import. In wh-questions that allow preverbal subjects, subject inversion is clearly grammatical. Consider (7): it is our intuition that the interpretation of (7.a) is not equivalent to that of (7.b) and that post-verbal subjects in questions that allow preverbal subjects convey the same information values as declarative sentence, in sharp contrast with the lack of focus interpretation of post-verbal subjects in inverting wh-questions (7.c).

(7) a. Perché Gianni telefona?
why John call-III-sg.
'Why is John calling?"
b. Perché telefona Gianni?
why call-III-sg. John
'Why is John calling?"

c. Dove telefona Gianni?
where call-III-sg. John
'Where is John calling?"

In light of these facts, we designed two experiments aimed at investigating whether in broad focus contexts, Italian native speakers display a preference for either pre- or post-verbal subjects, and whether this preference is modulated by clause-type (root vs. embedded), question-type (*dove*/where, *perché/*why and yes/no) and continued exposure to a different linguistic system (native speakers vs. native in potential attrition due to English exposure).

3. Experimental investigation

Three experiments were conducted to investigate Italian speakers' preferences for pre- vs. post-verbal subjects in a number of syntactic contexts. In Study 1 and Study 3, we asked participants to choose between interrogative questions with pre-verbal or post-verbal subjects. In Study 2, we partially validate the results of Study 1 (embedded questions only) via a rating task.

3.1. Study 1

3.1.1 Method

3.1.2. Participants and Procedure

Forty-five participants were administered an online language questionnaire followed by an online forced-choice experiment. The language questionnaire was aimed at ensuring that they were indeed monolingual native speakers of Italian and that they were not currently living abroad or receiving substantial exposure to languages other than Italian. The results of Study 1 are based on the responses of 12 native speakers who met the above criteria.

After completing an online language questionnaire administered via Survey Gizmo, participants were redirected to the experimental questionnaire, which was also presented via Survey Gizmo. Each item was presented individually and participants could not change their answers once they hit the "Submit" button. The entire session lasted on average between 30 and 40 minutes.

3.1.3. Materials

The experimental materials consisted of 36 brief written exchanges between two speakers (A and B). The exchange was used to set up the context for the experimental item, which consisted of a pre-verbal and a post-verbal subject version of the same interrogative structure. The interrogative clause always consisted of an unergative verb and the subject. The participant's task was to choose between these two alternatives, as shown in (8):

(8) A: Questa musica è terribile! Non mi viene proprio voglia di andare in pista.
'This music is terrible! I really don't feel like dancing'

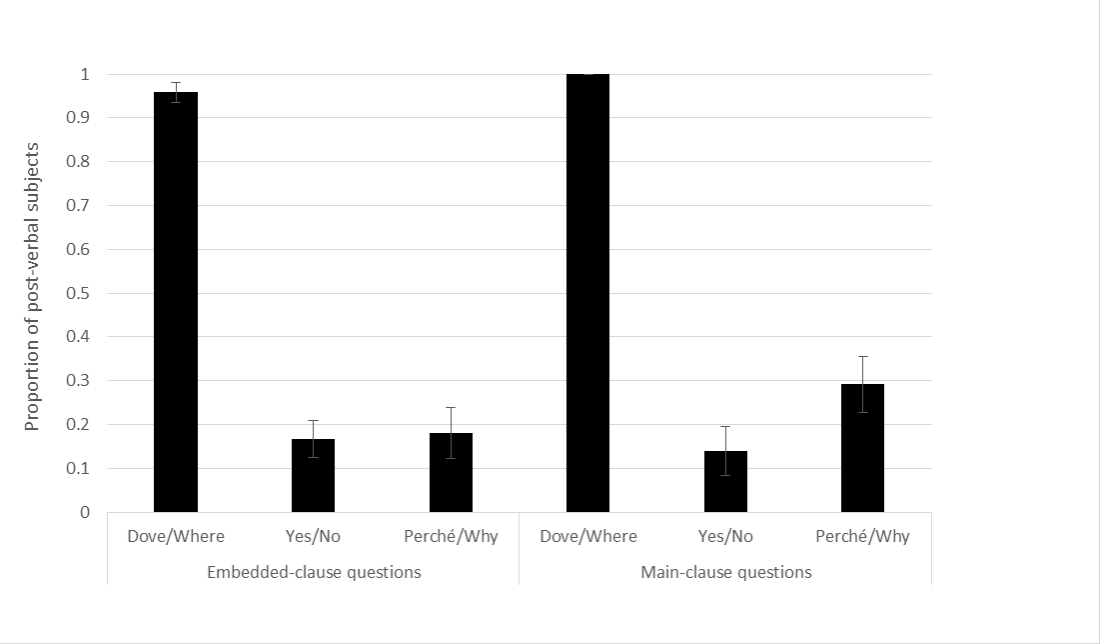
B: Hai proprio ragione…Non so perché Marta balla
have-II-sg reason not know-I-sg why Marta dance-III-sg
'You are totally right. I don't know why Marta dances'

B: Hai proprio ragione…Non so perché balla Marta
have-II-sg reason not know-I-sg why dance-III-sg Marta
'You are totally right. I don't know why Marta dances'

Care was taken to ensure that the discourse contexts did not induce a narrow focus interpretation for the subject in the experimental sentences. Moreover, in order to disfavor a right-dislocated topic interpretation of the post-verbal subject, the subject of the target clauses was not previously introduced in the discourse,
Two factors were manipulated within subjects: clause-type (main-clause vs. embedded-clause) and question type (*dove*/where, *perché/*why and yes/no). The materials consisted of 18 main-clause questions (6 where, 6 why, 6 yes/no) and 18 embedded-clause questions (6 where, 6 why, 6 yes/no). Clause-type was manipulated between items, while question-type was manipulated within items. Three lists were created so that each verb would only appear once with each question-type. The order of presentation was fixed and did not vary across lists. In order to control for order effects, three additional lists were created in which the order of the items was reversed.

3.1.4. Results
As can be seen in Figure 1, where the mean proportions of post-verbal responses as a function of clause-type and question-type are shown, post-verbal subjects are strongly preferred in both main and embedded *dove* -questions, but are instead dispreferred in both main and embedded yes/no and *perché*-questions. These results confirm the intuition that in Italian (a) main and embedded interrogatives pattern alike and (b) pre-verbal subjects are preferred when this position is available (i.e., yes/no and *perché*-questions vs. *dove*-questions). These results are also compatible with the hypothesis that post-verbal subjects are the unmarked option, and thus do not bear a narrow focus interpretation, when the pre-verbal position is unavailable.

Figure 1. Monolingual speakers' preference for post-verbal subjects over preverbal subjects (proportion) in embedded and main-clause questions, by for yes-no, *dove*/where and *perché*/why-questions.



These results are confirmed by our statistical analyses based on multi-level mixed effects regressions with log odds of a post-verbal subject response as the dependent variable, clause-type (main-clause vs. embedded-clause) and question-type (*dove*, *perché* and yes/no) as fixed effects and crossed by-subject random intercepts and slopes. Post-verbal subject responses were equally likely in main and embedded questions (No significant effect of clause-type: *Estimate*: .21; *SE*: .16, p = .20), but were less likely with *perché* and yes/no as compared to *dove*-questions, regardless of clause-type (Main effect of question-type: *Estimate*: -2.53, *SE*: .11, p < .01; No interaction between clause-type and question-type: *Estimate*: - .11, *SE*: .23, p = .63). Moreover, post-verbal subject responses were overall more likely in *perché* than in yes/no questions (*Estimate*: .42, *SE*: 20, p = .03), and this pattern was particularly pronounced in main questions (Interaction: *Estimate*: = .76, *SE*: .39, p = .05).

3.2. Study 2

3.2.1. Methods

3.2.1.2 Participants and Procedure

108 native Italian speaker participants who were currently residing in Italy and who did not take part in Study 1 were administered an online rating experiment. The experiment was presented online via Survey Gizmo. Each item was presented individually and participants could not change their answers once they hit the "Submit" button. The entire session lasted on average between 30 and 40 minutes.

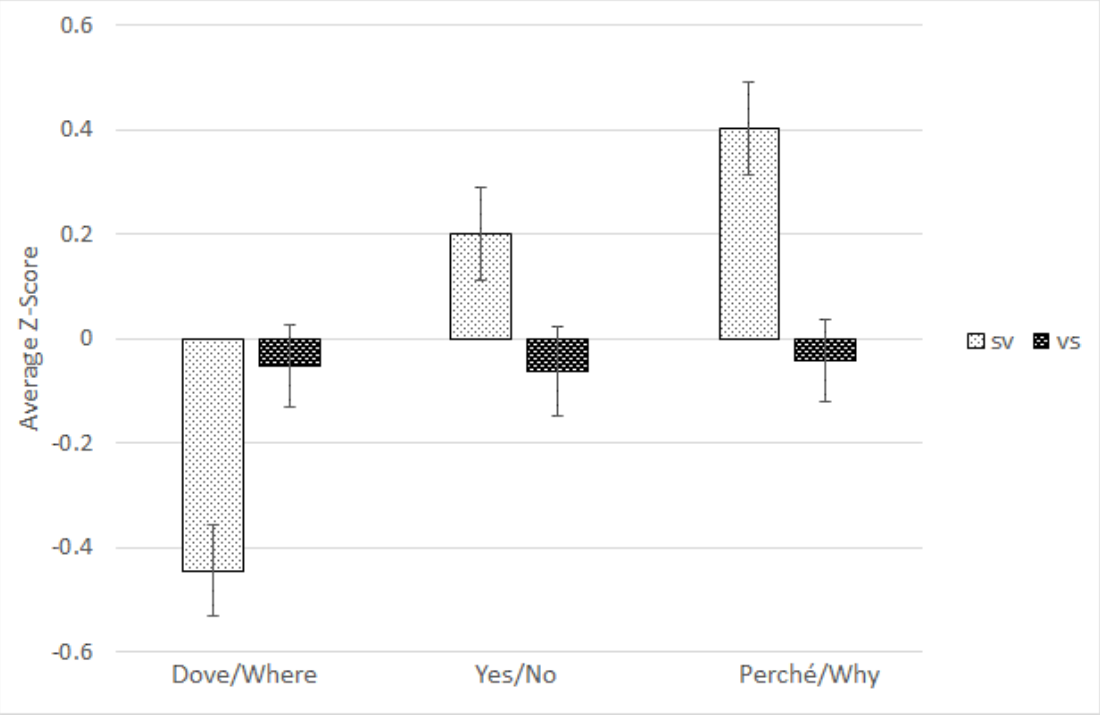
3.2.1.3 Materials

The materials consisted of brief written exchanges between two speakers (A and B). Participants were asked to judge how "natural" different sentences sounded to them by using a sliding scale (Range: 1-1000). The materials that are relevant for the current study were used as fillers for another study investigating the availability of focus fronting in declarative sentences. The items used for this experiment were the same as the post-verbal and the pre-verbal versions of the embedded questions presented in Study 1. The experiment thus consisted of 36 relevant items (18 pre-verbal and 18 post-verbal subject embedded questions introduced either by *dove*, *perché* or by a yes/no operator), out of a total of 108 sentences.

3.2.2. Results

Participants' rating judgments were converted into z-scores. Figure 2 plots average z-score judgments for pre- and post-verbal subject *dove*, *perché* and yes/no embedded questions. As can be seen from Figure 2, *dov*e-questions with post-verbal subjects were rated more highly than pre-verbal subject ones. The opposite pattern was observed with *perché* and yes/no questions, where the pre-verbal subject version of the sentence was rated more highly.

Figure 2. Study 2: Rating judgments (in z-scores) for pre- (SV) and post-verbal (VS) subject embedded questions introduced by *dove* 'where', *perché* 'why', or a yes-no operator.



These results are confirmed by statistical analysis based on multi-level mixed effects regressions with z-scores of rating as the dependent variable, subject-position (pre-verbal vs. post-verbal) and question-type (*dove*, *perché* and yes/no) as fixed effects and crossed by-subject and by-item random intercepts and slopes. D*ove*-questions were rated overall less highly than *perché* and yes/no-questions (*Estimate*: .26, *SE*:

07, p = .01); this effect partially stems from the strong unacceptability of pre-verbal *dove* questions.
Crucially, there was a significant interaction between subject-position and question-type (*Estimate*: -.53, *SE*: .09, p < .01). While for *dove* questions, the post-verbal subject version of the sentence was rated significantly higher than the pre-verbal one (*Estimate*: .41, *SE*: .11, p < .01), the opposite was true for *perché* (*Estimate*: -.47, *SE*: .13, p < .01) and yes/no questions *Estimate*: .58, *SE*: .22, p < .01).

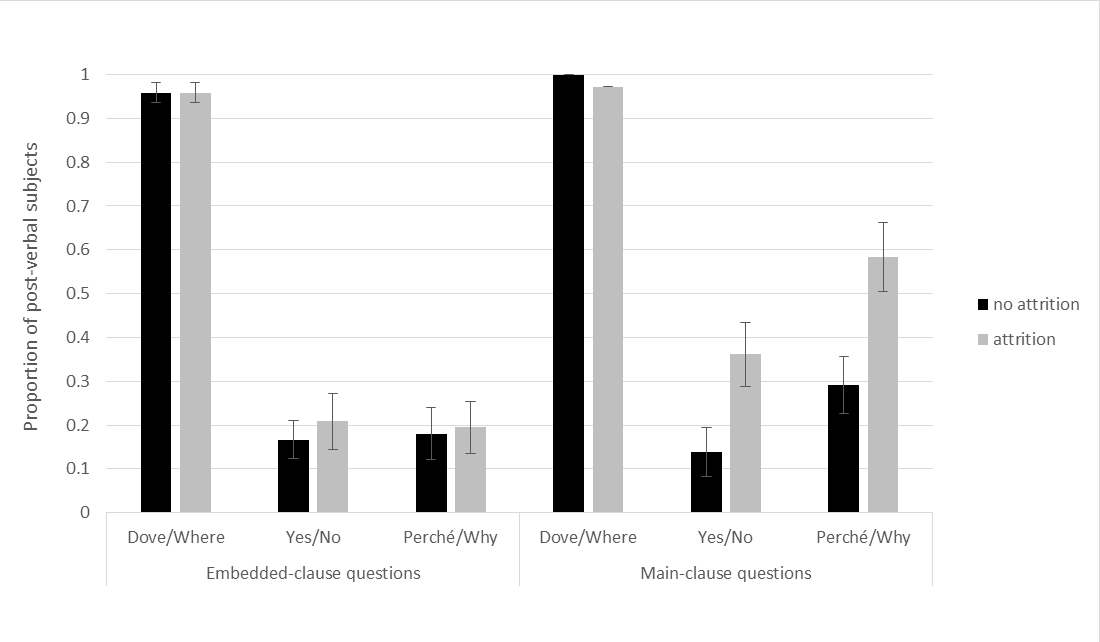
3.3. Study 3

3.3.1. Method

3.3.1.2 Participants, Procedure and Materials
The performance of the 12 native speakers of Italian from Study 1 was compared to that of native speakers of Italian who were potentially undergoing L1-attrition. To identify the latter group, participants who had been living in the United States or the U.K. for at least 2 years at the time of testing were administered a brief additional questionnaire. The attrition-questionnaire was closely based on that of Keijzer (2007). 12 speakers undergoing potential attrition were identified in this way. All but one of the participants who were classified as being potentially in attrition reported occasionally (a) experiencing lexical access difficulties, (b) using syntactic structures that might sound weird in Italian, and (c) directly translating expressions from English to Italian. The same materials and procedure from Study 1 were used.

3.3.2. Results
Statistical analyses were based on multi-level mixed effects regressions with log odds of a post-verbal subject response as the dependent variable, clause-type (main-clause vs. embedded-clause), question-type (*dove, perché,* and yes/no) and group (attrition vs. no-attrition) as fixed effects and by-subject random intercepts and slopes.
As can be seen in Figure 3, participants in potential L1 attrition produced overall more post-verbal subjects responses that non-attrition participants, but this pattern was particularly pronounced for main *perché* and yes/no-questions.

Figure 1. Study 3: Preference for post-verbal subjects over pre-verbal subjects (proportion) by main vs. embedded questions, by for yes-no, *dove* ('where'), and *perché* ('why') questions and language group (monolingual speakers vs. speakers in potential attrition).



These conclusions are confirmed by the statistical analysis. Participants in potential L1 attrition produced more post-verbal subjects that non-attrition participants (*Estimate*: .39, *SE*: .19, $p = .05$), main questions were associated with more post-verbal subject responses than embedded questions (*Estimate*: .54, *SE*: .13, $p < .01$) and *perché* and yes/no questions were associated with less post-verbal subject responses than dove/where questions (*Estimate*: -2.29, *SE*: .11, $p < .01$). However, this pattern was qualified by two two-way interaction between Group and question-type (*Estimate*: .47, *SE*: .12, $p = .04$) and Group and clause-type (*Estimate*: .67, *SE*: .26, $p = .01$) and a three way interaction between Group, clause-type and question-type (*Estimate*: .85, *SE*: .32, $p < .01$). While monolingual participants' preferences for post-verbal subjects did not differ between main and embedded questions, participants in potential L1 attrition produced more post-verbal subjects in main than in embedded questions (*Estimate*: .31, *SE*: .14, p = .03). Moreover, while participants in potential L1-attrition produced more post-verbal subject-responses than non-attrition participants in main-clause questions overall and in *perché* and yes/no questions overall, this pattern was particularly pronounced for main-clause *perché* and yes/no questions.

These results indicate that native speakers of Italian strongly prefer post-verbal subjects with *dove* questions, but show the opposite pattern in *perché*-why and yes/no questions, in both main-clause and embedded-questions. However, these preferences are not set once and for all: native speakers of Italian who live in an English-speaking environment and use English as their primary means of communication seem to be in the process of shifting their preferences towards post-verbal subjects in all main-clause questions, regardless of question-type.

4. Discussion and Closing Remarks

4.1. Monolingual Italian Native Speakers

The results of three experiments show that Italian monolingual speakers strongly prefer post-verbal subjects in main *dove*-questions, as expected in light of the literature, and pre-verbal subjects in main *perché* and yes-no questions, supporting our initial intuition (cf. 2.2.§). In main *perché* and yes-no questions both the pre-verbal and the post-verbal subject position are structurally available, but the two positions are not equivalent. In contexts that do not induce a narrow focus or topic interpretation on the subject, like the ones we tested, the post-verbal subject position is clearly dispreferred.

We hypothesize that, in *perché* and yes-no questions, post-verbal subjects become fully acceptable, and might even be preferred to post-verbal subjects, if they are licensed by a topic or narrow focus interpretation. Consider (9). In the context of (9A), the subject in speaker B' questions conveys an import of merely contrastive focus (in the sense of Bianchi & Bocci, 2012). In such a context, a post-verbal subject (9B) is perfectly felicitous and may be preferable to pre-verbal one (9B'). The same seems to be true for yes-no questions: see (10)

(9) A: Gianni mi ha appena portato il libro.
'John has just brought me a book'
B Perché te l'ha portato Gianni e non Leo?
why to-you it AUX brought John and not Leo
'Why did John bring it to you and not Leo'
B' Perché Gianni te l'ha portato e non Leo?
why John to-you it AUX brought and not Leo

(10) A: Gianni mi ha appena portato il libro.
'John has just brought me a book'
B Te l'ha portato Gianni? Credevo che te lo dovesse portare Leo.
to-you it has brought JohnThought-I-sg that to-you it-should bring Leo
'Did John bring it to you? I thought that Leo should have brought it'
B' Gianni te l'ha portato? Credevo che te lo dovesse portare Leo.
John to-you it has brought Thought-I-sg that to-you it-should bring Leo

If this hypothesis is correct, there is a contrast between types of main questions with respect to the licensing of post-verbal subjects. In questions that allow preverbal subjects, the post-verbal subject position must be licensed by a topic or narrow focus interpretation, while in wh-questions that disallow preverbal subjects, post-verbal subjects are licensed independently of their discourse-related properties.

Along the lines of Belletti (2004), we have assumed in 2.2. that the low focus projection is not available in main *dove*-questions since they involve the activation of the left peripheral focus projection (cf. 2.2.§). However, in yes-no and *perché* questions, nothing should prevent the low focus projection from activating and licensing a narrow focus interpretation on the post-verbal subject. According to Rizzi's (1997, 2001), in fact, *perché* and the yes-no operator target a position higher

than the left peripheral focus projection, as shown by the fact that *perché* can precede a focused constituent fronted to the left periphery. Since the left peripheral focus projection is not involved in *perché* and the yes-no, it does not block low IP-internal focus projection.
Finally, our results show that the subject distribution observed in main questions across yes-no, *perché*, and *dove* questions is mirrored in embedded questions with indicative mood. In this respect, Italian patterns with other Romance languages like Spanish (Torrego, 1994), Catalan (Solà, 1992) and Romanian (Soare, 2009).

4.2. Bilingual Italian Native Speakers in Potential Attrition
The results of Study 3 show that, differently from monolingual speakers of Italian, L1 speakers in potential attrition differentiate between main and embedded-clause questions in terms of their preferences for post-verbal subject. In embedded questions, their responses closely mirror those of mononolinguals (strong preference for pre-verbal subjects in yes/no and *perché*-questions, and strong preference for post-verbal subjects in *dove*-questions). By contrast, in main questions, speakers in potential L1-attrition exhibit a generalized shift in preference towards post-verbal subjects: while no difference is observed with regards to *dove*-questions (where pre-verbal subjects result in strong ungrammaticality), L1 speakers in attrition display a stronger preference for post-verbal subject yes-no and *perché*-questions compared to monolingual speakers.
We hypothesize that, under the pressure of English, a language in which subjects are always found after the inflected verb in main questions, participants in potential attrition are in the process of shifting their preferences towards a word order that more closely mirrors that of their dominant L2.
The pressure of English, however, does not affect speakers' preferences when such shifts would result in syntactically illicit structures. In standard Italian, in fact, post-verbal and pre-verbal subjects are both possible grammatical options with yes/no and *why*-questions, albeit with different information structure properties (i.e., post-verbal subjects necessarily count as narrow focus). The pressure of the L2 English system thus results in a word-order that is not ungrammatical, but inappropriate given the discourse context. On the other hand, the Italian grammar resists the pressure of the L2 English system when this pressure results in an ungrammatical word-order: the pressure of the pre-verbal L2 word-order in embedded questions fails to engender an ungrammatical pre-verbal word order in *dove*-questions. In line with other research on L1-attrition (e.g., Tsimpli, et al., 2004; Tsimpli, 2007), our results suggest that L2-related pressures mainly affect discourse-related but not the core syntactic properties of the native grammars of speakers in attrition.
In closing, we note that our hypothesis concerning the licensing conditions of post-verbal subjects in embedded yes/no and *perché*-questions, together with our hypothesis regarding the diminished effect of discourse-related properties in L1 attrition, is on the right track, we expect that in embedded question where a narrow focus interpretation of the subject is favored, monolingual speakers should show a preference for post-verbal subjects, regardless of question-type. In this kind of

discourse contexts, L1 attrition speakers are expected to show, similarly to monolingual speakers, a preference for *dove*-questions with post-verbal subjects; in contrast, they are expected to show a preference for pre-verbal embedded yes/no and *perché*-questions. This prediction awaits further *interrogative investigations*.

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Effects of parametric change and active/inactive alignment: the case of C-omission*

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This paper deals with the diachrony of complementizer omission (C-omission) in Italian. C-omission is restricted to [-*realis*] clauses in Old as well as in Modern Italian, and to some types of declarative clauses in Modern Florentine (Cocchi & Poletto, 2005). This phenomenon is instead much more pervasive in the Renaissance period (Wanner 1981, Scorretti 1991) and invests basically all types of subordinate clauses. The present study concentrates on C-omission in Renaissance Italian relative clauses, which is attested in both subject and non-subject extractions. There is an asymmetry in the frequency of C-omission in subject/non-subject relative clauses, which is analyzed as the result of the combination of the active/inactive alignment that characterizes both Old and Renaissance Italian, and the loss of V2. The active/inactive distinction is attributed to the presence of a strong (*) feature on the low-phase head, Voice*, whereas the loss of V2 results from a parametric change on the higher phase head: from Fin* to Fin. The argument is corroborated by further comparative facts from Old Occitan and Old French.

Thank you Adriana, for what you taught me, for your brilliant ideas, for your always honest and sharp feedback, and for make me feel warm with your encouraging attitude, even when I was closer to the North Pole than anywhere else.

1. Introduction

C-omission is a general term that conventionally indicates the possibility, in a grammar, to omit the subordinating element, being it a complementizer, a particle or some sort of

* This paper is the outcome of indipendent research that I have been carrying out at the University of Leiden. I presented a previous version of this paper at the CILPR 2013 in Nancy. I thank the audience of that conference, and especially Adam Ledgeway, for the useful feedback. I also wish to thank Jacopo Garzonio for his judgments on Modern Florentine sentences. All mistakes are mine.

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti. C. Contemori and L. Dal Pozzo (eds.) Siena, CISCL Press.

pronoun. A language that, to some extent, permits C-omission is English. In English, complementizers can notoriously be dropped when introducing the declarative complements of so-called bridge-verbs (cf. Hooper and Thompson 1973, Bolinger 1972, Boskovič & Lasnik 2003, Staum 2005 and ref. therein, a.o.).

(1) a. I believe (that) Mary did it
b. I heard about the fact *(that) Mary did it
[(1b) from Boskovič & Lasnik 2003:534, (13)]

The pair in (1) shows that C-omission in English complement clauses is generally accepted with bridge-verbs, but ungrammatical or degraded when the complement clause is (semi)-factive or undergoes some syntactic operation, e.g. preposing/dislocation (cf. Boskovič & Lasnik 2003:527). It is however not the case that English C-omission is simply ruled out in island contexts, as other well known facts about relative clauses show (cf. Kayne 2010).

(2) a. I know the person (that) you met on the bus
b. I know the person *(that) took the bus with you

The sentence in (2a) shows that the subordinating element can be omitted in non-subject extractions. This is a possibility that is typologically quite widespread (a.o. in Mainland Scandinavian, South-East Asian languages, Natchanan & Amara 2008). By contrast, (2b) shows that *that*-omission in subject extractions is ungrammatical, and provokes garden-path effects (McKoon & Ratcliff 2003). In general, subject relative clauses with an optional subordination marker have a typologically limited distribution (cf. Comrie & Kuteva 2005).

The scope of the investigation that is presented in this paper is restricted to the diachrony of Italian, and related comparative facts. It is no new fact that Modern Italian, which is historically derived from the vernacular spoken in the Tuscan area around Florence, has quite restricted C-omission.

(3) a. *Penso (che) venga anche Pietro* (Modern Italian)
Think.1SG that come.SBJV;3PL also Peter
'I think (that) Peter is also coming'
b. *Maria dice *(che) viene anche Pietro*
Mary says that come.3PL all.PL
'Mary says that Peter is also coming'

(4) a. *Conosco la persona *(che) hai incontrato in autobus*
Know.1SG the person that have.2SG met in bus
'I know the person that you met on the bus'
b. *Conosco la persona *(che) ha preso l'autobus con te*
Know.1SG the person that has taken the bus with you
'I know the person that has taken the bus with you'

Notice that in Modern Italian, C-omission is possible in declarative complements only if the embedded verb is in subjunctive mood (3a), whereas C-omission is ungrammatical with indicative mood, even if the matrix predicate is a bridge-verb as *dire* (say), in (3b).[1] Moreover, C-omission is symmetrically impossible in all types of relative clauses, (4), differently from English and other Germanic languages. The facts illustrated in (3) and (4) above have already been extensively discussed in the work of Cocchi & Poletto

[1] A connection between subjunctive mood marking and C-omission has been also observed and analyzed in other Romance languages, see e.g. Schneider (1999), and (2007) for Spanish.

(2002), (2005) and, more recently, in Franco (to app.). These works also compare Modern Italian to a non-standard counterpart, i.e. Modern Florentine, which is the dialect spoken in Florence and surroundings, also derived from Old Florentine. For convenience, I will henceforth refer to Old and Renainssance Florentine as Old and Renainssance Italian, respectively (whereas Modern Florentine and Modern Italian are kept distinct).

In Modern Florentine, C-omission is possible in a larger set of contexts. Cocchi & Poletto (2005) observe that, differently from Modern Italian, in Modern Florentine C-omission is not sensitive to verbal mood, but is subject to the following conditions: (i) it affects declarative complements (regardless the semantic type of the selecting predicate);[2] (ii) a functional element (clitic pronoun, negation marker or auxiliary) must precede the inflected verb in the embedded clause, (5a) vs. (5b); (iii) no preverbal non-pronominal subjects, (5c), or adverbials can intervene between the omitted C (__) and the inflected verb.

(5) a. *Dice __ lo porta* (Modern Florentine)
say.3SG ACC;3SG take.IND;3SG
'He says he will bring it'

b. ?**Dice __ porta il libro*
say.3SG take.IND;3SG the book
'He says he will bring the book'

c. **Maria m'ha detto __ Gianni un ha portato il libro*
Mary DAT;1SG has said John not has.IND brought the book
'Mary told me John has not brought the book'
[Cocchi & Poletto, 2005, 12, 13, 15]

A Modern Italian sentence equivalent to (5a) is ungrammatical. Cocchi & Poletto explain the difference between Modern Italian and Modern Florentine as a parametric difference concerning the contexts in which Alternative Checking (AC) can take place. Specifically, they argue that the illocution features encoded on the C projection ForceP (cf. Rizzi 1997) may either be checked by lexical insertion of a C-functional element, *che*, or via Agree with another functional element, which is located in the IP left-periphery (cf. (ii) above). In the latter case, *che*-omission is licensed via AC of the features encoded in ForceP, which is performed by such functional element. As Cocchi & Poletto (2005) themselves observe, this account is not straightforwardly applicable to the type of C-omission attested at an earlier stage of the grammar, namely in Renaissance Italian (1350-1500). In several Renaissance Italian corpora C-omission is attested in a much broader set of contexts, including non-finite sentences, purpose, factive, comparative and relative clauses (Wanner 1981, Scorretti 1991, see section 2.2). Moreover, relative clauses show a subject/object asymmetry in the frequency of C-omission (as it is illustrated in section 2.2), which cannot be directly explained under the AC proposal of Cocchi & Poletto. Specifically, it is not clear why a non-subject relative-OP would perform AC more easily than a subject relative-OP. Furthermore, the AC account does not seem to properly account for C-omission in other languages. For instance, English *that*-omission affects different types of subordinate clauses and cannot be directly related to AC of Force features. In this respect, it is not clear what could constitute an alternative checker (cf. Jaeger 2005, 2010, Jaeger & Walter 2005, Levy & Jaeger 2005, a.o.).
The investigation presented in this paper tries to identify the conditions allowing for C-omission in Renaissance Italian, with a focus on relative clauses. As mentioned above, C-

[2] Notice that C-omission is ungrammatical in semi-factive clauses such as those selected by (negated) "know"-type predicates:
(i) *Un so *(che/icché) gl'è capitato* (Modern Florentine)
not know.1SG what to.him is happened
'I don't know what happened to him' [Iacopo Garzonio, p.c.]

omission in subject-relative clauses is typologically restricted, thus the question is what permits C-omission in subject relative clauses and, more generally, in various types of clauses in a grammar. This issue is explored from a diachronic perspective, by analyzing various parametric changes affecting Italian grammar from its initial stage (Old Italian), into its present stages (Modern Italian and Modern Florentine). I propose that the massive C-omission attested in Renaissance Italian corpora, but not at previous or later diachronic stages, depends on the interplay of various parameters and parametric changes. Specifically, C-omission in relative clauses is possible because the loss of V-to-C combines with a still productive active/inactive structural distinction.

The paper is structured as follows: section 2 illustrates the relevant facts and changes concerning the possibility of C-omission in Old and Renaissance Italian; section 3 presents an argument for the hypothesis that massive C-omission in Renaissance Italian is due to the loss of V-to-C, and to the presence of an active/inactive structural distinction. Section 4 presents further facts from Old French and Old Occitan in support the hypothesis that the loss of V-to-C, in combination with an active/inactive alignment, permits C-omission in relative clauses. Section 5 concludes the paper.

2. Data

In this section I present the relevant data concerning the lexicalization of C in Old Italian (2.1) and Renaissance Italian (2.2). Interestingly, the two diachronic stages differ with respect to both the presence of V-to-C and the possibility of C-omission.

2.1 Old Italian

On a par with other Old Romance languages, Old Italian (around 1200-1350), from which Renaissance Italian, Modern Florentine, and Modern Italian descend, has a so-called "V2 property", whereby the inflected verb always raises to the C-domain in root clauses[3] (cf. Benincà 1984, 2006, Benincà & Poletto 2010, Poletto 2006, Poletto in press, Roberts 1993, 2007, a.o.). This is visible, for instance, in (main) clauses where adverb preposing is followed by Aux-S word order, as in (6), whereas the Modern Italian word order would be Adv-S-Aux, S-Aux-Adv or an order in which the subject follows to the right of the past participle.

(6) *Primieramente **avea** ella fatta a llui ingiuria* (Old Italian)
First had she done to him injury
'She had offended him for first' [Brunetto Latini, *Rettorica*, 116]

Benincà (1984), (2006) convincingly argues that V-to-C is limited to roots contexts, in Old Italian, whereas in subordinate clauses the inflected verb remains in the IP domain, as the frequent pronominal subject – finite V order shows.

(7) *Poniamo ch'io sapesse che **tu vuoli** rubare una buttega*
Put.1PL that I know.1SG,SBJV that you want.2SG rob a shop
'Let's assume that I know that you want to rob a shop'
[*Trattati Morali di Albertano da Brescia,* 12, 2, 1268]

C-omission is highly restricted in Old Italian. Instead, the complementizer *che* (and its variants *ch', ke*, etc.) may be doubled, as in the example below (cf. Vincent 2006).

(8) *Trovò **che**, [chi continuo mangiasse nove dì*
Found C who continuously ate.SBJV nine days
*di petronciani], **che** diverrebbe matto*

[3] Differently from Germanic V2, medieval Romance V-to-C allows for more than one constituent in pre-finite V position (see ref. above).

of eggplants C become.COND crazy
'He found out that whoever ate eggplants for nine days in a row would become crazy' [*Novellino*, 35, 208, 2]

C-doubling is a widespread phenomenon across Romance languages, and it is intrinsically diversified for grammar-specific properties. For instance, some Northern Italian Dialects allow for C-doubling only with complement clauses in subjunctive mood (Paoli 2003 for Piedmontese and Ligurian), see (9) and (10). Spanish lexicalizes the same C-form in both positions (Demonte & Fernandez-Soriano 2009), whereas various Southern Italian Dialects lexicalize different forms the two positions (Ledgeway 2003, 2005, D'Alessandro & Ledgeway 2010 a.o), the lower arguably encoding Mood features (Damonte 2011).

(9) a. *March a serca na fomna **che**, ëd coste robe,* (Turinese)
Marco SCL looks a woman C of these thing
***ch**'as n'ambrigna*
C SCL.REFL of.it not.cares.SBJV
'Marco is looking for a woman who doesn't care about these things'
b. *Majo a pensa **che** Franchin **ch**'as n'ancorza*
Mario SCL thinks C Frank C SCL.REFL of.it realizes.SBJV
'Mario thinks that Frank will realize it' [Paoli 2003, 110:5]

What the C-doubling cases attested in Romance have in common is that some lexical material generally separates the two C occurrences, i.e. these are not adjacent[4]. From a cartographic perspective (cf. Rizzi 1997, Haegeman 2006, a.o.), this fact seems to support the idea that whenever the Topic-Focus field is not activated, the (Sub/)Force-Finiteness system is collapsed into a single head, whereas activation of left-peripheral criterial positions provokes a split in the CP.[5] Rizzi (1997:312-313) argues, on the basis of English facts, that in case of split CP of a finite clause, Force must lexicalize, whereas Fin has no morphological realization. However, the facts in (8) and (9) show that this is not always the case, since the lower C-position may as well be lexicalized by a morphologically identical functional element, as is also proposed in Belletti (2009, 2012, 2013) for clefts. In other cases, only this position, between the two, is lexicalized, and the outcome is the string: $_{\text{HighC}}$ Ø – $_{\text{TopP/FocP}}$ XP - $_{\text{LowC}}$ *che* (Segre 1952, Vincent 2006, Meszler & Samu 2010).
In the Italian dialects mentioned above lexicalization of the lower C in the C-doubling cases seems to be somehow dependent on Mood marking. Franco (2009) shows that *che*-doubling is generally attested with embedded clauses that are marked with [-*realis*] Mood, i.e. if the finite verb is in the subjunctive, in the conditional or in the future indicative (with deontic or epistemic value).
A similar restriction is visible in Northwestern Italian dialects, where *che*-doubling is impossible if the embedded clause is not in the subjunctive (cf. Paoli 2003).

(10) *U Giani u disa **che** a Maria (***ch'**) a nu mangia de rainocce* (Ligurian)
The John SCL says C the Mary C SCL not eats.IND of frogs
'John says that Mary does not eat frogs' [Paoli 2003: 102-107, 1-3]

[4] Cf. Saab (2011) on anti-adjacency effects of head reduplication.
[5] This is no new idea. An analysis of C-omission in Modern Spanish along these lines is proposed in Antonelli (2013).

Another option attested in Old Italian is one in which an element dislocated to the left periphery creates a potential context for C-recursion, but the lower C-head is not lexicalized as *che*, cf. (11).

(11) *Costuma era per lo reame di Francia* ***che*** *[l'uomo ch'era degno*
Custom was through the kingdom of France C the man C was.IND worth
d'essere disonorato e giustiziato] ***sì*** *andava…*
of be.INF dishonored and executed SI went.IND
'In the kingdom of France it was customary that the man worth being dishonored and executed went…' [Old Florentine, *Novellino*, 27, 192:1]

In (11) the lower *che* is absent, and we find instead the particle *sì*, which is analyzed as a CP-expletive located in FocusP (Poletto 2005) or in the lowest CP position (Ledgeway 2008). Crucially, the embedded clause in (11) is in the indicative mood and, differently from the doubling construction in (8), there is no lower *che* introducing it, only *sì.* From a first corpus search, lower *che* and *sì* appear indeed to be in complementary distribution[6]. What is most relevant to the present discussion are the following facts regarding Old Italian: (i) C-doubling is a way to mark Mood (i.e. *irrealis che…che* vs. indicative *che… (sì)* constructions); (ii) radical C-omission is not attested. By "radical C-omission", I refer to the possibility of omitting the subordinating element in all the available positions in which it can be lexicalized. If "radical C-omission" were possible, the higher and the lower C, in C-doubling contexts, or the only C, in non-doubling contexts (i.e. when there is no dislocation) could be omitted, which is not attested in Old Italian.

To summarize, we have seen so far that Old Italian has both productive V-to-C in root clauses and requires lexicalization of C at least in one of the dedicated CP positions. I argue in section 3 that these two properties are the effect of a specific parametric setting concerning the strength of [finiteness], a feature that is encoded in the CP domain, more specifically on FinP.[7]

2.2 Renaissance Italian

In Renaissance Italian V-to-C is no longer productive: in root clauses the verb raises to the CP domain sporadically, non-systematically and only in a restricted number contexts, for instance following preposed adverbials, adverbs or adjunct phrases.[8]

(12) *[Considerate le difficultà le quali s'hanno a tenere uno stato*
Considered the difficulties the which SE have.3PL to keep.INF a state
occupato di nuovo], ***potrebbe*** *alcuno maravigliarsi…*
occupied of new could.3SG anyone be-surprised
'After considering the difficulties that there would be in occupying a state again, anyone could be surprised…' [P, IV, I]

Moreover, Renaissance Italian displays massive C-omission (Wanner 1981, Scorretti 1991, Cocchi & Poletto 2005), in contrast with both Modern Italian and Modern Florentine, on the one hand (cf. section 1), and Old Italian, on the other (cf. section 2.1). The peculiarity of this phenomenon consists in the broad variety of syntactic contexts that

[6] In absence of *sì*, the lower C position remains empty, all other conditions being equal to those that apply in (11), cf. Vincent (2006), Franco (2009:202) and Meszler & Samu (2010) for data.

[7] I have not specified what the C-positions mentioned above are. Following a cartographic perspective, I assume that *che* may lexicalize both the ForceP and FinP heads, which may be split (as in C-doubling clauses) or collapsed (in simple clauses, without dislocations). This would be compatible with the idea that Force and Fin operate in sinergy (cf. Rizzi 1997), that is to say that the features that are encoded on FinP are visible to ForceP, as these projections are both part of the CP-phase edge.

[8] A systematic study of the contexts in which residual V-to-C is attested in Renaissance Florentine has still to be done (cf. also Franco to app.).

it pervades, rather than in the frequency with which it is attested. The frequency of C-omission is potentially dependent on sociolinguistic factors, as the variation among texts belonging to different literary genres suggests. However, it is difficult to assess what ultimately determines a higher frequency of C-omission in a corpus rather than in another one, due to the limitation of available data and information.

With respect to its pervasivity, C-omission in Renaissance Italian can be easily detected in several clause-types and syntactic contexts. Already Scorretti (1991) reports, along the lines of Wanner (1981), that C-omission is attested both in finite, (14)-(16), and non-finite clauses, the latter otherwise normally introduced by the complementizer forms *di* (of), as in (13), or *per* (for), which are used in control clauses, in Modern Italian.[9]

(13) *Cercassi __ torli*
tried.1SG;SBJV take.INF.ACC;3PL
'I tried to take them' [*Mandragola*; Cocchi & Poletto 2005:25]

(14) *Mi dice __ è assa' tempo non sentì novelle di te*
DAT;1SG tells is much time not hear.3SG;PAST news of you
'He tells me it's been a long time since he got news from you' [AMS, II, 35]

(15) *...Acciò __ le tenessino per sua sicurtà e gloria*
So ACC;3PL keep.3PL;SBJV;PAST for their safety and glory
'So that they kept them for their own safety and glory' [P, VII, 39]

(16) *Era stato più tempo ___ non s'era usato*
Was been more time not SE was used
'He employed more time than it was (generally) used' [VBV, 56, I, 59]

As the examples in (13)-(16) show, C-omission is widespread in Renaissance Italian. At this stage C-omission is not restricted as it is in Old or Modern Italian, or Modern Florentine, since neither [-*realis*] marking nor the conditions given in (i)-(iii) of section 1 for Modern Florentine constrain its distribution.

A separate discussion must be reserved to C-omission in relative clauses, which is the main focus of this paper. In most modern Romance languages C-omission is usually ungrammatical in relative clauses. The ungrammaticality regards symmetrically both subject and non-subject extractions, as the French sentences in (17) show (cf. (4) in section 1 for Italian, and section 4 for a comparison with Old French; cf. Taraldsen 2001 on the *que/qui* alternation, Belletti 2009:233-236 for acquisition facts, a.o.).

(17) a. *J'ai parlé avec l'homme *(que) tu viens de rencontrer* (Modern French)
I have spoken with the man that you come of meet.INF
'I have spoken with the man that you have just met'
b. *J'ai parlé avec l'homme *(qui) à été ici*
I have spoken with the man who has been here
'I have spoken with the man who has been here'

Instead, many Romance languages, such as Old Occitan, Old French, Old Spanish and Old Portuguese, display C-omission also in relative clauses, at a previous stage of the grammar that roughly corresponds to the Italian Renaissance period (Scorretti 1991 and ref. therein).[10] Renaissance Italian equally displays C-omission both in subject (18) and non-subject extractions (19), with a significant asymmetry that limits C-omission in

[9] These complementizers allow for clitic climbing in Old Italian (Cardinaletti 2010, Franco & Migliori 2014), which suggests the possibility that they do not embed a full CP but they are rather functional heads. For a proposal concerning Old Italian clitic climbing see Kastelein (2012).

subject extractions, cf. table 1, which shows data from three texts (cf. Sources, this paper).

(18) a. *Che è faccenda ___ tocca a noi*
that is issue touch.3SG to us
'That is an issue we have to deal with'
b. *Non gli lascerò mancar nulla di quello*
not DAT;3SG let.FUT.1SG miss.INF nothing of that
___ mi fia possibile
DAT;1SG become.SUBJ possible
'I will not allow him to be deprived of any of the things I will be able to get" [AMS, Wanner 1981]
c. *Per quello ___ s'aperteneva alla dignità della Chiesa*
for that SE belonged to.the dignity of the Church
'For what belong to the dignity of the Church' [VBV, 22, (1, 24)]

(19) a. *Se la divisione ___ fece coi viniziani di Lombardia...*
If the division made.3SG with.the Venetians of Lombardy
'If the division of Lombardy he made with the Venetians...'
b. *Non si maraviglierà alcuno della facilità ___ ebbe*
Not REFL surprise.FUT.3SG anyone of.the easiness had.3SG
Alessandro a tenere lo stato di Asia
Alexander to keep.INF the state of Asia
'Nobody will be surprised of the easiness with which Alexander kept (the domain of) Asia' [P, 4, l. 26]
c. *Et prese il breviario ___ aveva in mano*
and took the book-of-hours had in hand
'And he took the book of hours that he had in his hands'
[VBV, 24, (1, 26)]

Table 1: C-omission in relative clauses in Renaissance Florentine

P corpus	**REL TOTAL**	**REL -C**	**REL +C**	**HEADLESS REL + C**
SUBJ REL	100	0	82	18
OBJ REL	48	3	43	2
Total	149	3	125	20
% C -OMISSION		**REL -C**	**REL +C**	**HEADLESS REL + C**
SUBJ REL		0%	**66%**	90%
OBJ REL		**100%**	34%	10%
% TOTAL		2%	84%	14%
AMS corpus	**REL TOTAL**	**REL -C**	**REL +C**	**HEADLESS REL + C**
SUBJ REL	71	7	59	5
OBJ REL	75	29	46	0
Total	146	36	105	5
% C -OMISSION		**REL -C**	**REL +C**	**HEADLESS REL + C**
SUBJ REL		19%	**56%**	100%

[10] There is still no systematic study comparing the period in which C-omission was productive also in relative clauses in the various Old Romance languages in which it is attested.

OBJ REL		**81%**	44%	0%
% TOTAL		25%	72%	3%
VBV corpus	**REL TOTAL**	**REL -C**	**REL +C**	**HEADLESS REL + C**
SUBJ REL	171	32	126	13
OBJ REL	106	53	53	0
Total	277	85	179	13
% C -OMISSION		**REL -C**	**REL +C**	**HEADLESS REL + C**
SUBJ REL		38%	**70%**	100%
OBJ REL		**62%**	30%	0%
% TOTAL		31%	65%	5%

Table 1 shows the number of C-omissions in subject and object[11] relative clauses in three Renaissance Italian corpora, which are ordered from the most recent to the oldest corpus (cf. Sources, this paper, for complete references). By "REL –C" I refer to headed relative clauses with C-omission; "REL +C" are headed relative clauses with a subordination marker and "HEADLESS REL +C" are headless relative clauses with a subordination marker. There are no cases of headless relative clauses with C-omission, following the expectations (see sections 3 and 5).

The table shows that attested cases of C-omission in relative clauses are at most 31% of all the relative clauses (see "% Total" row: 2% in P, 25% in AMS and 31% in VBV). This piece of data indicates that C-omission is *not* the preferred option in any of the examined corpora, despite the significant degree of variation among them. It is quite difficult to assess what is the reason for such variation, namely whether only diachronic or also diaphasic factors are at play. From a first analysis it seems that C-omission is more limited in texts belonging to a higher/more formal register (P is a political treatise) by contrast to texts of a more colloquial/informal style (AMS are letters, VBV biographies). Another factor that may potentially play a role for the frequency of C-omission is of diachronic nature: the most recent corpus among those analyzed (P) is the one with less C-omission, which might indicate that C-omission is disappearing already around 1500. Nonetheless, further data collection is needed in order to formulate an empirically grounded hypothesis.[12]

From a comparison between the numbers reported in the rows corresponding to the subject (Rel. S) and the object (Rel. O) relative clauses in each corpus, a subject/object asymmetry becomes immediately evident. C-omission is much more frequent in object relative clauses (3 cases in P, 29 in AMS and 53 in VBV) than in subject relative clauses (no cases in P, 7 in AMS and 32 in VBV). The asymmetry can be quantified if we look the percentage of C-omission in subject and object relative clauses with respect to the total of subject and object relative clauses. In P, 100% of the clauses that display C-omission are object relative clauses, whereas in the other two texts the percent of object relative clauses on the total of clauses with C-omission is a little lower: 81% in AMS and 62% in VBV (see cyphers in bold in the REL –C column). In all three texts, far more than 50% of the clauses that display C-omission are object relative clauses. If we look at subject relative clauses, we see that its percent on the total of clauses with C-omission drops proportionally: only 38% in VBV, 19% in AMS and 0% in P. Conversely, subjects represent the most frequent type of items that are relativized in clauses that are introduced by a C element (66% in P; 56% in AMS and 70% in VBV).

The results can be summarized in the following observations:

[11] With "object" I more precisely refer to non-subject relative clauses, thus also oblique and adjunct extractions.

[12] It is worth mentioning that there is no syntactically parsed corpus for either Old or Renaissance Italian, so all the texts have to be manually parsed.

(i) C-omission is possible in relative clauses, and more frequent in object relative clauses, than in subject relative clauses.
(ii) C-omission is never the preferred option: only in VBV is there an equal number of C-less and C relative clauses, in the case of object extraction (53 C-less and 53 with C, see table 1).
(iii) Subject headless relative clauses are more frequent than object ones, and there is no case of C-omission.
(iv) Although C-omission is sporadic in headed relative clauses on the subject, it is attested.

Notice that C-less subject relative clauses represent a potential processing ambiguity in a language like (Renaissance) Italian, cf. (18) above, (McKoon & Ratcliff 2003). The open issue at this point is how to explain the presence of C-omission in subject relative clause at all, in Renaissance Florence, against the typological scarcity of this type of sentences.

3. The analysis

This section offers an analysis of C-omission in relative clauses that accounts for the subject/object asymmetry as a result of a specific parametric setting according to which arguments respond to an active/inactive alignment in Old and Renaissance Italian. The proposal further accounts for the frequency, and thus for the optionality, of C-omission as a result of parametric change from a system with V-to-C to a system without V-to-C.

3.1. Parametric change and C-omission

As mentioned in section 2.2, V-to-C, which characterizes the Old Italian system, becomes residual in the Renaissance period. I take this fact to be an indication for an underlying parametric variation concerning the feature-specification of the CP domain. More specifically, I assume that V-to-C is productive in grammars where the lowest C-head, Fin^0 (Rizzi 1997), encodes a strong (*) feature, and is thus Fin*. FinP encodes [finiteness], which permits the interpretation of temporal/locative coordinates and nominal deixis (cf. Bianchi 2003, Sigurðsson 2004, 2011). This means that time and location of the event/state expressed by the verb, as well as the person features of the arguments are anchored to the discourse context, and thus, interpreted by checking [finiteness] on Fin*P. Along the lines of Chomsky (1993, 1995), Lasnik (1999), and Biberauer and Richards (2006), I assume that in systems where a functional head bears a strong feature, checking requires overt Merge on that head.[13] This explains why in Old Italian there is V-to-C and no C-omission: at this stage, the system has *Fin, which means that [finiteness] must be checked by overt Merge. This is done by V-to-C in root clauses, and by C-merger in subordinates, under the assumption that subordinating elements such as *che* in Italian may lexicalize Fin and Force (cf. Belletti 2009, 2012, 2013, for the CP of clefts, Ledgeway 2005 and Rizzi and Shlonsky 2007 for C-movement).

In Renaissance Florentine, a weakening from Fin* to Fin results in a loss of the requirement that the features encoded on Fin be checked via overt Merge. The transition from Fin* to Fin is visible in the loss of V-to-C, i.e. the loss of the trigger for feature-checking movement of finite V to the CP domain. In this sense, residual cases of V-to-C could be accounted for as cases of marked illocution, where the feature requiring checking via Merge is not encoded on FinP but on another (higher) functional head, e.g. Topic, Force, etc. (cf. Benincà & Poletto 2004, a.o.).

I also take the Fin*>Fin parametric change to be the cause of C-omission in Renaissance Italian (cf. the declaratives in (13)-(15)). At this stage, C-omission in declarative clauses is not restricted to clauses marked with [-*realis*] Mood morphology, as is the case for Old and Modern Italian.[14] Put differently, the parametric change affecting Renaissance Italian

[13] According to Lasnik (1999), strong features require overt Merge in order to avoid crash at PF.

has C-omission as a "side-effect": once the overt Merge condition on Fin falls, V-to-C is lost and C-merger is no longer required.

Notice that C-omission is just optional at this stage, not obligatory. In other words, C-Merger is no longer required, but still grammatical and, as such, possible. This optionality resembles in a sense the possibility of overt pronominal subjects in null subject languages, with the difference that, for null subject languages, the insertion of overt subject pros is pragmatically restricted, whereas the conditions for inserting an overt C in Renaissance Italian are not clear (i.e. it is not known whether C-insertion depends on sociolinguistic factors, e.g. by representing a more formal/accurate register, cf. above). Renaissance Italian can thus exploit two options: one with C-omission, which depends on the loss of the Merge requirement resulting from Fin*>Fin shift. A second option, with C-Merge, simply as a result of a previous grammaticalization imposed by a Fin* system but still possible under the new parametrization of FinP. Given that the innovative option, C-omission, never becomes more productive than C-insertion (see section 2.1 and table 2 below), C-omission does not constitute relevant input for developing C-omission in Modern Florentine and Italian (cf. section 4.2).

Table 2: C-omission in various subordinate clauses

	P corpus	**AMS corpus**
Total finite subordinate clauses	231	125
C-omission cases	4	34
Percentage C-omission	1,53%	27%

According to Cocchi & Poletto (2005), in the modern varieties C-omission is indeed limited to contexts where AC can be performed (cf. section 1). I address the issue of the diachrony of C-omission after the Renaissance period in section 4.2, whereas in the following section I offer an account for C-omission in relative clauses.

3.2 Active/inactive alignment and C-omission in relative clauses

A characteristic that remains more or less unchanged up to the whole Italian Renaissance period regards the alignment of arguments. Ledgeway (2012: 236) observes that "in the passage from classical Latin to Romance there is initially a notable decline in the nominative/accusative orientation of the nominal and verbal system, paralleled by a corresponding expansion in the range of the active/inactive alignment in the verbal and nominal domains". The consequences of such realignment are observable at verbal, nominal and clausal levels, as is visible in the cases of past participle agreement, auxiliary selection, bare plural NPs, and word order, typically pre- and postverbal subjects, depending on the thematic role they cover (see Ledgeway 2012:335-339 and ref. therein).

As is also reported in La Fauci (1988), Formentin (1996), Parry (2005), and Ledgeway (2009: 963–7), Ledgeway (2012:308) further observes that the active/inactive distinction is also marked on the nominal morphology at the level of complementation. The Latin NOM/ACC distinction that is visible in the alternation between QUI "who" vs. QUEM/QUOD "whom/which" is substituted, in early Romance, by the forms *qui/chi* vs. *que/che*, which display an active/inactive orientation. That is, these forms distinguish the agentive argument (S_A/A) from the object and the non-agentive subjects (S_O/O),

[14] Cocchi & Poletto (2005) propose, in their analysis, that AC concerns the [Force], rather than the [Fin] feature, however, there is indipendent support (cf. Belletti 2001b, Damonte 2011) for the hypothesis that [Mood] is encoded in the low (not the high) CP periphery or at least that it is local to FinP, rather than ForceP. Beside the fact that my proposal is not based on AC, I assume that Force and Fin are in fact a single head in a subordinate clause in which the left periphery is not split, so this structural issue does not even arise.

respectively. This distinction is realized in some old vernaculars of the Italian peninsula, such as old Northwestern varieties, (19a), (19b), (19c), (19e), and Old Neapolitan, (19d).

(19) a. *A quela santa inperarixe **chi** de lo mundo è guiarixe* (Old Genovese)
to that holy empress who of the world is guide
'To that holy empress who leads the world'
[*Anon. gen* 98.31–2, from Ledgeway 2012:308]

b. *A questa città **que** avea num Iherico* (Old Piedmontese)
to this city which had name Jericho
'To this city which was called Jericho'
[*Serm. sub*. 246.12–13, ibid.]

c. *Quilli **ke** sono andai* (Old Lombardian)
those who are gone
'Those who have gone' [PSPDI 28.30-31, ibid.]

d. *Chillo **che** piscia raro* (Old Neapolitan)
that.one who pisses rarely
'he who urinates rarely' [*Bagni* 382, ibid.]

e. *Som quella **che** lo portay* (Old Piedmontese)
I.am that.one who him= I.carried
'I am the one who carried him (in my womb)' [SCSG 33.18, ibid.]

Differently from Old North Western vernaculars and Old Neapolitan in which the *qui/chi* vs. *que/che* alternation is morphologically marked, Old and Renaissance Italian and other Tuscan varieties display no morphologically distinct C-form for A/S_As of headed relative clauses, which would correspond to the form *chi* of those varieties.

Benincà & Cinque (2010) distinguish the various forms that are attested in Old and Renaissance Italian on the basis of the semantic features [+/-human], [+/- animate], and observe that only the extremes are morphologically realized, namely either forms that bear [+human] or forms that bear [-animate]. The various forms that are attested in Old and Renaissance Italian are thus *chi*, *che* and *cui* similarly to other Italic vernaculars, but they have a different feature specification, as is reported in table 3 below (cf. Benincà & Cinque 2010:437, table 12.1).

Table 3: Relative subordination forms in Old and Renaissance Italian

Old/Renaissance Florentine	***Chi***	***Che***	***Cui***
Interrogative *Headless relative*	+ human **S_A/A**	- animate **S_O/O**	+ human **S_O/O**
Headed relative	-	**- animate**	+/- human/animate

As Benincà & Cinque (2010) observe, only pronouns, not complementizers, can be sensitive to the +human/-animate opposition. They accordingly identify two possible usages for *che*:
(i) As a pronoun, when following a preposition. In this case it is always referred to a [-animate] antecedent, as *bastone* (=stick) in (20).

(20) ***Uno bastone con che** s'apogiava perch'era debole*
a stick with that REFL point because was weak
'A stick with which he sustained himself because he was weak'
[*Fiori e vite de' filosafi*, 9, 4-5, in Benincà & Cinque 2010: 472, (6)]

(ii) As a complementizer, when it does not follow any preposition and it introduces a relative clause on the subject or on the object. In this case, "*che* is insensitive to the semantic +human/-animate distinction because it can also introduce a relative clause on a [+human] antecedent" (Benincà & Cinque 2010:473, my translation).

(21) *Andò alli* ***altri giovani che*** *stavano a ricevere l'acqua piovana…*
Went to.the other youngsters that stayed to receive the water rainy
'He went up to the other youngsters that were staying under the rain'
[*Novellino*, 4, 16-17, in Benincà & Cinque 2010: 473]

For this reason, Benincà & Cinque conclude that *che,* in a sentence like (21) where it introduces a relative clause on an animate subject (*altri giovani*), is to be analyzed as a complementizer following an abstract pronoun (2010:473).
The existence of *che* as a complementizer (cf. (ii) above) means that the *che* that is employed in relative clauses is in fact syncretic with the complementizer *che* that introduces declarative complement clauses. We have already seen in section 2.2 that declarative complementizers can be omitted in Renaissance Italian, and in section 3.1 I have argued that this is the by-product of a parametric change from *Fin to Fin. C-omission in relative clauses in Renaissance Italian can thus be explained as a consequence of the syncretism between the declarative *che* and the relative *che*, which are basically the same complementizer form with two different usages (cf. Hendery 2012 for a typological overview of the complementation strategies in relative clauses). Put differently, because declarative *che* can be omitted, relative *che* can also be omitted.
This is expected to hold only for those cases in which *che* is a complementizer, not a pronoun. That is to say, prepositional relative clauses such as (20) should not allow for C-omission at any diachronic stage (i.e. "*uno bastone (con)__ s'apogiava*" = not attested). Moreover, C-omission should not affect the subordinating form of headless relative clauses, because in these clauses the C-form is in fact pronominal (e.g. *chi*, cf. table 3), not a complementizer. This expectation is also borne out by facts, as is mentioned in section 2.2 (headless relative clauses with C-omission is unattested).

However, an explanation purely based on such syncretism cannot be the full story. According to what has been just proposed, *che*+abstract pro can introduce both subject and object relative clauses, thus *che* omission should be equally possible for both types of extraction, in this perspective. Instead, Renaissance Florentine C-omission in relative clauses displays a subject/object asymmetry (cf. table 2), which is so far left unexplained. In order to account for this asymmetry, I have looked more attentively at the theta role of the antecedent: the asymmetry apparently concerns subjects vs. objects, but as is discussed at the beginning of this section, Old and Renaissance Italian distinguish their arguments on the basis of an active/inactive opposition. Since this distinction is clearly visible in the morphosyntax of relative pronouns in some varieties (cf. Old North Western dialects and Old Neapolitan), we can expect that a similar distinction be somehow marked also in coeval Tuscan varieties. We have seen above that this marking does not concern the morphology of the subordinating element, as this is an invariable complementizer. I will argue below that the active/inactive distinction is visible on the possibility of C-omission itself.
If we take a look back at table 1, we can see that the cases of C-omission in subject relative clauses are 7 in AMS and 32 in VBV (no cases in the P corpus). Interestingly, the extracted subject in these clauses has the following properties:

(i) it is either [neuter] or [feminine] (e.g. an abstract/inanimate entity, as in (18) and (22a) or a feminine argument, as in (22b));
(ii) it is non-agentive (e.g. the subject of a inactive predicate), as in (23).

(22) a. *…Come si vede ancora in* Grecia *nel luogo ___ si chiama i campi Filippi*
How IMP sees still in Greece in.the place REFL call.3SG the field Filippi

'How one may still see in Greece, in the place that is called the Filippi fields' [VBV, 17, (1,19)]

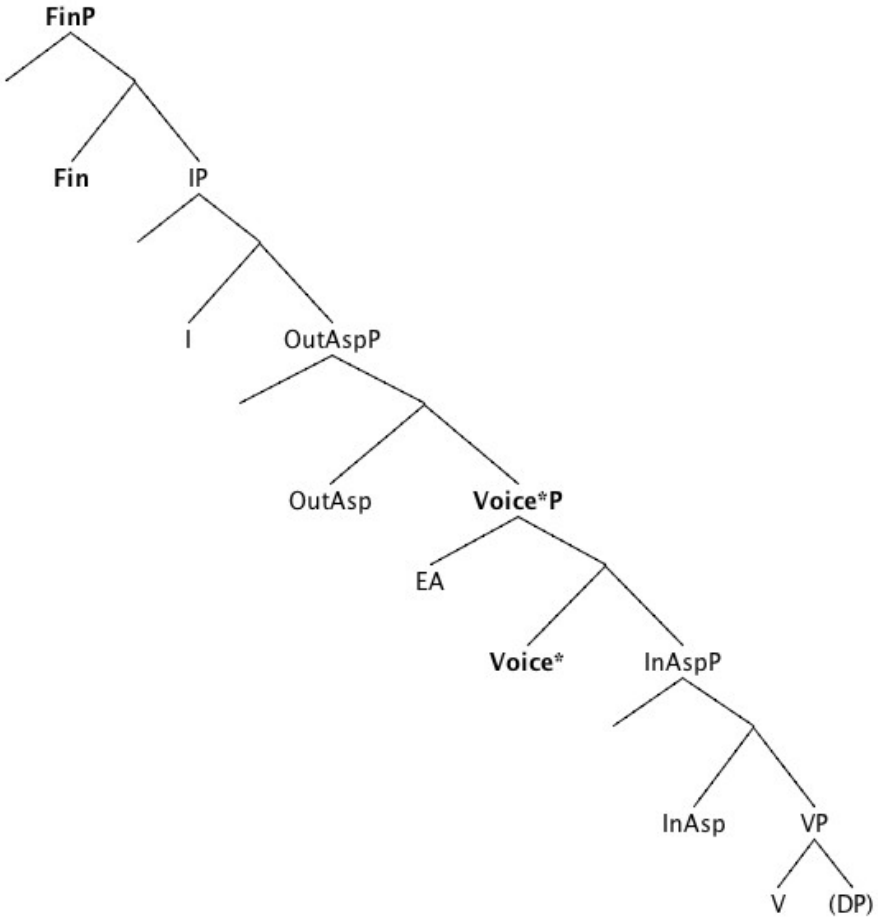
b. *Poi ci venne quella ischiavetta di Barzalona ___ è migliorata*
Then to.us came that.FSG slave.FSG of Barcelona is improved
'Then there came to us that little slave from Barcelona who has improved'
[AMS, X, 118]

(23) *Fece venire Papa Eugenio tutti e' dotti uomini ___ erano in Italia*
Made.3SG come.INF Pope E. all the educated men were in Italy
'Pope Eugene gathered all the educated men who were in Italy'
[VBV, 15, (1,17)]

The formulation of conditions i) and ii) above is intended to capture the distribution of C-omission in relative clauses (and more, generally, in extraction contexts).[15] Following a recent proposal by Franco & Migliori (2014), I argue that the active/inactive distinction is given by a parametrization of VoiceP. If the predicate takes an external argument (EA) that is marked as [+agent], Voice is projected, and the EA is merged in its specifier (Kratzer 1996 et seq., Alexiadou & Anagnostopoulou 1999, 2003, 2004 et seq. Alexiadou, Anagnostopoulou & Schäfer 2006). Franco & Migliori (2014) provide empirical support to the claim that Voice, when projected, is always * in Old Italian. This is visible in various syntactic phenomena that involve movement of some lexical elements to the low-phase edge (widespread clitic climbing, VP-ellipsis and object or XP-low scrambling result from the presence of Voice*, cf. Franco & Migliori 2014, Poletto in press). The presence of Voice* marks the low phase-edge and the material that is structurally lower than the phase-head (Voice*) becomes invisible to probing operations from higher structural positions (cf. split-intransitivity agreement, Franco & Migliori 2014, cf. Belletti 2001a, 2006, Bentley 2006), unless it reaches the low-phase edge, which may host several projections (Poletto in press, cf. Belletti 2004, 2005 *et seq*. for Italian). This * property of Voice is maintained also in Renaissance Italian, which still distinguishes active and inactive structures. Active structures are thus biphasic (figure 1): they project both a low phase (vP) boundary, Voice*P, where the agentive EA is merged, and a high phase (CP) boundary, where nominal deixis identifies the person features of the (agentive) subject, which are thus interpreted in relation to the discourse context, (cf. section 3.1, first paragraph).

[15] At this point it is still not possible to establish whether both i) *and* ii) or whether i) *or* ii) must hold. For a discussion over the possibility that i) and ii) are hierarchically ranked see the end of this section and section 3.3.

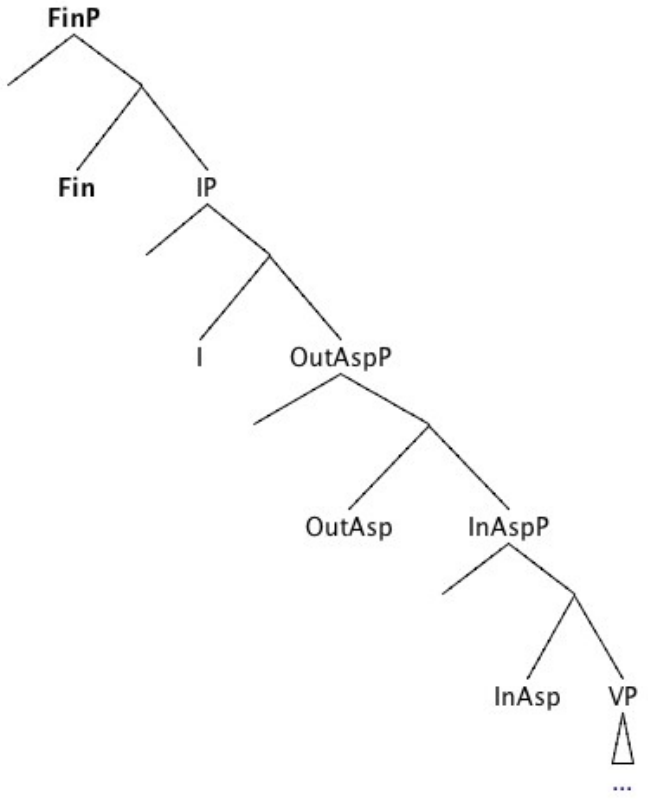
Figure 1: Active structure[16]



Merger of an agentive EA thus imposes that the EA be identified by the end of the following phase (CP), by recovering its (phi-)features. In the case of subject extractions, these features are directly interpreted on the higher phase head, Fin (cf. Rizzi & Shlonsky 2007). Recall that in Renaissance Italian, Fin is no longer *. However, visibility on Fin is induced from its probing operation onto Voice*P (cf. below), given that the low-phase edge is visible to the higher phase edge. This results in a sort of CP/vP-phase parallelism, similarly to what happens in Old Italian, cf. Poletto (2005).
By contrast, inactive predicates do not project any Voice*P, and do not take any agentive EA. As a consequence, inactive structures lack the low-(vP)-phase boundary (figure 2), which results in a transparency of the event structure to probing operations from the higher phase-edge.

Figure 2: Inactive structure

[16] The structure given in figure 1 is reduced to the most relevant projections for convenience. Notice that Voice*P creates opacity between Inner and Outer Aspect (cf. Franco & Migliori 2014).



Put differently, morphologic visibility conditions that are imposed on a lower phase (Voice*P, recall that * requires overt Merge) cannot be ignored at the next phase level (FinP, in Renaissance Italian). Let us assume that Voice*P is projected and lexically realized in virtue of its * property. When the higher phase head, Fin, probes down, it will be sensitive to the visibility condition on Voice* as to a requirement of overt morphological realization that is necessary for recoverability. This means that the lexical material that is merged in Voice*P must receive a morphological realization by the end of the higher phase, otherwise e.g. the reference of the extracted argument cannot be recovered, cf. the discussion in section 3.3.
For this reason, extraction of agentive EAs, but not of unmarked ([-masculine; -human] structurally lower) arguments, requires a lexicalization of FinP. In Renaissance Italian relative clauses, this asymmetry is visible in C-omission: the morphological visibility requirement that is imposed on FinP for the extraction of agentive EAs is formally satisfied by merging an overt C-head (*che*), whereas this requirement does not hold for inactive subjects, as is illustrated in (i), (ii), (22) and (23) above. Inactive arguments, i.e. structurally lower arguments, can be extracted without incurring in visibility requirements on Voice*P, thus C-omission (at the FinP level) is possible.[17]

[17] There are basically two syntactic contexts for the extraction inactive arguments: either the structure is inactive and lacks Voice*P (fig. 2), in which case no visibility condition is imposed, or the structure is active and a non-subject is extracted. In this case, the phase-edge is expected to create an opaque domain for probing operations, however objects can still move to the lower phase-edge in virtue of its * property. From there the object is visible to the higher phase and can be extracted. In this case the object would bear the visibility requirement that is imposed on Voice*P. The prediction is thus that C-omission is not licensed for object extractions in active-transitive structures, unless the visibility condition is satisfied otherwise. This alternative is represented by morphological object agreeement on the past participle (given that merger on Fin is not obligatory in absence of *), which is obligatorily triggered in OV orders in Old Italian (cf.

Before moving to the next section, let me briefly outline an issue that concerns the conditions i) and ii) for C-omission, which I have given above. With respect to the relation between condition i) and ii), a first hypothesis is that an argument is interpreted as [+agentive] if it is (lexically or morphologically) [+masculine; +human], *and* it is merged in SpecVoice*P, where it arguably values and check a [uAgent] feature.[18] All other cases are interpreted as "unmarked". These should be cases in which the argument is [-masculine; -human], because it is either feminine or neuter, and/or inanimate, AND it cannot be merged in SpecVoice*P, because of the predicate structure. However, this restriction seems to be too strong.
A second hypothesis is that either condition i) or condition ii) must hold, however this automatically excludes the possibility that [+feminine; +human] arguments are agentive, and, as such, impose C-realization. Both these hypotheses are discussed in greater detail in the next subsection.

3.3. A note on the recoverability of extracted arguments

In Renaissance Italian, the shift from Fin* to Fin brings along a number of syntactic consequences, among which the fact that null subjects are no longer licensed as either null topics or by morphological spell-out of the respective inflectional phi-features on the verb, under V-to-Fin* (i.e. morphological merger on Fin*P), as happens in Old Italian. In Renaissance Italian, the loss of a morphological realization requirement on FinP coincides with the possibility for the subject phi-features to be recovered via the inflection morphology on the verb in IP. Recall that nominal *deixis*, which formalizes the recoverability requirement at the phase-edge, is encoded in FinP (cf. section 3.1), which is the structural position onto which person features are interpreted.
Following Camacho (2013:96ff.), who, in turn, capitalizes on Cole (2009), I assume that the recoverability of subjects resorts to different mechanisms depending on the language. Specifically, Cole (2009) and Camacho (2013) propose a recoverability scale according to which "recoverability first resorts to morphological identification, then to identification by antecedent and finally by inserting an overt pronoun" (Camacho 2013:96). This means that some languages that do not resort to morphological identification may allow null subjects via contextual recovery, i.e. when an antecedent is given in the context or the subject is the topic, in which case a null subject is an instance of topic-drop. This seems to be what happens in certain root clauses in Germanic (V2) languages and, arguably, in Old Italian. In fact, null subjects are not only attested in Old Italian root clauses, but also in subordinate clauses, i.e. in absence of V-to-Fin*. Specifically, Old Italian permits subject pro-drop with [3Pn] subjects in embedded clauses (Benincà 1994), which can be attributed to the fact that [3Pn] is actually non-person and, as such, it does not require morphological visibility for interpretation on

Egerland 1996, Poletto in press), i.e. when objects are fronted to a vP-peripheral position (cf. Belletti 2004 *et seq*.). I have checked whether there is agreement marking in object relative clauses with C-omission in the data I have collected. In order to see whether agreement takes place I have considered only feminine or plural object extractions, since M.SG. agreement is morphologically default. While object agreement is usually optional in VO orders as well as with object extractions with C, object relative clauses with C-omission with a non-finite past participle verb *all* show object agreement. I take this to mean that the morphological visibility condition for recoverability does hold but instead of being satisfied in Fin, it is satisfied with verbal agreement. This possibility is compatible with the proposal of a parametric change from Fin* to Fin. The attested cases are not very many so it is not possible to determine whether this finding is just a coincidence. In absence of a quantitatively more consistent support I refrain from drawing any conclusion at this point.

[18] The exact feature-checking mechanism on the low phase edge projection is not crucial to the present analysis thus I do not go into further details nor do I take a specific stand in this respect. A still open issue is whether only [+masculine] among the gender features may qualify as potential Agent, and, if so, why. A possible answer might be related to the frequency of male, rather than female actors in old texts (see end of section 3.3).

Fin*P.[19] Once the Italian system loses the morphological visibility requirement associated with * on Fin, which is satisfied by V in Fin*, recoverability of phi-features becomes possible via morphological visibility of verbal inflectional features, which are no longer required to be spelled-out in FinP. This is what happens in Renaissance Italian[20]. Camacho (2013:97) observes that languages differ with respect to the type of morphological information that they require to identify a null subject. He specifically refers to a Minimal Morphological Threshold (MMT) as to "the minimal set of values overtly encoded in the morphology that a language requires to identify a null subject". Accordingly, he shows that some languages require only [Pn], among the phi-features, whereas other languages also require [Number] and [Gender].
In line with Harley and Ritter (2002) and Béjar (2003), Camacho (2013) further assumes that nominal features are hierarchically ranked, as is illustrated in figure 3 below. For the present purposes I will just concentrate on the distinction that concerns [3Pn] referents, which are the arguments that are most typically extracted in relative clauses.

Figure 3: Hierarchical ranking of nominal features, from Harley & Ritter (2002:8).

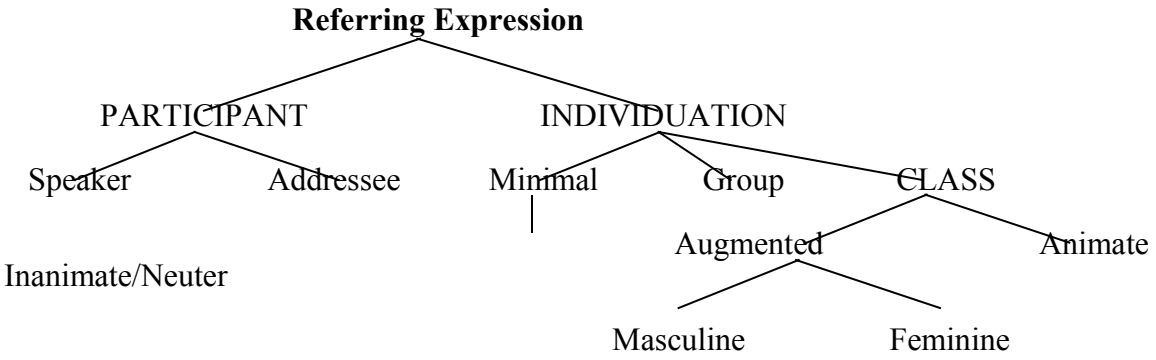


Figure 3 above gives a representation of the hierarchy of the features of referential expressions. Crucially, [3Pn] is "non-person", which corresponds to the fact that [3Pn] referents are not participants in the discourse. Béjar (2009:49) remarks that "3rd persons subcategorize in more ways than can be represented by the binary contrast between participants and nonparticipants". Specifically, a first opposition within a class is given by the marking of animacy, which has been argued to play a role in the morphosyntax of C-forms in Old Italic (cf. Parry 2005, Benincà & Cinque 2010, above). In line with Benincà & Cinque (2010), one may thus postulate that, for C-forms, [animate] in figure 3 also implies [+human].[21] Following Harley & Ritter's hierarchy, referents that are [+animate] further divide into [feminine] and [masculine].

As was sketched at the end of section 3.2, one first hypothesis it to assume that

[19] Some instances of null [1/2Pn] are equally attested, and these are all cases in which recoverability is guaranteed by the presence of an antecedent in the discourse, i.e. they are cases of topic-drop. This is just the result of a first analysis but a more systematic study of the recoverability conditions for Old Italian null subjects is needed. I refrain from discussing the issue further at this point, since it is not directly pertinent to the analysis of C-omission in Renaissance Italian.

[20] Renaissance Italian presents a higher rate of overt pronominal subjects than Modern Italian (cf. Franco, to app.). It seems, in this respect, that before morphological identification becomes the standard strategy of recoverability, Renaissance Italian still makes use of overt pronoun insertion. Again, a systematic study of the conditions of recoverability for null subjects in Renaissance Italian is needed.

[21] Recall that Benincà & Cinque (2010) talk about a [+human]/[-animate] opposition for the lexicalization of C-forms, but such opposition is not specified in Harley & Ritter's hierarchy. This is not a big issue, since the only pronominal C-forms that lexicalize exclusively [+human] referents (and not [-animate] ones) are *chi* and *cui* in headless relatives and interrogatives. Clearly these are not syntactic contexts where a [-human; +animate] referent, such as an animal, could be felicitous.

[masculine] is the semantically marked form for class, according to which we can derive the [masculine] vs. [feminine]/[neuter/inanimate] opposition that Parry (2005) identifies in Old Italo-Romance varieties. This would in turn mean that the MMT for the identification of a [3Pn] referent in these varieties includes gender features, as seems to be confirmed by split-intransitivity agreement patterns, which are still visible in Modern Italian and several dialects of the Italian peninsula (cf. Bentley 2006 and ref. therein, a.o.). If [masculine] is indeed the marked form, the recoverability of a [masculine] S_A/A will require morphological spell-out at the higher phase (cf. section 3.2). This means that, in case of active EA extraction, FinP must receive morphological realization, which is realized as spell-out of the Fin head with a C-form. Notice that this morphological realization of Fin is thus not imposed by the featural make-up of Fin (no * imposes lexical Merge after the shift Fin*>Fin), but by a recoverability requirement on marked arguments.

At this point a legitimate question is: why is verbal inflection not enough for recoverability, if null subjects are already licensed in *absence* of V-to-Fin in Renaissance Italian? A relevant observation in this respect is that C-omission and null-subject licensing via inflectional morphology coexist in the Italian system only for a relatively limited period of time. It is possible that at the time in which C-omission in relative clauses is productive, null subjects are not yet fully recoverable by means of the information on the verbal inflectional morphology, as is visible in the still high frequency of overt subjects pronouns in Renaissance Italian texts (cf. fn. 18 above). This would in turn mean that verbal inflectional morphology is not yet sufficient to guarantee the recoverability of extracted arguments, more specifically of extracted (marked) subjects.

Notice that the morphological visibility requirement imposing the spell-out of Fin does not apply if the extracted argument enters a lower position in the thematic structure, i.e. it does not happen with S_O/Os (cf. also 23 above). In (24) the subject is not agentive.

(24) *Uno giovane ___ istava con meser Gianozzo Maneti*
A boy stayed with mister G.M.
"A boy who was with mr. Gianozzo Maneti" [VBV, 88, 1, 92]

Another important point is that verbal morphology, while expressing phi- and TMA features, does not directly lexicalize inner aspect features. This means that agentivity is not visible on verbal inflectional morphology, but only deducible from the verb semantics, with the sole exception of past participle agreement, which is triggered with raised Os or S_O subjects. Agentivity is thus inferred from the lack of agreement on the past participle, but since no morphological marking permits an active/inactive distinction in non-perfective contexts, the visibility requirement on Fin in active contexts cannot be guaranteed solely by verb inflection.

Under this first hypothesis, referents bearing unmarked features, such as [feminine] or [neuter/inanimate], should not in general require morphological realization, by contrast to [masculine] S_A/As. This possibility is based on the fact that a) [neuter/inanimate] arguments are not agentive, since they cannot perform any intentional action; b) [feminine] arguments are frequently inactive (e.g. abstract nouns, cf. *faccenda*, in (18a) above).

Albeit female protagonists are generally few (cf. Parry 2005:217), it is nonetheless plausible that [feminine] agentive arguments exist. In the analyzed Renaissance corpora, I could not find any instance of [feminine] S_A/A for subject relative clauses. For this reason it is not possible to determine whether structural-semantic conditions, i.e. merger of the agentive argument in Voice*P, override morpho-semantic information, namely the different marking for [masculine] and [feminine]/[inanimate/neuter], in imposing a spell-out requirement on FinP. Put differently, due to the lack of relevant data (i.e. behavior of [feminine] S_A/As), a potential ranking of the conditions i) and ii) for C-omission (cf. section 3.2) seems doomed to remain undetermined for now.

A second hypothesis is that [feminine] S_A/As indeed pattern with [masculine] ones and thus require spell-out of the C-form in Fin. This would mean that what ultimately matters for C-omission is the active/inactive distinction, which is primarily marked on Voice*P. By contrast, if [feminine] S_A/As patterned with [feminine]/ [neuter/inanimate] S_O/Os, this would mean that gender marking also plays a role, and conditions i) and ii) above would stand in an "either/or" relation.

A third hypothesis is that [feminine] S_A/As are completely unattested, i.e. [feminine] is never agentive. This third possibility is immediately disconfirmed by facts. Despite not being able to find relevant cases of [feminine] S_A/As in subject extractions, I could find (not frequent[22], but indeed existent) cases of [feminine] S_A/A in simple clauses.[23] The examples (25)-(29) show cases in which a female subject is agentive. Interestingly, this applies also to non-human subjects as in (29).

(25) *Vero è che la madre d'Orestes* ***uccise*** *Agamennon*
True is that the mother of O. killed A.
'It is true that the mother of Orestes killed Agamennon'
[Brunetto Latini, *Rettorica*, 133.12]

(26) *Vedi come cotale donna* ***distrugge*** *la persona di colui*
See how such woman destroys the person of this.one
'See how such woman destroys his person' [*Vita Nuova*, ch. 5, par. 1-4]

(27) *Ma la corotta fanciulla […] ivi a pochi dì* ***avelenò*** *il padre*
But the corrupt girl there to few days poisoned the father
'But some days later the corrupt girl poisoned the father'
[Matteo Villani, *Cronica*, 54,1]

(28) *E quando Moises fu nato, la madre il* ***rinchiuse*** *gentilmente*
And when M. was born, the mother him closed.in gently
in uno vassello, et ***gittollo*** *in un fiume corrente*
in a basket and threw.him in a river flowing
'And when Moses was born, the mother gently closed him into a basket and threw him in a flowing river.' [*Tesoro volg.,* ed. Gaiter, 40,1]

(29) *E sappiate che la pernice* ***fa*** *suo nido di spine e di piccoli stecchi […]*
And know.2PL that the partridge makes her nest of thorns and small sticks
E spesse volte la madre ***tramuta*** *i suoi figliuoli d'un luogo*
And several times the mother moves the her children of a place
in un altro per paura del suo maschio.
in a other for fear of.the her male
'And you should know that the partridge makes her nest with thorns and small sticks, and moves often her baby birds to another place for fear of her male'
[*Tesoro volg.* 5, 31]

These facts confirm the hypothesis that female agentive subjects exist, which means that SpecVoice*P may select [feminine] (and even [-human], cf. (29)) S_A/As. These facts are however not sufficient to understand whether [feminine] and [masculine] S_A/As pattern alike in extraction contexts, i.e. whether they are indeed subject to the same recoverability conditions. The possibility that [feminine] S_A/As patterned with

[22] On a corpus search for *donzella* (maiden) and *fanciulla* (girl) I obtained 696 occurrences but only one S_A/A. Of course, this must be related to the fact that the occurrences represents any type of arguments (even non-arguments), not only subjects.
[23] Source: OVI online corpus, for Old and (early) Renaissance Italian. Cf. Sources, this paper.

[feminine]/[neuter/inanimate] S_O/Os for recoverability in extraction contexts is still open, which would entail that the condition on gender marking (cf. i) in section 3.2) is not subordinate to the condition on agentivity. Nonetheless, an asymmetry between [masculine] S_A/As - S_O/Os and [feminine] S_A/As - S_O/Os with respect to extractions is unexpected, given that [feminine] S_A/As should be merged in SpecVoice*P, according to their theta role.

Moreover, C-omission in examples like (23) and (24) shows that [masculine] marking alone is clearly not sufficient for imposing a morphologic visibility condition on Fin, because the extracted subjects in these examples are non-marked (S_Os) and, as such, the S_O antecedents are recoverable without morphological spell-out of FinP. This amounts to say that, if gender marking does play a role, it is anyway subordinate to the active/inactive distinction. The same S_A/A - S_O/O asymmetry can be reasonably expected from [feminine] arguments.

A tentative conclusion, given the present state of knowledge, is thus that condition ii) overrides condition i), and the extent to which condition i) is relevant requires further empirical investigation. This is summarized in (30) below.

(30) Marking of [3Pn] extracted argument for recoverability
- a. [S_A/A]-[masculine] = marked → *(C)
- b. [S_A/A]-[feminine] = ?
- c. [S_O/O]-[masculine]/[feminine]/[neuter] = non-marked → (C)

From a broader perspective, I will just limit my observation to a well-documented fact, which is however not yet entirely clear from an explanatory viewpoint, namely to the fact that [+agentive] is commonly associated with [+masculine] in many Old Italo-Romance varieties (Parry 2005). This correlation finds empirical support in the morphology of the C-forms that is attested in texts across the Italian Peninsula. In various Old Italo-Romance varieties, *che* lexicalizes feminine (plural) antecedents, in contrast to *chi* (and analogous forms), which is used for masculine referents (Parry 2005:209). Notice that such a gender distinction seems to be absent in Old French, according to the descriptive literature. This remains an unexplored field, for the moment.

4. Comparative facts and diachronic change

In this section I offer a comparative discussion of C-omission in Old French and Old Occitan relative clauses (section 4.1), showing that these languages share the same properties of Renaissance Italian, with respect to C-omission. In section 4.2 I discuss the diachronic change affecting C-omission in Italian/Florentine, in light of the proposed analysis.

4.1. C-omission in Old French and Old Occitan relative clauses

Next to the characteristic features of active/inactive alignment, which pervades both the nominal, the verbal and the sentence domain (cf. Ledgeway 2012:305-307, 318, and ref. therein), the old dialects of Northern Romània ("coinciding with the historical areas of *Gallia transalpina* (northern Gaul: *langue d'oïl*, southern Gaul: *langue d'oc*), *Gallia cisalpina* (northern Italian dialects), and *Rætia* (Ræto-Romance varieties)", Ledgeway (2012:289)) display a morphosyntax that reflects a bipartite case marking (Nom vs. Acc/Oblique). On a par with Old North Western Italian varieties (cf. section 3.2), Old Occitan and Old French present different forms to introduce relative clauses: *que*, *qui* and *cui* (for obliques). Ledgeway (2012:306) argues that the *qui/que* distinction of Old Romance originated from the Latin nominative/accusative marking (cf. section 3.2), but began to be associated to an active/inactive opposition. Subject relative clauses are marked by *qui* when the subject is high in the animacy hierarchy, and typically displays agentivity features (it is human, dynamic, etc.). By contrast, *que*, even if it is used for human antecedents, generally denotes a non-controlled event or a state with a non-

agentive subject.

These general observations seem to partially contrast with the traditional descriptions of Medieval Occitan and Old French (Jensen 1986:139ff, 1990), according to which "both *qui* and *que* are used indifferently about persons or things" (Jensen 1986:141, cf. Jensen 1990:203). This is apparently not expected if the distribution of *qui* depended on the animacy of the extracted argument. Jensen (1986) bases his observation on the attested usage of *qui* for inanimate antecedents, (31), already in old texts (*pace* Grafström 1968).

(31) a. *Le mas **qui** fo Ponzon Durant* (Medieval Occitan)
The farm QUI was P.D.
'The farmhouse that belonged to Ponzon Durant'
[Jensen 1986:140, 1990:203 *Chartes*, 98,30]

b. *Une parole **qui** avant hier me fut dite*
A word QUI before yesterday to.me was said
'A word that was related to me the day before yesterday'
[Jensen 1990:203, *Queste* 53.33]

Moreover, Jensen (1986, 1990) observes some differences between Old French and Medieval Occitan. There is a tendency, in Occitan, to use *que* regardless of the syntactic function, thus also in subject extractions.

(32) *Chascus hom **que** son gen cors ve*
Every man QUE her beautiful body sees
'Every man who sees her beautiful body'
[Jensen 1986:140, *Uc de Saint Circ* III 19]

However, of all the examples that Jensen provides, I could not find any case in which *que* is used for an S_A/A antecedent, whereas *qui* is adopted both for agentive as well as non-agentive subjects (cf. (31) above). This intricate morphosyntactic situation seems to result from the partial overlap between an active/inactive opposition and a nominative/accusative marking, as Ledgeway (2012) also suggests for other Northern Romance languages (cf. above). I tentatively analyze these facts by assuming that Old French and Medieval Occitan present a (microparametrically different) mixed system. While *qui* preserves morphologically nominative case, *que* is unmarked for case and, as such, it is typically adopted for S_O/O antecedents. This may account for the usage of *qui* also with inactive/non-human antecedents inasmuch as they are subjects, hence nominative, which gives rise to a mixed system. Notice moreover that relative *que* is syncretic with the generic subordinator *que* of declarative and several adverbial clauses (Jensen 1990:477), on a par with (Old) Italian *che*.

Jensen (1986:362; 1990:497) analyzes C-omission in relative clauses of Old French and Old Occitan as parataxis. For both French and Occitan, Jensen (1986, 1990) observes that C-omission is most frequent in noun clauses, "which means that the conjunction most often omitted is the semantically insignificant *que*" (Jensen 1990:497). In Old Occitan, C-omission usually affects subject relative clauses, (33a), but is also attested in object relative clauses (33b). Similarly, Old French displays a subject-object asymmetry for C-omission that is apparently the reverse of what is attested in Renaissance Florentine. That is, "it is mostly the pronoun serving in subject function that may be omitted […, cf. (34a)]. It is less common for the dative *cui* or the accusative *que* to be left unexpressed, [cf. (34b)]" (ibid.). A more attentive observation of the following examples reveals that this is not quite an appropriate picture.

(33) a. *No i aura un ___ no veia son arnes* (Old Occitan)

Not there will.be one not see.SBJV his equipment
'There will not be one who does not examine his equipment'
[*B. de Born* 14, 45, in Jensen 1986:364]

b. *Res non es ___ Amor non ensein*
thing not is love not teach
'There is nothing love does not teach'
[*Flamenca* v. 4335, in Jensen 1986:364]

(34) a. *Mais il n'a menbre ___ ne li dueille* (Old French)
But it not has limb not to.him hurt.SBJV
'But he does not have a limb that does not hurt'
[*Fabliaux* 10.246, in Jensen 1990:498]

b. *N'i a celui ___ n'aie fait honte*
Not there has that not has.SBJV done insult
'There is not a person whom I have not insulted'
[*Renart* 1764, in Jensen 1990:498]

As examples (33)-(34) show, C-omission is "the norm" (Jensen 1990:498) when both the matrix and the relative clause are negated, which in fact results in an affirmative interpretation (e.g. (33b) = "Love teaches everything"; (34a) = "All his limbs hurt"). Moreover, a closer look at the predicates of the relative clauses in these examples reveals that C-omission always follows an inactive antecedent, which is confirmed by further data reported in Jensen (1986), (1990), here omitted for space reasons. I can thus conclude that the active/inactive distinction also plays a role in C-omission in relative clauses of Old French and Old Occitan, being it attested with inactive antecedents, on a par with C-omission in Renaissance Florentine.

As for the presence of expletive negation in clauses with C-omission, notice that these clauses receive a modal interpretation as typical instances of a [-*realis*] situation or event, interpretation that results from anchoring the state/event to the discourse context (cf. section 3.1). The analysis of Belletti (2001b) for the presence of expletive negation in Italian (and Old French) comparative clauses is directly applicable to the relative clauses in (33), (34) (it is worth pointing out that also Old and Renainssance Italian display expletive negation in the same contexts). Belletti proposes that the presence of an expletive negative head (e.g. *no*, *non*, in Old Occitan, *ne*, in Old French) is licensed by a modal [-*realis*] OP, such as the one encoding subjunctive mood, which moves in the Spec of the NegP projection. The Spec-Head agreement with a [-*realis*] OP (rather than with a true Neg OP) yields the expletive [-*realis*] interpretation on the negation. It is also worth mentioning that C-omission in Old French and Old Occitan, let aside relative clauses, is most frequently attested with embedded subjunctive predicates or, regardless of mood, in complements of semifactives and propositional attitude verbs (Jensen 1990, Scorretti 1991). What all these syntactic contexts seem to share is absence of embedded independent illocution. This explains why C-omission is possible: on the one hand, illocution on ForceP is unmarked, so it does not require overt spell-out of illocution features. On the other hand, nominal and spatio-temporal deixis, which are encoded on FinP, can be recovered morphologically by means of functional elements (e.g. verbal morphology). Lack of illocution also characterizes relative clauses, in which C-omission is further subject to the condition that the antecedent be inactive, thus unmarked, for recoverability purposes, on a par with Renaissance Florentine (cf. discussion in section 3.3).

In conclusion of this section I make a few remarks on the setting of the V2 parameter in Old French and Old Occitan. Old French has also a Romance-type V2 (Vanelli, Renzi, Benincà 1985, Adams 1987, Roberts 1993, 2005 and ref. therein, a.o., cf. section 2.1 above for Old Italian), and null subjects are only possible in Old French if the subject would be postverbal (Foulet 1928), namely if V-to-C occurs.

Vance et al. (2010) attribute the loss of V2 in Old French to the progressive increase of SV orders in main clauses preceded by a fronted adverbial clause already in the course of the 13th century, which seems to support the hypothesis that V-to-C and C-omission are in complementary distribution. By contrast, the evolution of V2 in Old Occitan cannot be detected in the same way, given the higher frequency of null subjects in this language (Lafont 1967, Vanelli, Renzi, Benincà 1985, Sitaridou 2005, Vance 1997, Vance et al. 2010). At this point the possible correlation between a V2 parameter (determined by Fin*, in the present analysis) and the productivity of C-omission in Old French and Old Occitan requires further investigations. More specifically, the micro-parametric differences with respect to Old Italian V2 have to be identified in order to understand what the possible correlation between absence/presence of V2 and C-omission can be, in Old French and Old Occitan.[24] I leave this issue open for future research.

4.2. Loss of C-omission

After the Renaissance period, Italian C-omission decreases drastically and eventually disappears, with the exception of few syntactic contexts (cf. section 1). I have argued that the reason why C-omission becomes productive in Renaissance Florentine is the parametric change from Fin*, which requires overt spell-out, to Fin, which permits a absence of an overt C-head. The problem is that this possibility is not an option at later stages, which equally miss an overt spell-out requirement on Fin. Similarly, C-omission in (subject) relative clauses is ungrammatical in the modern counterparts.

From a diachronic perspective, there are two issues to be addressed:

a) Why is C-omission possible in Renaissance Italian, whereas it is restricted to specific (modal) contexts in Modern Italian and Modern Florentine, given that these languages all have weak Fin?

b) Why is C-omission possible in relative clauses in Renaissance Florentine but it is no longer so in Modern Italian and Modern Florentine?

As an answer to a) I suggest that while Fin* requires a morphological realization (as in Old Italian), Fin does not, but of course nothing rules out a morphological spell-out, as for the overt C cases in Renaissance Italian. My intuition in this respect is that C-omission in Renaissance Italian is symptomatic of the ongoing *Fin>Fin parametric change. C-insertion becomes grammaticalized as the default choice, on the basis of a higher input frequency of overt C contexts, in comparison to C-omission contexts. It is not clear whether other sociolinguistic factors also play a relevant role for the type of input generating diachronic change, but this is plausible, given that C-omission is permitted in a greater number of syntactic contexts in Modern Florentine (a dialect), with respect to Modern Italian.

Complementizers are thus merged only for subordinating purposes in Modern Italian and Modern Florentine (cf. Rizzi & Shlonsky 2005). Broadly speaking, complementizers can only be omitted if the interpretation of the clause as a subordinate is guaranteed, e.g. by means of morphological marking (for instance, with subjunctive morphology; with a sentential negation in the complement position of a predicate that selects a sentential complement, such as *dire* (="say"), cf. section 1 for Modern Florentine), or in absolutive constructions (cf. Poletto 1995, a.o.).[25]

The answer to b) follows straightforwardly from the analysis presented in section

[24] Notice that C-omission, at least in Old French, occurs in typical non-V2 clauses (cf. above), where namely no V-to-Fin takes place. The absence of V2 in embedded contexts is related to absence of * on the unique C head, where both Fin and Force features are conflated. This setting would also account for the fact that non-V2 embedded clauses lack illocutive force.

[25] Poletto (1995) shows that in case of C-omission in Modern Italian the subjunctive verb raises to the CP domain, where she argues that it checks a [-*realis*] feature encoded on C. As the focus of this paper is mainly a diachronic analysis, I refrain from further discussion on alleged feature-checking mechanisms permitting C-omission in Modern Italian. See a.o. Llinas-Grau & Fernandez-Sanchez (2011) for a proposal, and ref. therein.

3, according to which C-omission in relative clauses depends on the combination of two factors: i) an active/inactive distinction in the argument structure, whereby C-omission is possible in presence of inactive and/or morphologically non-marked (i.e. [-masculine]) antecedents, and ii) syncretism between the relative C-form and the declarative complementizer (*ke, che, que*), which are both unmarked for case. In Modern Italian and Modern Florentine, we assist at a fall of structural marking of active/inactive alignment (cf. Ledgeway 2012), so factor i) no longer applies. Franco & Migliori (2014) propose that the change bringing to the modern argument structure basically consists of a weakening of the Voice features, i.e. Voice*>Voice. As a consequence, the [Agent] feature encoded on the Voice head no longer requires a morphological spell-out. The loss of an active/inactive structural distinction provokes a change in the recoverability conditions of (extracted) arguments. My hypothesis is that due to the loss of the visibility requirement on Voice (the low phase-head) the identification of active/inactive relative-clause antecendents via a formal, structural marking on Fin, i.e. at the end of the phase, is no longer permitted.

Given the weakening of both Fin and Voice in Modern Italian and Modern Florentine, the question now is why is C-omission not licensed in *all* argument extractions in these languages? I suggest that the obligatory spell-out of C in relative clauses generally depends on the obligatoriness of C as a complementizer in other types of subordinate clauses, at this stage (cf. above). That is, C-insertion is no longer related to an active/inactive distinction, and, in fact no morphosyntactic requirement imposes a marking of the Nom/Acc distinction at the CP-phase edge, given the parametric setting of Modern Italian and Modern Florentine (weak Voice, weak Fin).

5. Summary and conclusion

On the basis of the collected data, I have proposed that widespread C-omission in Renaissance Italian results from the coexistence of the following conditions:

(a) Parametric shift from Fin* to Fin;

(b) Morphological recoverability of phi-features of the arguments via long-distance agreement;

(c) Presence of active/inactive alignment, where inactive is the unmarked option.

Condition (a) is relevant for C-omission in all clauses; conditions (b) and (c) for omission in A'-extractions of arguments. All three conditions are met in Renaissance Italian, by contrast to Old Italian (which still has Fin* and pro-drop that is dependent on V-to-Fin*), or Modern Italian and Modern Florentine (in which the active/inactive alignment is lost).

In Renaissance Italian, spelling out C is no longer required, but it is permitted by weak Fin. As a result of an inactive/active distinction, inactive/-Pn arguments do not require C spell-out for recoverability, when extracted.

This proposal predicts that the following restrictions should apply to C-omission in Renaissance Italian:

(i) C-omission is unattested (=ungrammatical) in headless relative and interrogative clauses in which C is a pronoun and has a [+human, S_A/A] value, cf. Table 3.;

(ii) C-omission is unattested in headed relative clauses in which the extracted argument is [+human, S_A/A], for the reasons discussed in section 4.2.

As it has been discussed in sections 2.2 and 3.2, predictions (i) and (ii) are borne out by facts. Nonetheless, further research needs to be done in order to understand what are the potential (micro)parametric differences among Old Romance languages in relation to C-omission.

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Split Nominal Constructions in Italian

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In this paper interface evidence is provided for an analysis of Split Nominal constructions which excludes extraction of the dislocated phrase from the NP containing the Focus. Based on formal and semantic considerations, it is argued that Split Nominals imply a *kind*-construction implemented by the dislocated element, which is merged as a G-Topic in the left periphery of the DP containing the Focus. Crucially, the latter is not a modifier, but a predicate within the SC selected by the relevant DP, which has a *pro* in subject position.

Following recent proposals, it is then argued that the subject *pro* in the SC is interpreted through an Agree relation with the local (possibly silent) AS-Topic, representing a high copy of the <*kind*> G-Topic in the D-domain. This analysis is supported by intonational evidence, showing that the dislocated constituent can be overtly realized as any type of Topic, depending on the context; when it constitutes an overt AS- or C-Topic in the C-domain, the DP-internal G-Topic is a silent low copy.

"The year you were born marks only your entry in the world.
Other years where you prove your worth, they are the ones worth celebrating"
(J. Kintz)
It's great when you can celebrate the second on the occasion of the first!
This is the case, Adriana, and it's a pleasure to participate.

1. Aim of the paper

This paper aims at proposing an interface analysis of a particular type of marked construction in Italian, which implies a 'Split Nominal' phenomenon (cf., among others, Mathieu 2004, Féry et al. 2007). Consider the examples below:

(1) *Ho* *letto* *QUESTO*, *<u>di libro</u>*
have.1SG read.PST.PART this of book
'I read THIS book' (lit.: I read THIS (one), of book)

(2) *Ho* *letto* *quello* *GRANDE*, *<u>di libro</u>*
have.1SG read.PST.PART that big of book
'I read the BIG book' (lit.: I read the BIG one, of book)

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti.
C. Contemori and L. Dal Pozzo (eds.) Siena, CISCL Press.

(3) *Ho letto il TUO, di libro*
have.1SG read.PST.PART the your(s) of book
'I read YOUR book' (lit.: I read YOURS, of book)
QUALE hai letto, di libro?
which have.2SG read.PST.PART of book
'Which book did you read?' (lit.: Which (one) did you read, of book?)

As these examples show, the constructions under examination present a focused restrictive modifier (a demonstrative in (1), an attributive adjective in (2), a possessive in (3), a wh-item in (4)), which is followed by a dislocated phrase (underlined in our examples) introduced by the preposition *di* 'of' and including the noun which the modifier applies (*libro* 'book' in (1-4)).

The paper is organized as follows. The syntactic and semantic properties of the relevant construction are illustrated in §§ 2 and 3, while in § 4 the discourse interpretation of Split Nominal constituents is discussed. An interface analysis is therefore proposed in § 5, supported by intonational evidence in § 6. Section 7 provides final conclusions.

2. Syntactic properties

The examples in (1-4) above illustrate four cases of Split Nominals in Italian in which a right-hand dislocated phrase is present (*di libro*, 'of book'). Nevertheless, the construction at issue also allows for a left-hand realization of the dislocated constituent:

(4) *Di libro, ho letto QUESTO*
(5) *Di libro, ho letto quello GRANDE*
(6) *Di libro, ho letto il TUO*
(7) *Di libro, QUALE hai letto?*

The examples provided so far show that the focused modifier and the dislocated phrase need not be adjacent. In particular, in (1-3) as well as in (8) they are separated by a prosodic break (represented by commas), while linguistic material intervenes between them in (4-7).

Nevertheless, some type of syntactic connection must be posited between them, since the focused modifier is interpreted as applying to the dislocated constituent. A brief review on the syntactic properties of Split Nominal constructions will help defining the nature of this connection.

First of all, the morphological realization of a demonstrative provides evidence for the existence of an empty category in the DP containing the Focus. As is shown below, the distal demonstrative in Italian appears as *quel* in the presence of an overt noun (cf. (9a-b)), while in elliptical DPs its form is *quello* (cf. (9c)):

(8) a. *Quel(*lo) libro grande*
that book big
b. *Quel(*lo) grande libro*
that big book
Both: 'That big book'

c. *Quello grande*
'The big one'

Interestingly, the latter is the only form allowed in Split Nominal constructions:

(9) *Ho letto quello* / **quel* GRANDE, *<u>di libro</u>* (cf. (2))

This suggests that *quello* in (10) is included in an elliptical DP, namely in a DP headed by an empty nominal category (on elliptical DPs, cf. Sleeman 1996, Kester 1996, Corver & Van Koppen 2011).

Data concerning the elision of pre-vowel material provide further support in the same direction. The examples below show that in Italian the feminine indefinite determiner *una* 'a' (11a) is realized as *un'* (due to vowel elision) when the following word starts with a vowel (11b):

(10) a. *Ho visto una ragazza americana*
have.1SG see.PST.PART a girl American
'I saw an American girl'
b. *Ho visto un' americana*
have.1SG see.PST.PART a American
'I saw an American$_{[FEM]}$'
c. *Ne ho vista una* / **un' americana*
of.it have.1SG see.PST.PART a American
'I saw an American one'

As can be observed, however, vowel elision is blocked in (11c), showing that an empty category (i.e., the trace of the clitic pronoun *ne* 'of it') is structurally present between the determiner and the adjective (as opposed to (11b), where *Americana* is merged as the head noun). In other words, in (11c) vowel elision is not allowed because *una* and *Americana* are not structurally *adjacent* (but separated by a trace).

A similar pattern can be found in Split Nominal constructions, as is shown below:

(11) *Ho visto quella* / **quell' AMERICANA, <u>di ragazza</u>*
have.1SG see.PST.PART that American of girl
'I saw the AMERICAN girl'

Also in this case, the lack of elision supports the hypothesis that an empty category is structurally present between *quella* 'that' and *Americana* 'American'.

If this line of reasoning is correct, it is necessary to investigate the nature of the relevant empty category. In this respect, several proposals have been put forth in the literature to account for a construction which shares a number of crucial properties with the Italian structure at issue, namely the so-called 'Split Topicalization' in languages like German (cf. Van Riemsdijk 1989):

(12) [*Über Syntax*] *hat er* [*ein Buch* __] *ausgeliehen*
about syntax have.3SG he a book borrow.PST.PART
'On syntax, he borrowed a book' (De Kuthy 2002)

.

(13) [*In Schlössern*]*habe ich noch* [*in keinen* __] *gewohnt*
in castles have.1SG I yet in no live.PST.PART
'As for castles, so far I have not lived in any' (Fanselow & Cavar 2002)

Some of the most influential explanations proposed in the '80s implied the movement of an intermediate projection followed by 'reanalysis' (cf. Fanselow 1987, Grewendorf 1989). Though movement of intermediate projections is not allowed under more recent approaches, an analysis in terms of dislocation can be resumed (and revised) in order to define the nature of the empty category involved in Split Nominals. In particular, the first hypothesis to be explored is whether the relevant empty category can qualify as the trace of the dislocated phrase. If this is correct, two predictions follow: 1) island effects are expected if the dislocated phrase is connected with an island-internal constituent, and 2) an overt head noun should not be allowed in the clause-internal DP (since this position is filled by the relevant trace). However, neither prediction is borne out.

As a matter of fact, no island effect emerges in the relevant construction when the focused modifier is contained in a syntactic island. For instance, in a sentence like (15) the focused possessive *tuo* 'your(s)' is interpreted as a modifier of the dislocated phrase *(di) laureando* '(of) final year student'. If the latter is assumed to be extracted from the clause-internal DP containing the Focus and moved to a left-peripheral position, an island violation would be expected, as its merge position is within a structural subject. However this is not the case,[1] providing an argument against a movement analysis:

(14) *Di laureando, IL TUO discuterà domani (non il mio)*
of final.year.student the yours defend.FUT.3SG tomorrow not the mine
'YOUR student will defend his thesis tomorrow (not mine)'

A similar conclusion can be reached by considering a Split Nominal construction like (16), in which the focused modifier is internal to a relative clause:

(15) ?*Ho incontrato l' autore che ha scritto QUESTO,*
have.1SG meet.PST.PART the author that have.3SG write.PST.PART this
di libro
of book
'I met the author that wrote THIS book'

As indicated, the sentence in (16) is marginal, but fairly acceptable, especially if compared with the application of wh-movement in the same context. Indeed, a sentence like (17) is definitely ungrammatical:

(16) **QUALE hai incontrato l' autore che ha scritto,*
which have.2SG meet.PST.PART the author that have.3SG write.PST.PART
di libro?
of book
Intended: '*Which book did you meet the author that wrote?'

[1] In the presence of subject islands, judgments are consistent no matter whether the subject is realized in pre- or post-verbal position, nor whether the verb is unaccusative or unergative.

Besides (the absence of) island effects, the second prediction is also not met. As is shown below, the head noun of the clause-internal DP can be overtly realized by means of a hyponym of the dislocated phrase:

(17) *Ho letto GUERRA E PACE, di romanzo (non L' idiota)*
have.1SG read.PST.PART war and peace of novel (not The Idiot)
'As a novel, I read *War and Peace* (not *The Idiot*)'

(18) *Di cane, ho visto IL DALMATA (non il bassotto di Marco)*
of dog have.1SG see.PST.PART the Dalmatian not the dachshund of Marco
'As a dog, I saw THE DALMATIAN (not Marco's dachshund)'

This evidence is further supported by examples like (20): the presence of the clitic pronoun *ne* 'of it', extracted from the bracketed DP, excludes the possibility that the dislocated phrase *(di) cane* can have the same merge position.

(19) a. *Ne*$_i$ *ho visto* [*uno* t$_i$ *GRANDE*], *di cane*
of.it have.1SG see.PST.PART a big of dog
b. *Di cane, ne*$_i$ *ho visto* [*uno* t$_i$ *GRANDE*]
Both: 'As a dog, I saw a BIG one'

It is now important to observe that similar "movement paradoxes" have also been noticed for Split Topicalization. Specifically, the (a) examples in (21-23) below show that an analysis in terms of extraction is not feasible, as it would imply an ungrammatical merge structure (illustrated in (b)):

(20) a. [$_{CP}$ [*eine Lösung*] [$_{C'}$ *hat er* [*eine bessere* __] *als ich*]]
a solution have.3SG he a better than I
'As a solution, he has one better than mine' (Van Riemsdijk 1989)
b. *[$_{NP}$ *eine bessere eine Lösung*]

(21) a. [*Geld*] *hat er glaube ich* [*keines* __]
money have.3SG he believe.1SG I no
'As for money, I think he has none' (Van Riemsdijk 1989)
b. [*kein*(*-*es*) [*Geld*]]

(22) a. [*Autos*] *hat er nur* [*eins* __]
cars have.3SG he only one
'As for cars, he has only one'
b. *[*eins* [*Autos*]] (Fanselow 1988)

The data considered so far show that the dislocated phrase cannot be taken as *extracted* out of the NP containing the Focus. Accordingly, the empty category at issue, included in the latter constituent, does not qualify as a trace. We therefore propose that the focused phrase is merged in an elliptical DP headed by a *pro*, whereas the dislocated constituent (whose syntactic category and internal structure will be defined below) is inserted in a left-peripheral projection.

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3. Semantic properties

3.1. The DP containing the Focus

When considering the semantic properties of Split Nominal constructions, it is important to notice that only a specific type of modifiers is allowed in the DP containing the Focus. In order to define the nature of such modifiers, a semantic distinction is needed within the class of attributive adjectives, so as to show that the relevant semantic asymmetry discriminates between functional (24a) and lexical (24b) adjectives (cf. Bernstein 1993, Cinque 2010, Ramaglia 2011):

(23) a. Functional (i.e., non-predicative) adjectives
The mere accident (cf. **The accident is mere*)
The future president (cf. **The president is future*)
The nuclear energy (cf. **The energy is nuclear*)
b. Lexical (i.e., predicative) adjectives
A big house (cf. *The house is big*)
A nice girl (cf. *The girl is nice*)
The important point (cf. *The point is important*)

In the light of this semantic partition, it is noteworthy that only lexical adjectives can be focused in Split Nominal constructions. As is shown in (25), a functional adjective is excluded:[2]

(24) a. **Ho visto quello* MERO, *di incidente*
have.1SG see.PST.PART that mere of accident
Intended: 'I saw the MERE accident'
b. **Di presidente, ho visto il* FUTURO
of president have.1SG see.PST.PART the future
Intended: 'I saw the FUTURE president'

Crucially, this semantic restriction is confirmed by the interpretation of ambiguous adjectives in Split Nominal constructions. As is known, adjectives like the ones in (26-28) can be interpreted either as functional (a) or lexical (b) modifiers, depending on their position with respect to the head noun (i.e., pre-N *vs.* post-N position, respectively):

(25) a. *Un vecchio amico* (≠ *Un amico che è vecchio*)
a old friend
'A long-standing friend' (≠ A friend who is old)
b. *Un amico vecchio* (= *Un amico che è vecchio*)
a friend old
'An aged friend' (= A friend who is old)

(26) a. *Un alto ufficiale* (≠ *Un ufficiale che è alto*)
a tall officer
'A high-ranking officer' (≠ A man who is tall)

[2] Notice that this semantic restriction is also found in the French counterpart of the relevant Split Nominal constructions (cf. Mathieu 2004, § 4).

b. *Un ufficiale alto* (= *Un ufficiale che è alto*)
a officer tall
'A tall officer' (= An officer who is tall)

(27) a. *Un povero ragazzo* (≠ *Un ragazzo che è povero*)
a poor boy
'A pitiable boy' (≠ A boy who is poor)
b. *Un ragazzo povero* (= *Un ragazzo che è povero*)
a boy poor
'An impoverished boy' (= A boy who is poor)

When ambiguous adjectives such as the ones above appear in Split Nominal constructions, only the lexical reading is maintained:

(28) *Ho visto quello VECCHIO, <u>di amico</u>*
have.1SG see.PST.PART that old of friend
'I saw the AGED friend' (not 'I saw the long-standing friend')

(29) *Ho parlato con quello ALTO, <u>di ufficiale</u>*
have.1SG talk.PST.PART with that tall of officer
'I talked with the TALL officer' (not 'I talked with the high-ranking officer')

(30) *Ho incontrato quello POVERO, <u>di ragazzo</u>*
have.1SG meet.PST.PART that poor of boy
'I met the IMPOVERISHED boy' (not 'I met the pitiable boy')

As the focused modifiers appearing in Split Nominal constructions can only obtain a lexical – namely predicative – reading, we conclude that they qualify as predicates within an elliptical DP (cf. § 2).

3.2. The dislocated constituent

Since the dislocated phrase in Split Nominal constructions constitutes a hyperonym of the focused element (cf. (18-19)), it can be analyzed as a partitive-like element, defining the set from which the referent denoted by the focused DP is selected. Specifically, sentences like (32-33) receive the interpretation indicated below, which suggests the existence of a 'part-whole' relation between the two nominal constituents (i.e., the focused DP and the dislocated phrase):[3]

(31) *<u>Di libro</u>, ho letto QUESTO* (= (5))
'I read THIS book'
→ '*In the relevant set of books*, I read THIS (one)'

(32) *Ho letto QUESTO, <u>di libro</u>* (= (1))
'I read THIS book'
→ 'I read THIS (one), *as a book* (= as a member of the relevant set of books)'

Given this interpretation, we follow Zamparelli's (2000) suggestion and consider this structure as a type of <*kind*> construction. According to this approach, an example like (32) above can receive the following (informal) representation:

[3] The same type of 'part-whole' relation has also been identified as a crucial property of Split Topicalization (cf. Van Hoof 2007: "the anaphoric relation between TOP (antecedent) and REM (anaphor) forms a proper subset relation").

(33) <*As for kinds of book*>, I read THIS (one)

Notice that a *kind*-interpretation is needed to account for the relevant 'part-whole' relation, since a broad reading is excluded in these structures:

(34) a. *Ho visto spesso tramonti*
have.1SG see.PST.PART often sunsets
"I have often seen sunsets"
b. *<u>*Di tramonti*</u>, *ho visto spesso*
of sunsets have.1SG see.PST.PART often
c. **Ho visto spesso*, <u>*di tramonti*</u>
have.1SG see.PST.PART often of sunsets

Given this semantic characterization, we propose that the dislocated constituent is part (in a sense to be specified below) of a nominal construction implementing a <*kind*> interpretation.

4. Discourse-related considerations

In line with established analyses on 'Split Topicalization' (Fanselow 1988, Giusti 1993, Van Hoof 2007), Split Nominal constructions in Italian are connected to Information Structure (IS) requirements and, as such, entail reference to discourse categories like Focus and Topic. In particular, the clause-internal constituent is interpreted as a Focus,[4] while the dislocated phrase is a Topic, whose properties and position depend on its specific discourse function.

As is known, in the cartographic approach to the left periphery (Rizzi 1997 and subsequent works), the original CP-node has been reanalyzed as an array of functional projections, each dedicated to a specific IS-related feature (cf., in particular, Belletti ed. 2004, Rizzi ed. 2004). The left periphery thus provides an interface between the propositional content (the IP-node) and specific discourse roles. In this respect, Frascarelli & Hinterhölzl (henceforth, F&H) (2007) first showed that there is a systematic correlation between the formal properties of Topics and their function in the discourse, which is encoded in a strict hierarchy in the C-domain (*contra* a free recursion analysis of TopP projections). They thus provide intonational and syntactic evidence that different types of Topic projections must be posited in the left periphery.[5]

In particular, the *Aboutness-shift* Topic (AS-Topic) combines Reinhart's (1981) 'aboutness' with a shift in the conversation. This discourse quality is encoded in the highest Topic position and associated with a rise in the F0 contour that is aligned with the tonic vowel in its full extension (a complex L*+H tone).[6] The AS-Topic thus

[4] Though a contrastive interpretation seems to be the most immediate for the Focus at issue, an informative reading cannot be excluded, given the possibility of answering a wh-question like (4) with a sentence like (1) above. In the latter the focused demonstrative *QUESTO* necessarily assumes an informative reading.

[5] Notice that the prosodic properties of Topics, based on Italian and German data in F&H (2007), have been further supported by cross-linguistic evidence from Somali (Frascarelli & Puglielli 2009), Tagalog (Frascarelli 2010b) and Spanish (Frascarelli & Jiménez-Fernández 2012).

[6] According to the ToBi system (Pierrehumbert 1980), tunes are described as sequences of *low* (L) and *high* (H) tones (which determine the shape of the F0 contour). In this framework, there are six

corresponds to Reinhart's 'sentence Topic', which identifies the entity (i.e., the 'file card') under which the proposition expressed in the clause should be stored in the Common Ground content (for a discussion, cf. Bianchi & Frascarelli 2010). *Contrastive* Topics (C-Topics), on the other hand, break down a complex proposition into a conjunction of linguistically simpler entailed propositions (Bianchi & Frascarelli 2010): this creates alternatives in the discourse, which have no impact on the Focus value of the sentence. C-Topics are characterized by a rising contour, in which the tonic vowel marks the highest part of the relevant tonal event (i.e., a H* tone). The third type of Topic emerged from F&H's (2007) analysis is the *Familiar* (Given) Topic (G-Topic): a low-toned (L*) dislocated constituent that constitutes given information in the discourse; specifically, G-Topics can be used to resume background information or for Topic continuity (Givón 1983). Given this characterization, recursion only applies to G-Topics, since more than one constituent can be dislocated to retrieve given information. The hierarchy composing the C-domain can be therefore represented as follows:

(35) $[_{ShiftP}$ AS-Topic L*+H $[_{ContrP}$ C-Topic H* $[_{GP}$ $[_{FocP}$ $[_{FamP*}$ G-Topic L* $[_{FinP}$ $[_{IP}$

Since G-Topics are located in the lowest Topic projection(s), in multiple Topic constructions they are lower than AS- and C-Topics. Also notice that, unlike AS- and C-Topics, G-Topics can be realized in the right periphery of the sentence, modulo IP-inversion to Spec,GP (*Ground Phrase*; cf. Poletto & Pollock 2004).

In the present approach, discourse-related information is implemented in Narrow Syntax by means of functional features. This means that different types of Focus and Topic are interpreted insofar as they move to (or enter an Agree relation with) dedicated positions in the C-domain in which the relevant features are encoded. Our working hypothesis is therefore that the formal properties of the two constituents involved in Split Nominal constructions depend on IS-requirements.

5. The interface analysis

5.1. The internal structure of the DP containing the Focus

For the purposes of the present analysis we assume, with Frascarelli (2010a), that a narrow Focus is the predicate in a (often hidden) copular construction and, with Ramaglia (2011), that lexical adjectives (and predicative modifiers in general) are merged as nominal predicates within the DP.[7]

different types of pitch accent: two simple tones – high (H*) and low (L*) – and four complex (bitonal) ones. In this perspective, all pitch accents render prominent the material with which they are associated, regardless of the specific tonal event.

[7] In this work nominal predication within the DP is realized by means of a Small Clause (SC), while in Ramaglia (2011) this (reduced) clausal structure is analyzed in terms of ConjP (following Rebuschi 2005). The latter can account for the fact that the relevant predication shares distributive properties with its subject (i.e., a NP), rather than with its predicate. Since this point is immaterial for the purposes of the present analyses, we have adopted the SC label for the sake of simplicity.

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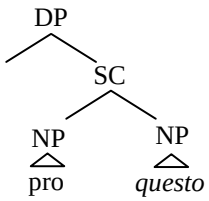
This means that the bracketed DP in (37) below should be analyzed as in (38), in which the focused demonstrative *questo* 'this' is a predicate,[8] while the subject is a pronominal variable:[9]

(36) *Ho letto* [$_{DP}$ *QUESTO*], *di libro* (= (1))

(37)

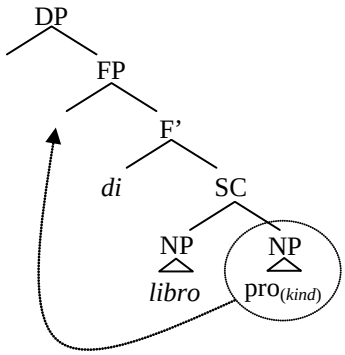


Based on this structural analysis, a novel explanation arises for the construction at issue, along the lines to be discussed below.

5.2. The internal structure of the topicalized constituent

Following Zamparelli's (2000) suggestion, we propose that the dislocated DP in a Split Nominal construction like (37) has the morpho-syntactic and interpretive properties of a '*kind*-constituent' (cf. § 3.2). Let us consider the structure in (39), adapted from Zamparelli (2000, ch. 3):

(38)



As is shown, in the present approach the *di* head qualifies as a functional category in the left periphery of the SC, acting as a *linker* which allows for the inversion of the predicative NP (cf. Den Dikken 2006), which is a (silent) <*kind*> NP.

Though similar to Fanselow's (1988) proposal, this analysis allows for a deeper understanding of the formal and interpretive properties of the topicalized constituent in Split Nominal constructions. Indeed, according to Fanselow, the latter is a noun phrase which modifies the 'remnant' (i.e., the *in situ* focused phrase) by binding *pro* in the remnant itself. The present analysis, on the other hand, acknowledges a more complex internal structure for the dislocated constituent which is, in fact, a (reduced) clause: this can account for the fact that the Focus and the topicalized constituent do not establish a referential-anaphoric binding, but rather a 'part-whole' (*kind*)-relation.

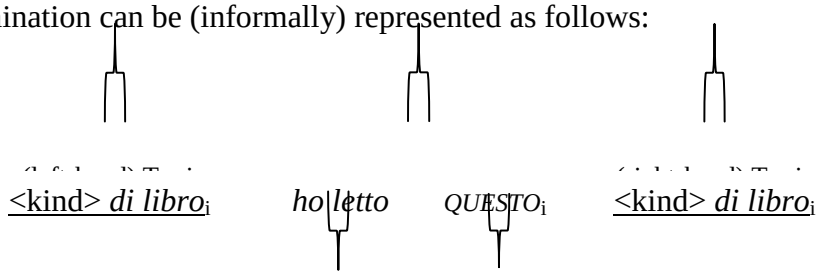
[8] For the sake of simplicity, the demonstrative in (38) is labeled as 'NP'; for a more detailed analysis of demonstratives, cf. Ramaglia (2013).

[9] A thematic null subject is a pronominal variable, the features of which are valued (i.e., 'copied through matching') by the local AS-Topic (Frascarelli 2007, 694). We will resume the analysis of the subject *pro* in (38) later in the paper.

In other words, the subject *pro* in (38) and the dislocated DP in (39) do not refer to one and the same individual: rather, the latter establishes a set, while the former refers to a member of that set.

5.3. The (information) structure of Split Nominals

Given the semantic and discourse properties of the constituents composing Split Nominal constructions, the 'information packaging' of the structure under examination can be (informally) represented as follows:



As we have seen, both the focused element and the NP included in the dislocated constituent are contained in a SC (the former as the predicate, the latter as the subject), independent of their linear order. The question is now what kind of syntactic relation can be assumed between these two constituents, which can account for their properties and interpretation.

In § 2 a number of arguments have challenged the feasibility of an extraction analysis. Still, there are some specific cases in which Split Nominals show some of the typical asymmetries characterizing the so-called 'island effects' (cf. Mathieu 2004). In particular, these asymmetries concern the dichotomy between right- and left-hand topicalization, in combination with the syntactic function or the θ-role of the dislocated constituent.

First of all, while Split Nominal constructions are allowed with topicalized direct objects in either periphery (41), dislocated indirect objects can only be found in the right periphery of the sentence (42):

(40) a. *Ho dato a Mario quello ROSSO, di libro*
have.1SG give.PST.PART to Mario that red of book
'I gave Mario the RED book' (lit.: I gave Mario the RED (one), of book)
b. *Di libro, ho dato a Mario quello ROSSO*

(41) a. *Ho dato il libro al TUO, di amico*
have.1SG give.PST.PART the book to.the your(s) of book
'I gave the book to YOUR friend' (lit: I gave the book to YOURS, of friend)
b. **Di amico, ho dato il libro al TUO*

The same pattern observed in (42) can be found with dislocated adjuncts (43) and in the presence of relative clauses (44); as is shown, in these cases the topicalized constituent is only accepted in the right periphery:

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(42) a. *Le ho dato un libro per il SUO, di compleanno*
to.her have.1SG give.PST.PART the book for the her(s) of birthday
'I gave her a book for HER birthday'
(lit.: I gave her a book for HERS, of birthday)
b. **Di compleanno, le ho dato un libro per il SUO*

(43) a. ?*Ho incontrato l'autore che ha scritto QUESTO, di libro* (= (16))
b. **Di libro, ho incontrato l'autore che ha scritto QUESTO*

Furthermore, an asymmetry is also attested with respect to θ-roles, when the split constituent is a subject. Specifically, dislocated themes (46) are more easily accepted than topicalized agents (45). Interestingly, in this case the relevant ungrammaticality is found in the presence of left-hand topicalization (45a), unlike the cases illustrated above in (41-44):

(44) a. **Quello ALTO ha arrestato il ladro, di poliziotto*
that tall have.3SG arrest.PST.PART the thief of policeman
'The TALL policeman arrested the thief'
(lit.: The TALL (one) has arrested the thief, of policeman)
b. ?*Di poliziotto, quello ALTO ha arrestato il ladro*

(45) a. ?*Quello ALTO è caduto a terra, di poliziotto*
that tall be.3SG fall.PST.PART to ground of policeman
'The TALL policeman fell to the ground'
(lit.: The TALL (one) fell to the ground, of policeman)
b. *Di poliziotto, quello ALTO è caduto a terra*

The existence of asymmetries like these clearly recalls island effects and their explanation apparently advocates for a movement analysis of the topicalized element, which was excluded after the discussion of examples like (15-20).

The puzzling pattern illustrated above and the paradox that apparently arises can find a solution if we assume that the dislocated constituent is merged (as a Familiar Topic) in the left periphery of the SC containing the focused constituent (i.e., in the D-domain of the structure illustrated in (38) above). This proposal is in line with a number of recent works, in which the existence of a (reduced) functional array of discourse-related projections has been argued for the left periphery of DPs and embedded clauses (cf., among others, Haegeman 2002, Giusti 2006, Bianchi & Frascarelli 2010, Ramaglia 2013).

The present solution can account for the asymmetries examined so far since, when the two elements of the Split Nominal construction are adjacent (like in the (a) examples in (41-44), as well as in the (b) examples in (45-46)), the Topic is located in the left periphery (specifically, in Spec,FamP) of the DP containing the Focus (i.e., DP1 in (47) below). Its right-hand position is derived through the movement of the SC itself to Spec,GP (cf. § 4), hence extraction is clearly not an issue.[10]

(46) $[_{TopP}\,[_{IP}\,pro_k$ *ho* $[_{VP}\,t_k$ *dato il libro*
$[_{DP1}\,[_{GP}\,[_{SC}\,\underline{pro\ al\ TUO}]\,[_{FamP}\,[_{DP2}\,[_{FP}\,pro_{kind}$ *di* $[_{SC}$ *amico* $t_{pro}]]]\,[t_{SC}\,]]]]]]]$ (= 42a)

[10] In other words, in cases like (41-44a) the dislocated phrase is a DP-internal G-Topic, whose right-hand position is derived through SC-inversion to Spec,GP (cf. (47)). In cases like (45-46b), on the other hand, SC-inversion does not apply, and the relevant DP-internal Topic obtains a left-hand realization.

On the other hand, when the two phrases at issue are not adjacent (cf. (41-44b) and (45-46a)), the derivation requires TopP-to-TopP movement of the dislocated constituent to the C-domain of the matrix clause; only in this case is the relevant Topic extracted from the DP, thus determining island effects (cf. (48)):[11]

(47) *[$_{TopP}$ [$_{DP2}$ [$_{FP}$ pro$_{kind}$ *di* [$_{SC}$ *amico* t$_{pro}$]]]$_k$ [$_{IP}$ pro$_k$ *ho* [$_{VP}$ t$_k$ *dato il libro* [$_{DP1}$ [$_{FamP}$ t$_k$

[$_{SC}$ pro *al TUO*]]]]]] (= 42b)

This analysis clearly implies that the dislocated constituent in a Split Nominal construction is typically *given* in the discourse and, as such, necessarily merged as a G-Topic in Spec,FamP. As a matter of fact, Bianchi & Frascarelli (2010) provide compelling evidence that only G-Topics can be realized in any type of embedded (and reduced) clause. AS-Topics, on the other hand, are strictly connected with the matrix illocutionary force and C-Topics can only be embedded under proposition-taking verbs. Hence, neither of them could be merged in the left periphery of a DP-internal Small Clause.

5.4. The interpretation of pro

Since the analysis proposed for Split Nominal constructions implies the presence of a subject *pro* in the SC containing the focused constituent, it is now important to account for its interpretation. To this purpose, let us consider the derivation of a sentence like (49) at a moment in which the relevant SC still sits in its merge position:

(48) *Leo ha letto QUESTO, di libro* (cf. (1))
'Leo read THIS book' (lit.: Leo read THIS (one), of book')

(49) *Leo ha letto* [$_{DP1}$ [$_{FamP}$ [$_{DP2}$ [$_{FP}$ pro$_{kind}$ *di* [$_{SC}$ *libro* t$_{pro}$]]] [$_{SC}$ **pro** *QUESTO*]]]

Along the lines of Frascarelli (2007), we propose that the interpretation of the *pro* in bold in (50) relies on an AGREE relation with the local AS-Topic ('Topic Criterion'; cf. Frascarelli 2007, (37)). Indeed, though Frascarelli's analysis is mainly dedicated to the interpretation of null referential subjects, it also deals with the possibility for a *pro* to corefer with a quantified element. Specifically, the author shows that in a sentence like (51a) below the quantified expression *ogni studente* 'every student' cannot be a Topic, since it does not establish a reference;[12] this means that the interpretation of *pro* cannot depend 'directly' on it. Rather, *ogni studente* 'every student' evokes a set containing all and only the persons who have some specific property associated with the fact of 'being students'; as such, it can be thought of as projecting a TYPE consisting of a number of TOKENS, where the TOKENS are individuals ('students')

[11] As for the absence of island effects with subject-themes (46) and direct objects (41), the fact that internal arguments extract freely while external ones cannot is a widely attested cross-linguistic phenomenon (also defined as 'syntactic ergativity'; see e.g. Dixon 1994). Traditionally accounted for in terms of ECP, this phenomenon has been lately approached referring to *Criterial Freezing* (Rizzi & Shlonsky 2007). Discussing this problem is far beyond the issues of the present paper.

[12] The fact that quantifiers cannot be Topics is widely acknowledged in the literature (cf., among others, Cinque 1990, Rizzi 1997), unless, as is shown in this paper, the speaker refers to some *specific* individual.

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identified by the (distributed) reference of *ogni* ('every') (cf. Jackendoff 1983). Hence Frascarelli (2007, 728) proposes that, in cases like (51a), the TYPE implements a silent AS-Topic and the null pronoun matches with the referential features of the individuals it includes (51b):

(50) a. [*ogni studente*]$_k$ *pensa che* pro$_k$ *è un genio*
every student thinks that is a genius
'Every student$_k$ thinks that he$_k$ is a genius'
b. [<as for TYPE X> [every X thinks [(that) TOKEN X is a genius]]][13]
Agree

Following this line of reasoning, the interpretation of the subject *pro* in the case at issue (cf. (50)) can be considered as relying on an AGREE relation with a (possibly silent) AS-Topic, which contains the dislocated DP semantically classified as a <*kind*> element. The latter matches its referential features with *pro*, as is illustrated below:

(51) [<as for KIND X> [*Leo ha letto* [$_{DP}$ [pro$_k$ [*di* [*libro* t$_k$]]] [$_{SC}$ TOKEN X *QUESTO*]]]]
Agree

Given this scenario, when the <*kind*> DP is overtly realized in the left periphery of the matrix clause (as in (5-8)), the G-Topic in the left periphery of the DP containing the Focus is merged as a silent (low) copy. This is consistent with general minimalist tenets concerning copy theory and linearization of chains (Chomsky 1995).

As a matter of fact, data show that the <*kind*> DP, when dislocated in the matrix left periphery, can be realized as *any* type of Topic, depending on its discourse role.[14] Evidence is provided by the intonational properties discussed in the following section.

6. Intonational analysis[15]

In this section prosodic evidence will be provided to support the analysis of Split Nominal constructions proposed in § 5. The relevant data will be presented in different subsections, according to the surface position in which the DP containing the focused modifier and the topicalized <*kind*> DP are realized.

6.1. Right-hand Topic, in situ *Focus*

The first Split Nominal structure to be considered is represented by a sentence in which the <*kind*> DP (*di cane* 'of dog') is a right-hand Topic and the focused modifier (*questo* 'this') appears *in situ*:

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[13] The empirical validity of this proposal can be proved against the insertion of an overt referential AS-Topic. As is shown above, this excludes *pro* coreference with the quantified element:
(i) *Leo*$_k$, [*ogni studente*]$_j$ *pensa che* pro $_{k/*j}$ *è un genio*.
'As for Leo$_k$, [every student]$_j$ thinks that he $_{k/*j}$ is a genius'

[14] Since the interpretation of *pro* requires an AGREE relation with an AS-Topic, when the <*kind*> DP is realized as a C-Topic, both the AS-Topic and the low (i.e., DP-internal) copy in (52) are silent. This aspect is resumed at the end of § 6, dedicated to the discussion of prosodic evidence.

[15] The intonational contours illustrated in this section are part of an original corpus of elicited data, created for the purposes of the present research. Native-speaker informants were asked to read a number of sentences, in which, when needed, the Split Nominal construction was preceded by an appropriate context to obtain the intended reading. Results were very consistent across speakers.

(52) *Ho visto QUESTO, <u>di cane</u> (non il bassotto di Marco)*
have.1SG see.PST.PART this of dog not the dachshund of Marco
'I saw THIS dog (not Marco's dachshund)'

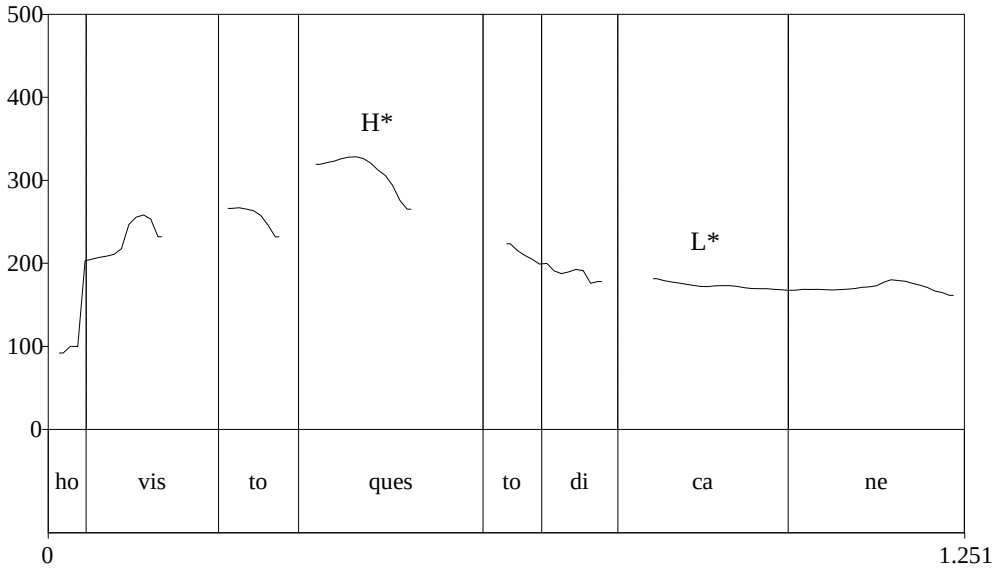

Figure 1

As this picture shows, the right-hand dislocated phrase *di cane* 'of dog' is low-toned, thus confirming its G-Topic quality (cf. (36) above). The focused demonstrative shows a pitch (H*), consistent with a contrastive interpretation of this modifier (a possible option for an *in situ* Focus in Italian).

6.2. Left-hand Topic, in situ *Focus*
Let us now consider a Split Nominal construction, composed by the same constituents as in (53), in which the dislocated phrase *di cane* appears in sentence-initial position:

(53) *<u>Di cane</u>, ho visto QUESTO (non il bassotto di Marco)*
of dog have.1SG see.PST.PART this not the dachshund of Marco
'As a dog, I saw THIS (not Marco's dachshund)'

Interestingly, in this case our consultants produced two different types of prosodic contour, which are illustrated in Figures 2a and 2b:

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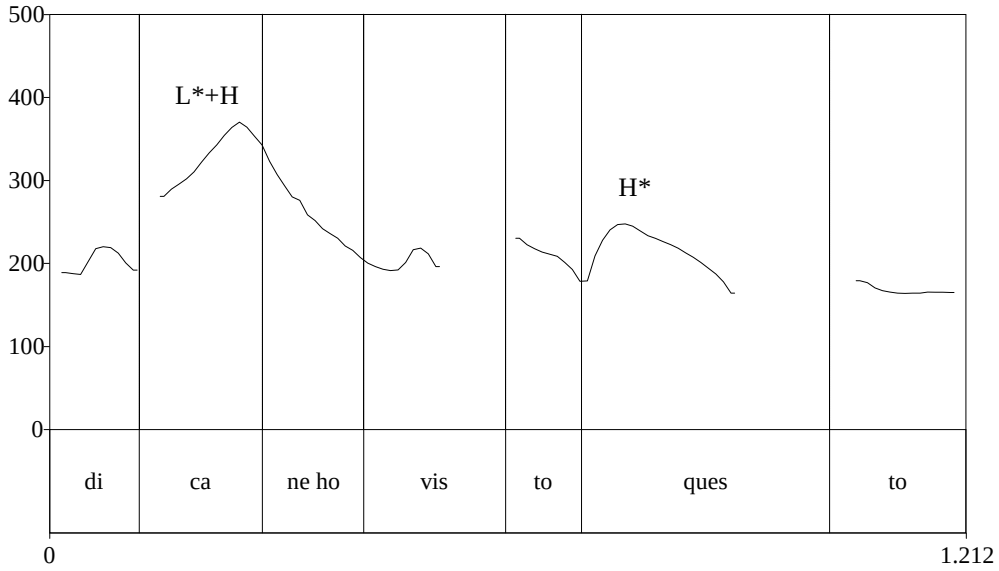

Figure 2a

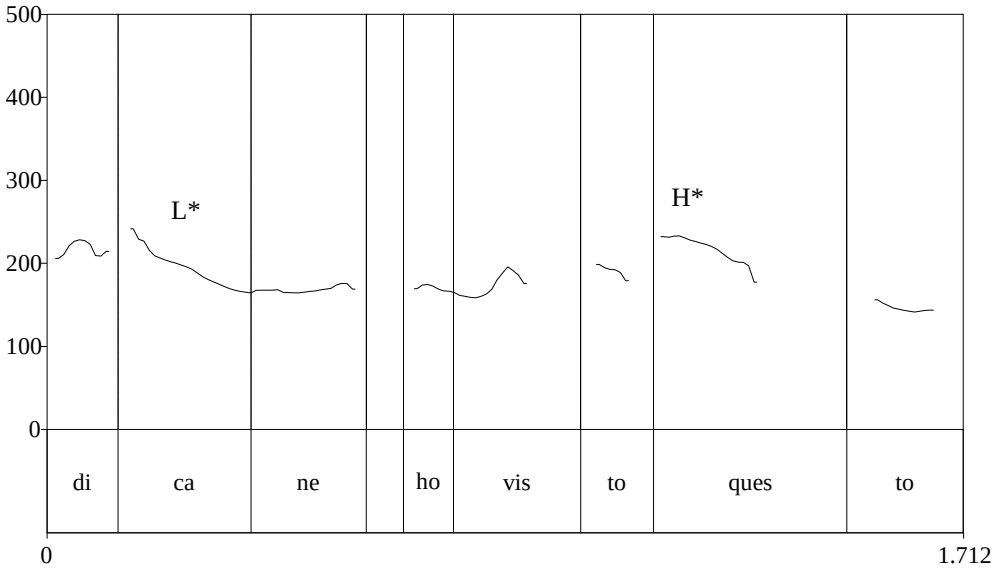

Figure 2b

The fact that two different prosodic contours have been produced in the presence of a left-hand Topic is perfectly in line with the discussion provided in § 4. As a matter of fact, while right-dislocated constituents can only qualify as Familiar (i.e., G-) Topics, left-hand Topics in Italian can obtain different interpretive and formal characterizations depending on the context in which they are produced. In our elicitation test, a sentence like (54) was given to informants without a context, exactly to check the possibility of different interface interpretations.[16] Data thus show that, in this 'context-free' condition, the left-hand <*kind*> Topic can be realized in two different ways, that is to say, either as an AS-Topic (cf. the rising contour in Figure 2a) or as a G-Topic (i.e., low-toned in Figure 2b). In this respect, it is noteworthy that none of our consultants produced the relevant left-hand Topic as a C-Topic. This was

[16] Other sentences were instead preceded by contexts inducing a specific Topic interpretation, so as to validate the interface correlation between discourse and formal properties. These cases will be treated in § 6.5.

expected in fact, since C-Topics require a specific context for their realization (cf. § 6.5 below), whereas the shifting or familiar functions are always 'available' for a left-hand Topic when no context is provided, depending on the speaker's interpretation of the relevant sentence. As for the focused constituent, it is marked with a pitch, independent of the type and the position of the Topic.

6.3. Right-hand Topic, fronted Focus

We can now turn to the intonational analysis of sentences presenting fronted Foci. In particular, in (55) and Figure 3 a Split Nominal construction is provided in which fronting of the modifier *questo* is proposed in combination with the right-dislocation of the <*kind*> DP:

(54) *QUESTO ho visto, <u>di cane</u> (non il bassotto di Marco)*
this have.1SG see.PST.PART of dog not the dachshund of Marco
'THIS dog I saw (not Marco's dachshund)'

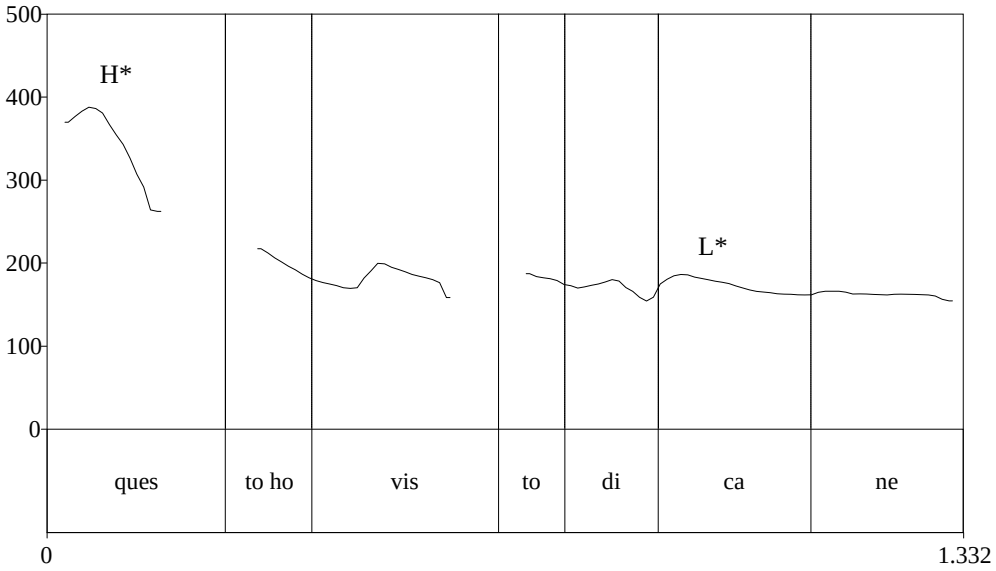

Figure 3

Once again, the L* tone marking the dislocated <*kind*> DP *di cane* 'of dog' supports its analysis as a right-hand G-Topic. The fronted Focus *questo* is marked with a pitch as expected, given the association between fronting and a contrastive reading of Foci in Italian.

6.4. Left-hand Topic, fronted Focus

The following example illustrates a case in which both the dislocated phrase and the focused modifier appear in the left periphery:

(55) *<u>Di cane</u>, QUESTO ho visto (non il bassotto di Marco)*
of dog this have.1SG see.PST.PART not the dachshund of Marco
'As a dog, THIS I saw (not Marco's dachshund)'

Much like in § 6.2, the presence of a left-hand Topic in an out-of-the-blue sentence gives raise to different interpretations across informants. In particular, the following

.

Figures show that the dislocated <*kind*> DP can be interpreted either as an AS-Topic (Figure 4a) or as a G-Topic (Figure 4b):

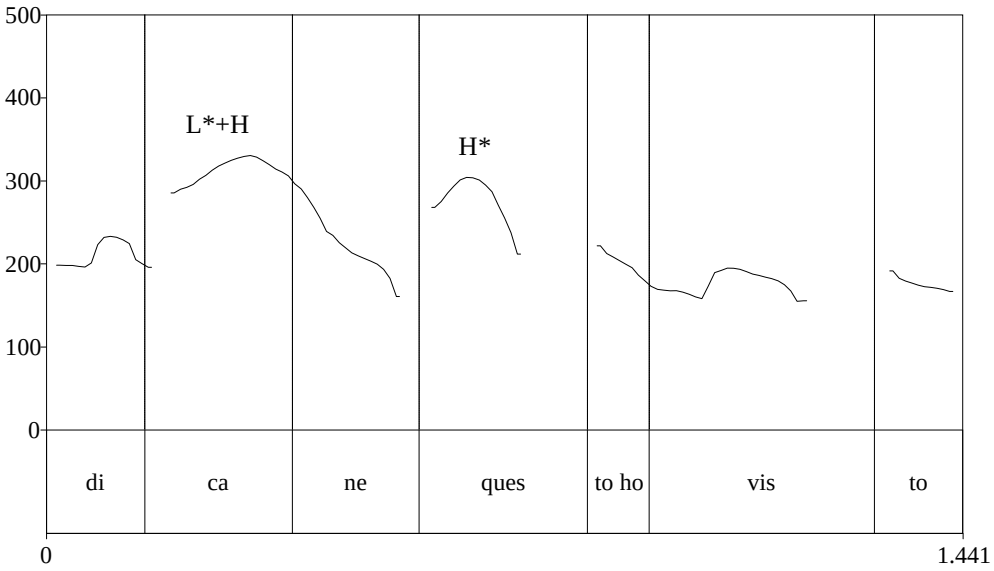

Figure 4a

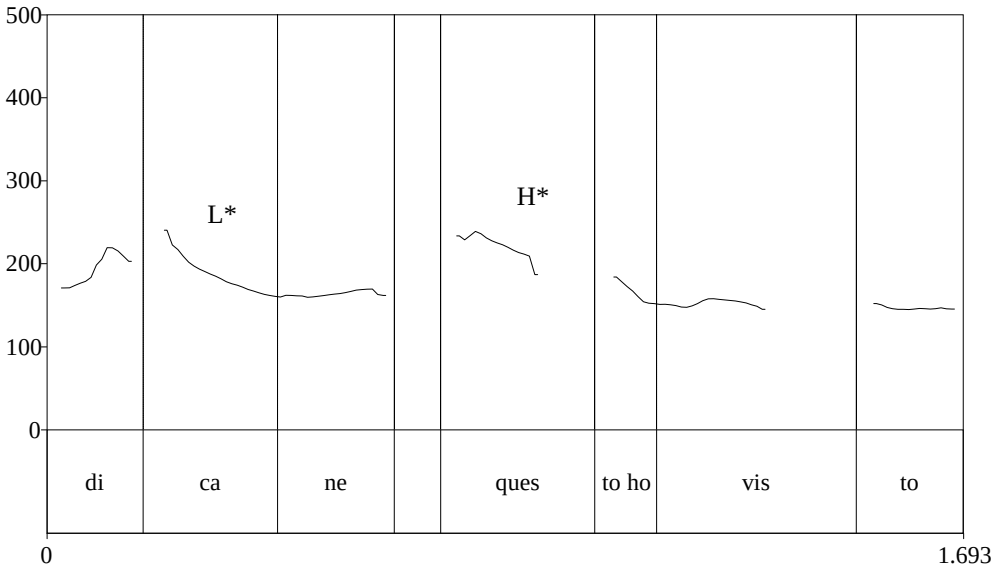

Figure 4b

As for the realization of the focused modifier *questo*, in both cases it is marked by a pitch, consistent with the general picture.

6.5. Specific types of left-hand Topics

As already mentioned (cf. fn. 15 and 16), the corpus collected also includes cases in which the sentences used for elicitation were preceded by contexts inducing a specific interpretation for the left-hand <*kind*> Topic (i.e., either as an AS-, C- or G-Topic).

In the following example, for instance, the context provided is intended to obtain a shifting interpretation for the dislocated phrase *di torta* ‘of cake’:

[Context: *Per il tuo compleanno si va a cena fuori…*
'For your birthday we are going to dine out…']

(56) *… e* *<u>di torta</u>* *quale* *vorresti?*
and of cake which want.2SG.COND
'… and which cake would you prefer?'

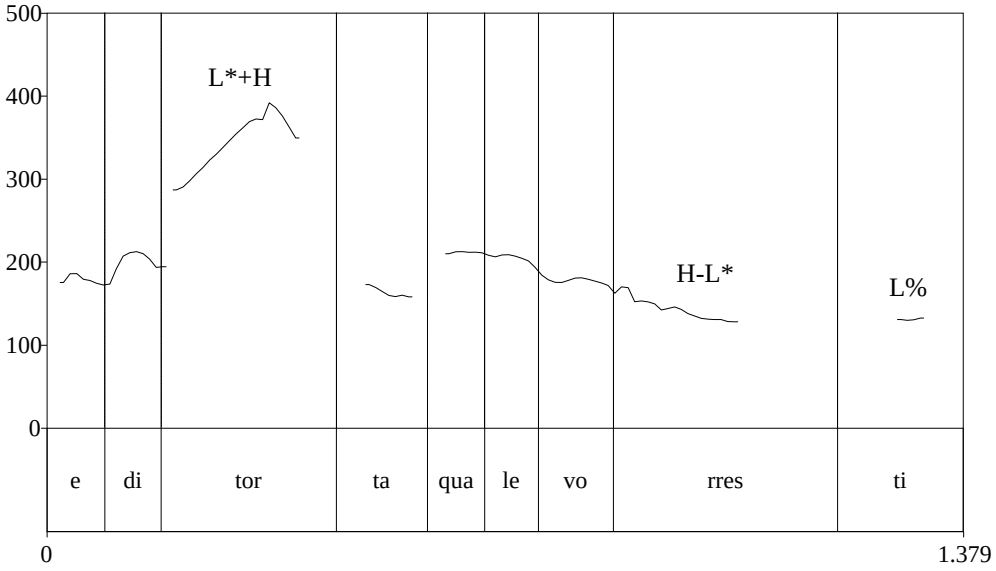

Figure 5

As expected, the left-hand Topic *di torta* 'of cake' shows a rising contour (L*+H), thus qualifying as an AS-Topic. This is followed by a downgrading contour, which is typical of wh-questions in standard Italian.

In other cases, the context was intended to obtain a contrastive interpretation for the topicalized <kind> DP, as illustrated below:

[Context: *Che dolce vorresti?* 'Which dessert would you like?']

(57) *<u>Di torta</u>* *vorrei* *la* *'Mimosa',* *<u>di gelato</u>* *vorrei* *quello* *alla* *fragola*
of cake want.1SG.COND the Mimosa of ice.cream want.1SG.COND that to.the strawberry
'As a cake I would like a 'Mimosa', as an ice-cream I would like a strawberry-flavored one'

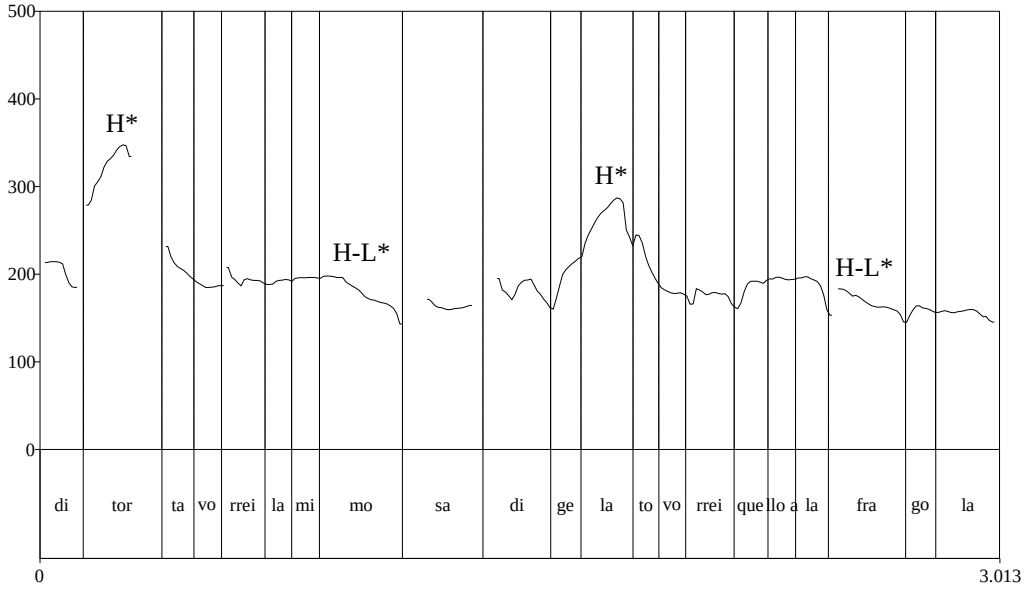

Figure 6

As is shown, the two dislocated <*kind*> DP are marked with a H* tone, proving their (expected) interpretation as C-Topics. This interpretation is further supported by the fact that, in the given context, the two <*kind*> DPs could not be realized as right-hand Topics (cf. (59)). This is in line with the fact that C-Topics are only allowed in the left-periphery of the sentence (cf. § 4 and the references cited therein).

(58) **Vorrei la 'Mimosa', di torta; vorrei quello alla fragola, di gelato*
want.1SG.COND the Mimosa of cake want.1SG.COND that to.the strawberry of ice.cream

Finally, some contexts were intended to determine a continuing/familiar function for the dislocated phrase. This is the case illustrated below:

[Context: *Tutti pensano che io ami le torte al cioccolato…*
'Everybody thinks I like chocolate cakes…']

(59) *… e invece di torta mi piace solo la 'Mimosa'*
and instead of cake to.me please.3SG only the Mimosa
'… while I only like 'Mimosa', as a cake'

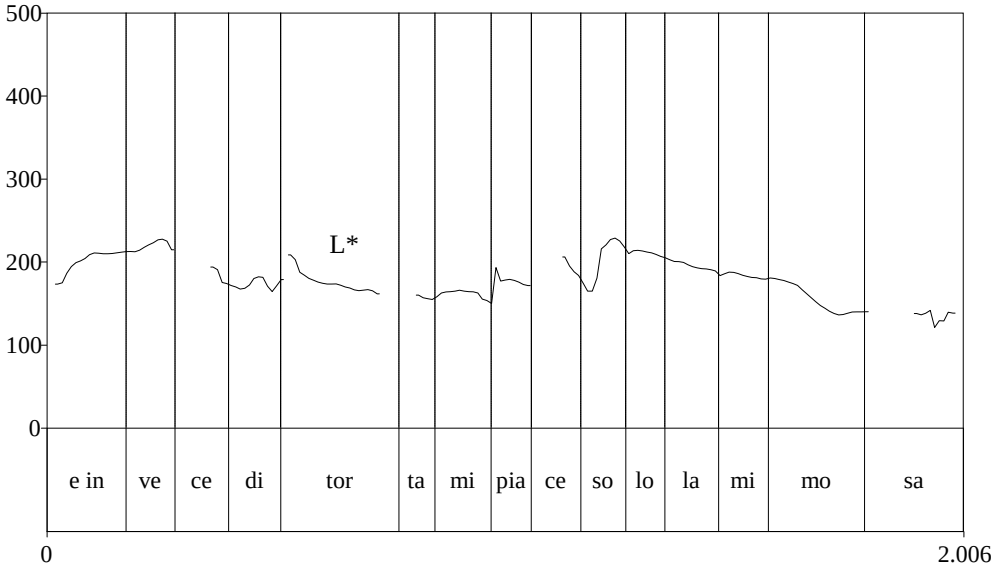

Figure 7

The dislocated <*kind*> DP *di torta* in Figure 7 is low-toned and qualifies as a G-Topic, consistent with its discourse properties.

6.6. The interpretation of pro *resumed: final considerations*

The prosodic analysis has shown that the dislocated phrase in a Split Nominal construction can implement different discourse functions if topicalized in the left periphery of the matrix clause (AS-Topic, C-Topic or G-Topic). On the other hand, it can only play a Familiar role in the right periphery, consistent with cross-linguistic studies (cf. § 4).

Since the interpretation of *pro* depends on an AGREE relation with the local AS-Topic, when the topicalized phrase does not implement a shift in the discourse, a silent AS-Topic including a <*kind*> DP must be assumed in Split Nominal constructions to allow for *pro* licensing (on null Topics, cf. also Sigurdsson 2011). This is not an *ad hoc* solution: AS-Topics must be silent when 'aboutness' is kept continuous across sentences, namely in the presence of a G-Topic used for Topic continuity (cf. § 4) – a frequent case in conversations. This means that a dislocated phrase implementing a C- or G-Topic in the relevant constructions is always to be considered as a *low copy* of a silent AS-Topic.

In other words, a sentence like (54) above (with an *in situ* Focus and left-hand topicalization) can be represented as in (61) when the dislocated element is an overt AS-Topic (cf. Figure 2a), and as in (62) when it is a G-Topic (cf. Figure 2b):[17]

(60) [$_{ShiftP}$ [$_{DP}$ pro$_{kind}$ *di* [$_{SC}$ *cane* t]] [$_{IP}$ *ho visto* [$_{DP}$ [$_{FamP}$ <pro$_{kind}$ *di cane*> [$_{SC}$ pro *QUESTO*]]]]]
Agree

(61) [$_{ShiftP}$ <pro$_{kind}$ *di cane*> [$_{FamP}$ [$_{DP}$ pro$_{kind}$ *di* [$_{SC}$ *cane* t]] [$_{IP}$ *ho visto* [$_{DP}$ [$_{FamP}$ <pro$_{kind}$ *di cane*> [$_{SC}$ pro *QUESTO*]]]]]]
Agree

[17] The internal structure of small clauses and the sentential IP are simplified for reasons of space.

7. Conclusions

In this paper interface evidence is provided to support an analysis of (a particular case of) Split Nominal construction in which the dislocated element is not extracted from the NP containing the Focus.

Specifically, formal and semantic considerations suggest that the dislocated phrase constitutes a *kind*-construction, merged as a G-Topic in the left periphery of the DP containing the focused element. The latter is argued to select a SC having a *pro* in subject position and the focused NP as its predicate. This means that the latter is not, in fact, a modifier of the dislocated phrase at any point of the derivation.

Following recent proposals, it is then argued that the subject *pro* in the SC containing the Focus is interpreted through an Agree relation with the local (possibly silent) AS-Topic, representing a high copy in the C-domain of the <*kind*> G-Topic in the D-domain.

This analysis can explain a number of asymmetries concerning island effects connected with either left- or right-dislocation of the <*kind*> G-Topic. Furthermore, it is supported by intonational evidence, showing that the dislocated constituent can be overtly realized as any type of Topic, depending on the context; when it constitutes an overt AS- or C-Topic in the C-domain, the DP-internal G-Topic is a silent low copy.

This analysis provides a novel approach to Split Nominal constructions, which can be profitably applied in future analyses on Split constructions in different languages.

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Person features and the acquisition of clitics*

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Over the last fifteen years the observation has been made, first, that children omit clitics in their early production of languages such as French and Italian, and, second, that this omission pattern is not universal, since it is not found for all languages. The question then emerges as to which clitics are omitted, and what is the property that causes their (optional) omission. One of the accounts in the literature, the Unique Checking Constraint account, claims that the grammatical property responsible for clitic omission is the feature that triggers participle agreement. If so, clitics that never trigger participle agreement in a language are predicted to be unproblematic in acquisition. Here we test one such case, namely that of first and second person clitics in Catalan. We report the results of an experiment run with 44 Catalan-speaking children aged 2 to 4 and we show that first/second person clitics are produced in a more target-like manner than third person clitics, which do trigger participle agreement, and are omitted to a lesser extent.

For Adriana, with memories of our excursions in Lisbon, Kourion and other places

1. Introduction

In her paper on participle agreement, Belletti (2006) showed how some person specifications give rise to obligatory participle agreement while others do not. The contrast is exemplified in (1) for Italian (example from Belletti 2006).

(1) a. L'ho vista/*visto.
3sg.cl have.1sg seen-fem-sg/*seen-masc-sg
'I have seen her.'

b. Mi/ti ha vista/visto.
1sg/2sg.cl have.3sg seen-fem-sg/seen-masc-sg
'S/he has seen me.'

*We are grateful to children and teachers at the Escola Bressol in Sucs, Escola Antònia Simó i Arnó in Almacelles and Escola Decroly de Barcelona for their willingness to participate in this experiment. Thanks are also due to Anna Espinal (Servei d'Estadística Aplicada, Universitat Autònoma de Barcelona) for running the statistical tests, to Joana Rosselló for some of the data, to the audience at Going Romance 2013, held in Amsterdam, for their comments and suggestions, and to projects FFI2011–29440–C03–03 and 2009SGR 1079 for funding.

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti. C. Contemori and L. Dal Pozzo (eds.) Siena, CISCL Press.

In Romance varieties with less pervasive participle agreement than Italian, such as peninsular Catalan, third person may display participle agreement, but agreement is banned with first and second person object clitics:

(2) a. L'he vista/vist.
3sg.cl have.1sg seen-fem-sg/seen-masc-sg
'I have seen her.'
b. M'/T'ha *vista/vist.
1sg/2sg.cl have.3sg *seen-fem-sg/seen-masc-sg
'S/he has seen me.'

We assume that participle agreement is the spell out effect of an operation that eliminates an uninterpretable feature in *v*P (or PartP as in D'Alessandro and Roberts 2008). The presence of such an uninterpretable feature triggers movement of the associate of the clitic to the specifier of *v*P. The Unique Checking Constraint analysis of clitic omission in early child grammar capitalises on this operation (Wexler 1998, Gavarró, Torrens and Wexler 2010). Under that analysis, double feature checking by a given DP is subject to maturation. If a clitic derivation involves only elimination of one uninterpretable feature at ClP, as in e.g. Spanish or Romanian, no participle agreement is found and no clitic omission occurs in early production. If the derivation requires two instances of feature elimination, at *v*P and ClP, participle agreement takes place, but double feature elimination conflicts with the Unique Checking Constraint (UCC) and early clitic omission is found. This is, by hypothesis, what happens in Italian, French and Catalan with third person object clitics (the fact that there is clitic omission has been established by Guasti 1993/1994 and Schaeffer 2000 for Italian, and for French by Jakubowicz, Müller, Kang, Biemer and Rigaut 1996, Hamann, Rizzi and Frauenfelder 1996, Jakubowicz, Müller, Biemer and Rigaut 1997).

A straightforward prediction of this hypothesis is that first and second object clitics will be omitted if participle agreement occurs in the language with those clitics, but should be unproblematic otherwise. This is the prediction we aim to test with Catalan.

The paper is organised as follows. In section 2 we sketch the characteristics of participle agreement in Catalan. In section 3 we detail our experimental design, and in section 4 we provide the results of the experiment. We consider further results and draw our conclusions in section 5.

2. A sketch of participle agreement in Catalan

Participle agreement is quite sparsely represented in the contemporary Romance languages. In present-day Spanish, for example, it is only retained in passives with auxiliary *ser* 'be', as in (3). Other Romance varieties are mostly unexplored, as is the case for Catalan. If we focus on constructions with auxiliary *haver* 'have', in Eastern Catalan participle agreement is found in object clitic constructions (4).

(3) Han sido vistas/*visto.
have.3pl been seen-fem-pl/seen-masc-sg
'They have been seen.'

(4) a. Les han vistes/vist.
3-fem-pl.cl have-3pl seen-fem-pl/seen-masc-sg
'They have seen them.'
b. N'he vistes/vist moltes.
part.cl seen-fem-pl/seen-masc-sg many
'I have seen many of them.'

This instance of participle agreement is optional, and found with feminine definite object clitics (but less often with masculine, plural objects). The incidence of participle agreement with feminine plural clitics was considered experimentally in Gavarró et al. (2010) and was found to be 30.6% (vs. 69.4% of no overt agreement) in adults and 21.8% (vs. 78.2%) in children aged 2 to 4. There was no statistically significant difference between the two groups.

If we turn to other contemporary varieties of Catalan, València Catalan appears to be much like the Eastern Catalan variety described (see Pérez-Saldanya 1998); participle agreement is more commonly observed in Rossellonese and Alguerese (for example, Alguerese displays agreement with both [+fem] and [–fem] clitics; see (5) (from IEC 2003)). Majorcan Catalan is the variety that has retained the largest array of contexts in which participle agreement occurs: (i) first and second person objects clitics (6), (ii) reflexive clitics (7), (iii) impersonal sentences, especially with dislocation as in (8), (iv) wh- interrogatives (9) and (v) relative clauses (10) (data from Rosselló 2002 and Joana Rosselló, p.c.).

(5) Los han presos (los bitllets).
3-masc-pl.cl have-3p taken-masc-pl (the banknotes)
'They have taken them (the banknotes).'
(6) Ja m'ha pentinada.
already 1sg.cl have-3sg combed-fem-sg
'S/He has already combed my hair.'
(7) Ja t'has dutxada?
already 2sg.cl have-2sg showered-fem-sg
'Have you already showered?'
(8) Darrerament se n'han construïdes moltes, de cases.
lately cl part.cl have-3pl built-fem-pl many-fem-pl of houses
'Lately many houses have been built.'
(9) Quantes fotos has fetes?
how-many-fem-pl photos have-2sg taken-fem-pl
'How many photographs have you taken?'
(10) ses que jo he vistes, d'al.lotes
the that I have-1s seen-fem-pl of girls
'the girls that I have seen'

This makes Majorcan Catalan one of the Romance varieties most prone to participle agreement at present. In Table 1 we compare several constructions with respect to participle agreement in Catalan, French, Italian and Spanish (the source of the French and Italian data is Belletti 2006).

Table 1: +/– PPA in different constructions and Romance varieties

	Majorcan Catalan	**standard Italian**	**standard French**	**Catalan**	**Spanish**
unaccusatives	archaic	+	+	–	–
passives	—	+	+	+	+
clitic 3	+	+	opt	opt	–
clitic 1, 2	+	opt	opt	–	–
reflexives	+	+	+	–	–
impersonal si	+	+	+	–	–
interrogatives	+	–	opt	–	–
relatives	+	–	opt	–	–

None of these varieties displays agreement with a full DP object in canonical position: see (11) for Catalan, although participle agreement of this kind is not unheard of, as illustrated in (12) for Périgourdin (Loporcaro 2010).

(11) Han tancat/*tancades les finestres.
Have-3pl bolted-masc-sg/*bolted-fem-pl the windows
'They have bolted the windows.'
(12) An barrat/barradas las fenestras.
have-3pl bolted-masc-sg/bolted-fem-pl the windows
'They have bolted the windows.'

For Catalan, progressive loss of participle agreement is documented since before the 16th century. In medieval Catalan, participle agreement was found in all contexts in which it can still be observed in Majorcan Catalan and Italian, and with postverbal full DP objects, as in (13).

(13) a. La cadella vench e atrobà que lo lop *havia menjats* los cadells.
the puppy came and found that the wolf had eaten-p the-p puppies
(1288-1289 [1367], Llull, *Meravelles* IV: 28)
b. moltes voltes *hé sofertes* les grans forces dels turchs
many times have-1s suffered-fem-p the great strengths of the Turks
(1460 [1490], Martorell, *Tirant*: 830)

The historical decline of participle agreement started with full DP objects in postverbal position and was followed later by full DP objects in preverbal position, and the process occurred earlier in North-Western Catalan, where agreement is no longer found. For details on the history of this phenomenon, see Solà (1973) and Gavarró and Massanell (2013).

In the linguistic analysis of participle agreement by Kayne (1989) and Belletti (2001, 2006), objects trigger past participle agreement as a consequence of movement and subsequent establishment of a Spec, head relation of the object with AgrO:

(14) $DP_i \ldots [_{AgrO}\ t_i\ AgrO\ [_{VP}\ V\ t_i]]$

The person contrast illustrated above and common to all the Romance languages that display some degree of participle agreement has only been addressed by Belletti (2006):

> 'overt manifestation of agreement should in general be correlated to morphological checking taking place in the syntax; in particular, (…) to syntactic Verb movement. Suppose that the hypothesis is made that the internal structure of the Agr past participial projection is more articulated than hypothesized so far in that it could involve different designated positions for clitics of different persons, with the first and the second person higher than the third person. (…) If syntactic V movement implementing morphological checking takes place obligatorily into the first Agr head, but only optionally into the others, past participle agreement is expected to be obligatory with third person clitics only'.

She also established a relation between the hierarchical organisation of person projections and clitic ordering:

> 'The idea that first and second person clitics could be higher in the Agr past participle internal structure can receive indirect support by the observation that first and second person clitics are usually more external (hence, higher) than third person clitics in clitic clusters'.

The data to support this last claim are those in (15)–(16) for Italian.

(15) a. Mi/ti ci manda.
1sg/2sg.cl there.cl sends
b. *Ci mi/ti manda.

(16) a. Ce lo manda.
there.cl it.cl sends
b. *Lo ce manda.

Catalan, however, presents evidence for another clitic ordering: while peninsular Catalan adheres to the Italian ordering, as in (17a), Majorcan Catalan presents the opposite ordering (17b).

(17) a. Me la porta.
1sg.cl 3-fem.cl brings
'S/He brings it to me.'
b. La me porta.
3-fem.cl 1sg.cl brings

The Majorcan clitic ordering appears to correspond to that of medieval Catalan, exemplified in (18).

(18) Parents has perdut, los quals, aquella matexa fortuna qui ·ls donà, *los te* ha levats. (1490 [1460], Martorell, *Tirant*: 1306)
relatives have-2sg lost, the ones, that same fortune who 3cl-pl gave-3s 3cl-m-pl 2cl have-3s taken
'You have lost relatives who were taken by the same fortune who gave them to you.'

To sum up: in all Romance varieties first and second person participle agreement is less robust than agreement with third person clitics. Yet the relative ordering of clitics in clitic clusters is subject to variation; as a consequence, the proposed generalisation over participle agreement availability and ordering in clitic clusters cannot be maintained.

In later work, D'Alessandro and Roberts (2008) propose a phase-based account of participle agreement whereby participle agreement is naturally an instance of morphological agreement and they argue that it takes place within the complement of a phase head, which is transferred to PF as a unit. Participle agreement is found when the object and participle occur within the same phase. With a transitive verb, the full

DP postverbal object cannot agree with the participle since participles raise. With unaccusatives and passives, *v* is the head of a defective phase and, even if the participle raises, the object and participle are still in the same phase, and agreement takes place. With clitics, the clitic (or its associate, as we have assumed, following Sportiche 1996) moves as well as the participle and, since they are in the same phase, agreement takes place again. But this account does not even address the person variation considered in Belletti (2006). The exact formalisation of the interaction of person features and participle agreement is beyond the scope of the present study.

In the remainder of the paper we will focus on the acquisition of Catalan varieties in which first and second person clitics never trigger participle agreement.

3. A new experimental design

The experiment we report here is a modified version of Rafel's (2013) first elicitation experiment for Catalan, which in turn replicated Silva's (2008) experiment for European Portuguese. In Silva's work, the elicitation method involved the experimenter interacting with the child through hand puppets as exemplified in (19).

(19) Experimenter: – What's Grandma going to do?
Grandma: – I can smell something… But I don't know what it is… Are you both wearing perfume? Let me smell you…
[Grandma smells the child and the Puppet]
Hmmm! You smell so good!
Puppet: – *Estava distraído! Não reparei no que a Avó fez. Como é que ela sabe que nós cheiramos bem?! Diz lá o que a Avó fez?*
– I was distracted! I didn't pay attention to what Grandma did. How does she know we smell good?! Tell me… what did she do?
Expected response: – *Cheirou-nos.*
She smelled us.

This method was used by Silva to elicit first, second and third person clitics, as well as reflexive and dative clitics. However, the task proved to be unsuccessful in the elicitation of plural first and second person clitics (as opposed to singular clitics), because of problems in delimiting the referents. Often European Portuguese children would resort to a clitic other than the one expected. In (19) above, for example, children could say 'She smelled you(sg)' or 'She smelled me'. To give an idea of the wide diversity of answers the method yielded, see the results for European Portuguese in Table 2.

Table 2: Results for European Portuguese (Silva 2008)

		clitic	**null object**	**strong pronoun**
3-year-olds	1st sg	66.7%	6.7%	26.7%
	2nd sg	60%	20%	20%
	1st pl	21.7%	60%	21.7%
	2nd pl	10%	68.3%	21.7%
4-year-olds	1st sg	86.1%	9.3%	4.6%
	2nd sg	78.7%	13.9%	7.4%
	1st pl	63%	13.1%	13.9%
	2nd pl	61.1%	22.2%	16.7%

5-year-olds	1st sg	94%	4.8%	1.2%
	2nd sg	92.9%	2.4%	4.8%%
	1st pl	79.8%	13.1%	7.1%
	2nd pl	81%	3.6%	15.5%

The European Portuguese speaking children produced the target first/second person clitic 60% of the time at least in the singular condition, but much less frequently at ages 3-4 in the plural condition. They also produced strong pronouns, an option in adult European Portuguese (see Silva 2008 and references therein), and null objects, which are not an option in adult European Portuguese for first and second person (20). It is well known that third person objects may be null (21).

(20) Não *(me) convidaste para a tua festa.
Neg me.cl invited-2sg to D your party
'You didn't invite me to your party.'

(21) O Afonso comprou um perfume e ofreceu(-o) à Teresa.
D Afonso bought-3sg a perfume and offered-3sg (it.cl) to Teresa
'Afonso bought some perfume and gave it to Teresa.'

The contrast found by Silva between singular and plural is unexpected. Rather than attribute it to a grammatical factor, it seems to be an experimental artifact: the difficulty in the experimental setting of establishing a plural referent resulted in the production of null objects. The results for Catalan in Rafel (2013) display similar asymmetries between singular and plural, and in the elicitation of plural forms a large number of clitics produced were different from what was expected (first singular for first plural, second singular for first plural, etc.).

3.1 Materials

In view of this experimental confound, we designed a new experiment eliminating the number contrast, and tested only for singular items (no hypothesis put forward made different predictions on clitic production depending on number). We kept the total number of items used in Rafel (2013), i.e. eight, counterbalanced only for person (4 first person clitics, 4 second person clitics). Our method is illustrated in (22).

(22) Experimenter: – *El rei m'ha dit que avui ens acompanya un/a nen/a molt maco/a, però una mica despentinat/da!*
– The king has told me there a nice boy/girl over here, but his/her hair is a bit messy!
[The king combs the child's hair.]
Experimenter: – *Oh! Què fa el rei?*
– Oh! What is the king doing?
Expected response: – *Pentinar-me / Em pentina.*
Comb-inf 1sg.cl/1sg.cl comb-3sg
– He's combing my hair.

Notice that the method differs from the method used by Schaeffer (2000) and many others afterwards for the elicitation of third person object clitics, which involved correction of one experimenter by another ('I know what Red Riding Hood did: she washed the king!' 'No! You tell us: What did Red Riding Hood do to the king?' 'She

combed him [his hair]'). Here correction is not possible because the only way to refer to a first or second person is by means of a pronoun, so there is no alternative structure that could be used in the preceding linguistic environment that would not have involved a first/second person clitic.

The remaining experimental items appear in the Appendix. The verbs used were *pentinar* 'comb', *pegar* 'hit', *embrutar* 'dirty' and *tapar* 'cover', with the same verbs used for first and second person. This is a smaller list of verbs than that used by Rafel (in Rafel's experiment, *mossegar* 'bite', *olorar* 'smell', *pintar* 'paint' and *despertar* 'wake up' were used together with *pentinar* and *pegar*); we selected them because they were easy to represent with the help of puppets and were consistent with a simplification of the stories aimed at rendering the task easier for the children.

3.2 Subjects

The youngest children tested by Silva (2008) and Rafel (2013) were 3-year-olds; Silva also tested 4, 5 and 6-year-olds, and Rafel 4 and 5-year-olds. However the UCC is hypothesised to be operative at ages 2 and 3, and so it is important to test children in this age range. After age 3 children are expected to be adult-like as far as the UCC is concerned. Details of the subjects tested, native speakers of North-Western Catalan (from the village of Sucs and the town of Almacelles) and Central Catalan (from Barcelona), appear in Table 3.

Table 3: Subjects

	#	**mean age**	**age range**
2-year-olds	16	2;8,29	2;3,4–2;11,25
3-year-olds	19	3;5,0	3;0,15–3;11,1
4-year-olds	9	4;6,18	4;1,19–4;11,0
total children	44	3;8,25	2;3,4–4;11,0
adults	10		

3.3 Procedure

The children were tested individually in a quiet area in their schools. They were asked to listen to some short stories and then answer a question at the end of each one. No feedback on the answers was given to the children during or after the test, but their participation was encouraged in general terms. Repetition of the lead-in stories was provided at the request of the children or if they remained silent, but this seldom happened. The answers were noted by the experimenter on an answer sheet, and also recorded on an iPod. The adult controls were tested by the same method in their homes or at university.

3.4 Coding

We coded the responses as (i) blank or irrelevant (e.g. when the child produced a DP: *la cama!* 'the leg!'), i.e. non-valid answers, and (ii) valid answers. Valid answers included a verb with an object clitic (23), a verb without an object (i.e. clitic omission) (24) and a verb with a full DP (25). In the coding we distinguished between first and second person clitics and between finite and non-finite verbs, for the most part infinitives. We kept finite and non-finite verbs separate in the final tally because a non-finite verb seems more likely to designate an action and allow for the absence of an argument, as in (26). Therefore, valid answers were coded into six types for each clitic (first vs. second).

(23) Em pega. (Karla, 2;03,04)
1sgcl hit-3sg
'S/He hits me.'
(24) Tapa. (Maria, 2;10,04)
cover-3sg
'S/He covers (me).'
(25) Tapar les cames. (Joel, 2;05,12)
cover the legs
'Cover my legs.'
(26) Pegar. (Albert, 2;08,29)
hit-inf
'Hit.'

3.5 Statistical analysis

For the analysis of clitic omission we used a Logistic Regression model (Hosmer and Lemeshow 2000) for the binary response variable (1=omission and 0=other valid response). The covariates included in the models were age and type of clitic. Repeated measures for each individual were also taken into account. Results are given in terms of estimated proportion of omission and odds-ratio (OR) (with 95% confidence intervals). The statistical analyses were obtained using SAS software v9.2, SAS Institute Inc., Cary, NC, USA.

4. Results

A total of 432 responses (54 × 8) were expected, 352 from children, 80 from adults. The children produced 30 non-valid responses, representing 6.94% of the total, and the remaining 402 answers were coded as indicated above. We report the results by age in Table 4. No full DPs were produced with finite verbs, and therefore this category is not included in the table.

Table 4: Results for clitic production/omission of first and second person object clitics (absolute numbers and percentage in parentheses)

age group	cl +fin	om +fin	cl –fin	om –fin	DP –fin	non-valid
2-year-olds	36 (28.13%)	2 (1.56%)	46 (35.94%)	18 (14.06%)	9 (7.03%)	17 (13.28%)
3-year-olds	79 (51.97%)	11 (7.24%)	26 (17.11%)	22 (14.47%)	1 (0.66%)	13 (8.55%)
4-year-olds	34 (47.22%)	0	34 (47.22%)	4 (5.56%)	0	0
adults	54 (67.50%)	0	26 (32.50%)	0	0	0

These results improve on the results by Rafel (2013) in that there is a lower percentage on non-valid answers, and there is no production of unexpected clitics. The fact that adults perform at ceiling, with 100% clitics, unlike what happened in Rafel (2013), indicates that the changes introduced in the experimental design represent a substantial improvement.

Both adults and children produced clitics with finite and non-finite verbs and there appears to be no developmental pattern in that respect. The production of full DPs was encountered only in the productions of 2 and 3-year-olds and was marginal,

as it is only possible if the child refers to an inalienable part of the body instead of referring to himself/herself or the experimenter. Omission was found more often with non-finite verbs than with finite verbs.

In Table 5 we take into account only valid answers, and collapse clitic production and clitic omission, whether produced with a finite or a non-finite verb. The levels of clitic production are very high (73.87% at age 2).

Table 5: Results for clitic omission/production of first and second person object clitics

age group	clitic	clitic omission	full DP
2-year-olds	82 (73.87%)	20 (18.02%)	9 (8.11%)
3-year-olds	105 (75.54%)	33 (23.74%)	1 (0.72%)
4-year-olds	68 (94.44%)	4 (5.56%)	0

In Tables 6 and 7 we present the results by clitic (first vs. second person), and only consider omission vs. other valid answers (clitic or full DP object).

Table 6: Results for first person clitic omission and production

age group	omission	clitic + full DP
2-year-olds	10 (18.18%)	45 (81.82%)
3-year-olds	18 (25.71%)	52 (74.29%)
4-year-olds	3 (8.33%)	33 (91.96%)

Table 7: Results for second person clitic omission and production

age group	omission	clitic + full DP
2-year-olds	10 (17.86%)	46 (82.14%)
3-year-olds	15 (21.74%)	54 (78.26%)
4-year-olds	1 (2.78%)	35 (97.22%)

The statistical analysis reveals that there is no statistically significant difference between first and second person for any age group. A statistically significant difference emerges between 3 and 4-year-olds, since the 3-year-olds omit more than the 4-year-olds (OR = 6.06, $CI_{95\%}$ (OR) = (1.28, 28.70)). No statistically significant difference is found between the performance of 2 and 3-year-olds, or between that of 2 and 4-year-olds. In fact, 3-year-olds omitted more than 2-year-olds, an outcome that was not expected; it would be erroneous to conclude from it that 3-year-olds are linguistically less mature than 2-year-olds as a group.

5. Further results

In this section we provide some converging evidence for first and second person clitic production in the spontaneous production of Catalan-speaking children. Second, we consider the evidence available in languages other than Catalan. Finally, we compare our results with those for third person object clitics in Catalan, and evaluate the results against the hypothesis held, the UCC.

5.1 Spontaneous production in Catalan

As a complement to our experimental results, we considered the spontaneous productions of three Catalan-speaking children, Gisela, Guillem and Laura, available in the CHILDES database (McWhinney and Snow 1985). We searched the selected files for contexts of obligatory use of an object clitic; optionally transitive verbs were excluded, as were contexts to which we were unable to assign an interpretation with some certainty. The results appear in Table 8, ordered by the age.

Table 8: Spontaneous production results

File	Age	MLU	1st cl	1st om	2nd cl	2nd om
Gui20	1;08,00	1.36	1	0	1	0
Gui21	1;09,12	1.27	2	1	0	0
Lau26	2;02,05	1.35	2	0	0	0
Gis26	2;02,06	1.50	1	1	1	0
Lau29	2;05,08	1.64	1	1	1	0
Gis33	2;09,16	2.68	3	0	4	0
Gui37	3;01,18	2.48	3	1	12	0
Lau39	3;03,21	3.47	26	0	14	0
Gis41	3;05,15	2.66	1	0	0	0
Gis42	3;06,28	3.51	26	0	14	1
Gui43	3;07,16	2.75	13	0	0	0
Lau48	4;00,10	3.57	18	0	21	0
Total			97	4 (3.9%)	68	1 (1.4%)

How do these results compare with those of our experiment? Omission is marginal with first and second person clitics from the earliest productions. These can be compared with the rates of omission of third person clitics in Catalan reported in Gavarró, Mata and Ribera (2006), which are much higher at ages 2 and 3.

5.2 The acquisition of other Romance languages

There is very little work on first and second person clitic production in the acquisition of Romance languages. Apart from the work by Silva (2008) discussed above, the only experimental work that we are aware of has been conducted for French. Tuller, Delage, Monjauze, Piller and Barthez (2011) tested various populations (adolescents with Specific Language Impairment, mild-to-moderate hearing loss, etc.) as well as 24 typically developing 6-year-olds and 12 typically-developing 11-year-olds (ages selected to match those of the impaired populations). Their method is illustrated in (27).

(27) Experimenter: – *Lui, il dit "Eh, Marie, que fait l'abeille?". Toi, tu es Marie, qu'est-ce que tu réponds?*
– He, he says "Hey, Marie, what is the bee doing?" You, you are Marie, what do you say?
Expected answer: – *Elle me pique.*
– It is stinging me.

The method requires the subject to take the role of a character depicted in the materials and so would not have been appropriate for our younger subjects (in view of the results of Rafel 2013, it is likely that many children would use a third person

rather than a first person, etc.). The summary of the findings by Tuller et al. is that third person accusative clitics were produced significantly less often than first person clitics, suggesting a first person advantage. With the same elicitation technique used with 4-to-6 and 6-to-8 year-olds, Delage and Durrleman (2013) again found that younger children tended to produce fewer third person object clitics than second person clitics; they attributed the difference to discourse dependency: 'identifying the referent for ACC2 is easier than for ACC3 because potential referents for the former are restricted to the interlocutor'. We will not adopt this analysis of the results. It might be sufficient for our purposes that first and second person object clitics are produced in a more adult-like manner than third person clitics. Still, there is something puzzling about the French studies: the subjects tested are much older than those in the Catalan experiment here and the general literature (Jakubowicz et al. 1996, Jakubowicz et al. 1997, Schaeffer 2000, also Gavarró, Guasti, Tuller, Prévost, Belletti, Cilibrasi, Delage and Vernice 2011 for partitive clitics). Therefore it is to be expected that first and second person clitics will be produced at ceiling, even if there had been any maturational effect at an earlier age. For third person clitics, at ages 5 and 6 all studies report unanimously adult-like performance; the one case in which children are possibly not at ceiling is European Portuguese, and this suggests that the availability of a null object may have an impact in the French results.

For other Romance languages, no experimental results are available. Coene and Avram (2011) conducted a study of the spontaneous productions of three Romanian-speaking children aged 1;9–2;11, 2;0–2;11 and 2;0–2;11 (MLUs: 1.51–3.17, 1.39–2.79, and 1.40–3.72 respectively). They observed that all accusative clitics emerged at around the same time, regardless of person feature. The rate of omission of accusative first and second person clitics never reached statistical significance, and in fact Coene and Avram state that first and second person clitics are hardly ever omitted and ceiling performance is achieved shortly after first production. We refer the reader to Coene and Avram (2011) for reference to other studies of spontaneous production leading to the same conclusion.

To recapitulate, the evidence available for first and second person clitics in early Romance, whether obtained in studies of spontaneous production or experimentally, shows a general pattern of consistent early production of these clitics; omission is anecdotic in the naturalistic data. The only language for which omission is considerable is European Portuguese (see Table 2 above); as argued by Costa and Silva (2007), omission in European Portuguese can be related to the availability of a null object in the adult grammar, and hence would not strictly be an instance of clitic omission. Why children fail to limit the null object to third person is an open issue, but in any case it is not a phenomenon that the UCC attempts to characterise.

5.3 A comparison with third person clitics

Let us now turn to Catalan object clitics and the predictions of the UCC. Under our hypothesis, third person object clitics are optionally omitted because they involve double-checking (due to participle agreement); first and second person clitics do not trigger participle agreement, and as a consequence do not conflict with the UCC. The prediction is then that in a comparison of clitic production children should perform better with first and second person clitics than with third person object clitics. To carry out that comparison, we resort to the results for third person in Gavarró et al.

[1] One of the predictions of Delage and Durrleman's hypothesis is that, all other things beeing equal, third person clitics should grant the same performance across languages; this has been shown not to be the case in Babyonyshev and Marin (2006), Gavarró et al. (2010), amongst others.

(2010), to which two more children have been added. Details of the subjects appear in Table 9.

Table 9: Subjects

	#	mean age	age range
2-year-olds	9	2;06,03	1;10–2;11,24
3-year-olds	11	3;07,01	3;00,08–3;10,20
4-year-olds	13	4;07,02	4;03,01–5;01
total children	33	4;01,04	1;10–5;01

In Gavarró et al. (2010) children were tested for 8 items, 4 corresponding to present tense items, 4 to present perfect (in order to elicit participle agreement). Here we take into account only the present tense items, since that was the tense used in our experiment on first and second person. In Gavarró et al., non-valid responses amounted to 5.30% of answers. The results as reported did not distinguish between finite and non-finite verbs. However, if we introduce that distinction, which we have done for first and second objects clitics, we get the results in Table 10. Notice that the percentage of clitic omission with finite verbs is much higher here than for first/second object clitics.

Table 10: Results of third person object clitic production/omission

age group	cl +fin	om +fin	cl –fin	om –fin	+fin full DP
2-year-olds	6 (19.35%)	11 (35.48%)	0	13 (41.94%)	1 (3.23%)
3-year-olds	26 (60.47%)	6 (13.95%)	2 (4.65%)	5 (11.63%)	4 (9.30%)
4-year-olds	45 (88.24%)	4 (7.84%)	1 (1.96%)	1 (1.96%)	0

If we collapse the results for finite and non-finite verbs, then clitic omission, production of the clitic and production of a full DP are distributed as in Table 11.

Table 11: Third person clitic production and omission

	clitic	omission	full DP
2-year-olds	19.35%	77.42%	3.23%
3-year-olds	65.12%	25.58%	9.30%
4-year-olds	90.2%	9.80%	0

As we saw, performance with first and second person clitics was not significantly different and so we can compare third person with first/second person, i.e. the results in Table 5 with those in Table 11. If we take the results for all children together, omission is significantly higher for third person than for first/second person: the Estimated Means of omission are 0.34 ($CI_{95\%}$ = (0.22, 0.48)) for third person clitics, but only 0.14 ($CI_{95\%}$ = (0.08, 0.21)) for first/second person.

By age, the Estimated Means of omission are: 0.18 ($CI_{95\%}$ = (0.09, 0.31)) for first/second person and 0.77 ($CI_{95\%}$ = (0.52, 0.91)) for third person at age 2; 0.23

($CI_{95\%}$ = (0.14, 0.36)) for first/second person and 0.25 ($CI_{95\%}$ = (0.11, 0.46)) for third person at age 3; and 0.05 ($CI_{95\%}$ = (0.01, 0.16)) for first/second person and 0.10 ($CI_{95\%}$ = (0.03, 0.24)) for third person at age 4. At age 3 there is no statistically significant difference between first/second person and third person omission, but there is a difference at age 2 (OR=0.06, $CI_{95\%}$ = (0.01, 0.45)). Therefore there is an interaction between clitic omission and person.

To what extent do these results fulfil our predictions? Let us summarise our findings:

(i) Clitic production is much higher for first and second person clitics than third person clitics at ages 2 and 3.
(ii) Clitic omission is lower for first and second person clitics at ages 2 and 3 (and the difference is statistically significant at age 2).
(iii) Omission for first/second person is found mostly with non-finite verbs, which arguably allow for generic responses in a way that finite verbs do not. With third person clitics omission is not confined to non-finite verb contexts.
(iv) Differences between different person clitics are not found at age 4, and children's performance is adult-like for all clitics at that age.

The UCC is assumed to operate at ages 2 and 3 and we attribute (iv) to this age factor. (i) and (ii) also fulfil the predictions of the UCC, unless we consider the 18.02% omission rate at age 2 an indication that the clitic is problematic. This omission rate is also qualified by its correlation with non-finite verbs, which appear to allow for generic answers without arguments better than finite verbs. The proposed analysis can thus cover the acquisition patterns of different clitics crosslinguistically in a parsimonious manner, since we need only appeal to the property that triggers participle agreement to account for variation. Needless to say, the predictions of the UCC analysis do not presuppose that first/second person clitics behave in the same way in all languages. In languages with participle agreement on first/person clitics, the predictions would be diametrically opposed. But this remains for future research.

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Appendix: Experimental items

a.
Experimenter: – *I saps qui diu que també està força despentinada? Jo!*
– Do you know who else he says has uncombed hair? Me!

[The king combs the experimenter's hair. While the experimenter is being combed, s/he asks:]

Experimenter: – *Oh, què fa ara el rei?*
– What is he doing now?
(Expected response: – *Pentinar-te/Et pentina*. He's combing your hair.)

b.
Experimenter: – *La guineu creu que m'he menjat el seu esmorzar, però no és pas veritat! Està molt enfadada!*
– The fox thinks that I have eaten her breakfast, but it isn't true. She is very cross.
[The fox hits the experimenter with the stick]
Experimenter: – *Oh! Què fa la guineu?*
– What is the fox doing (with the stick)?
(Expected response: – *Pegar-te/Et pega*. She is hitting you.)

c.
Experimenter (talking the fox): – *Potser l'esmorzar se l'ha menjat el NAME OF CHILD!*
– Perhaps the breakfast was eaten by NAME OF CHILD.
[The fox hits the child lightly]
Experimenter: – *Què fa ara la guineu amb el bastó?*
– What is the fox doing with the stick, now?
(Expected response: – *Pegar-me/Em pega*. She is hitting me.)

d.
Experimenter: – *La Caputxeta és una mica fredolica. Sort que ha portat una manta!*
[To child:] – *Que tens fred?*
– Red Riding Hood feels the cold. Fortunately I have a blanket.
[To child:] – Are you cold?
[Red Riding Hood covers the child.]
Experimenter: – *Què fa la princesa amb la manta?*
– What is Red Riding Hood doing with the blanket?
(Expected response: – *Tapar-me/Em tapa*. She is covering me.)

e.
Experimenter: – *Ui, jo també en tinc de fred, Caputxeta!*
– I'm cold too!
[Red Riding Hood covers the experimenter with the blanket]
Experimenter: – *Què fa ara la Caputxeta amb la manta?*
– What is Red Riding Hood doing with the blanket?
(Expected response: – *Tapar-te/Et tapa*. She is covering me.)

f.
Experimenter: – *El cuiner ve directament del forn on fa pa! Oi, encara té farina a les mans!*
– The cook is coming from the kitchen where he was baking. He still has flour in his hands.
[The cook gets flour on the experimenter.]
Experimenter: – *Què fa el cuiner?*
– What is the cook doing?
(Expected response: – *Embrutar-te/T'embruta.* Make you dirty. [Getting flour on you.])

g.
Experimenter: – *Oi! I ara què fa el cuiner?*
– And what is the cook doing now?
[The cook gets flour on the child.]
(Expected answer: – *Embrutar-me/M'embruta*. Making me dirty. [Getting flour on me.])

Once and *Twice*

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The study of English *once* and *twice* yields evidence that both are complex phrases containing two visible morphemes and one silent one, rather than simple lexical items. The *-ce* morpheme is akin to a postposition, despite English being primarily prepositional.

The silent element is a silent counterpart of *time*, represented as TIME. Evidence is discussed that favors taking this instance of TIME to be singular, even in the case of *twice*. There appears to be a link between TIME and the syntax of classifiers.

The presence of silent TIME with *once* and *twice* (and in other cases discussed) indirectly provides evidence for the presence of other antecedentless silent (nominal) elements in the human language faculty such as NUMBER.

Silent elements of this sort are not visible (even via an antecedent) in the primary data available to the learner. Their properties, for example their singularity or plurality and their licensing conditions, therefore provide us with a privileged window onto the invariant core of the language faculty itself.

The presence of silent elements such as TIME and NUMBER in various cases in one language or another can itself be traced back to a principle of decompositionality, to the effect that the human

1. Introduction

Although the correspondence is obviously close between (1) and (2):

(1) We've been there only one time.

(2) We've been there only once.

questions arise as to the way in which the grammar of speakers of English expresses this correspondence. It seems clear that *once* contains *one* as a proper subpart; if so, what is the status of the suffixal *-ce*? It seems equally clear that *once* should be associated with 'time', as in the corresponding *one* time; if so, and if this association is expressed through the presence, with *once*, of a silent counterpart of *time*, namely TIME (I will use capitals for silent elements), what are the properties of TIME?

In this paper, I will pursue the idea that this *-ce* is akin to a postposition, and I will consider evidence that suggests that TIME here must be singular. The latter suggestion is of course straightforward for *once*, less so, and therefore more interesting, for *twice*, to which I will return later on.

2. *-ce* as a postposition

The parallelism between (1) and (2) that immediately supports the idea that *once* contains *one*, i.e. that *once* = 'one + -ce', involves sentences in which *one* and *once* have a numeral- like interpretation. But the parallelism holds, too, for cases in which *one* and *once* are not felt to be numeral-like, such as:

(3) We were young *once*

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti. C. Contemori and L. Dal Pozzo (eds.) Siena, CISCL Press.

With destressed *once*, and:

(4) We were young at *one* time

With destressed at *one* time.

The pair of examples (3) and (4) show in addition that *once* can, at least in some cases, correspond to a PP (with P = *at*, in this case). Correspondence with a PP (with P = on) also holds between example (2) and the following:

(5) We've been there on only *one* occasion.

This correspondence with PPs is part of the reason that I will take suffixal *-ce* to be a P (other reasons will follow further on). I will call this *-ce* a postposition simply because *-ce* ends up being preceded by *one*, in the case of *once*. (By antisymmetry, if *-ce* is a projecting head, *one* cannot be in the complement position of *-ce*.) As for the interpretive contribution of *-ce*, it may be neutral between that of temporal *at*, as in (4), and temporal *on*, as in (5); alternatively, or in addition, thinking of its apparent origin as an adverbial genitive[1] *-ce* may be related to the for me archaic *of* found in *of* an evening. If we now combine the idea that *-ce* is a postposition with the idea that silent TIME is present, we have as a fuller representation for *once.*[2]

(6) *one* TIME *-ce*

In (6), '*one* TIME' is an indefinite phrase. The postposition *-ce* can also be preceded by a definite phrase:

(7) You might help us just this *once*.

With a definite article, the result is more 'special', but possible in at least some English:

(8) They helped us just the *once*. The representations for (7) and (8) are as in:
(9) this/the *one* TIME *-ce*

That *-ce* is postpositional, in addition to being suggested by the parallelism with temporal *at*, *on*, and *of*, is further suggested by certain discrepancies in behavior between *once* and *one* time. *One* discrepancy is found in relative clause contexts:

(10) They told us about the *one* time they thought they were really in danger.
(11) *They told us about the *once* they thought they were really in danger.

[1] For discussion, see Jespersen (1961, sect. 18.1).

[2] In some cases, the postpositional phrase with *-ce* can combine with a preposition:

i) We'll do it at once.
ii) For *once*, they're telling the truth.
Note that the *at* of (i) is not exactly the same as the *at* of:
iii) At *one* time, they were in agreement with us. which seems closer to *-ce* itself:
iv) *Once*, they were in agreement with us. The at of (i) seems more like the in of:
v) We'll do it in a/*one* second/minute.
though the following contrast will need to be accounted for:
vi) We'll do it in two seconds/*at twice.

Despite the possibility of (8), example (11) is appreciably worse, if not completely impossible. The reason, I think, is that the 'head' of a relative clause cannot be a PP, whether the P is a postposition or a preposition. This is illustrated by the contrast between (10) and the following[3]:

(12) *They told us about the at *one* time they thought they were really in danger.

Similarly, *one* has:

(13) Now I've met the two people you were telling me about.
(14) *Now I've met the about two people you were telling me.
Furthermore, if Amritavalli and Jayaseelan (2003) are correct to take adjectives to be K(ase)Ps (and if KPs are akin to PPs), then (10) vs. (12), and (13) vs. (14), are paralleled by:

(15) You're not the genius your sister is.
(16) *You're not the intelligent your sister is[4].

The restriction seen in (12) and (14) and (16) could be stated as a requirement that the (and other determiners) not take a PP/KP as their complement (or as the Spec of their complement, from the perspective of a raising analysis of relatives), though *one* would hope to be able to go deeper than that. In any event, it seems likely that the restriction in question, however ultimately understood, will carry over to (11), if *once* is a PP (or perhaps a KP), i.e. if *-ce* is a P (or perhaps a K).
It should be noted that if we 'undo' the relative clause in (10), we reach:

(17) They thought they were really in danger (at) that time.

in which an *at* can be pronounced, in a way that recalls:

(18) They thought they were really in danger on that occasion.

In other words, (10) probably contains a silent P associated with *one* time. If so, then either the restriction seen in (12) and (14) and (16) must not come into play with

[3] Cf. also:
i) The *(place) under the bed where they're hiding is well-c*once*aled. Related to the text discussion is:
ii) For every two times you make a contribution,...
iii) *For every twice you make a contribution,...
with the P of *twice* incompatible with what is probably a relative clause context. Similarly:
iv) We liked that film the first two times/*the first twice (we saw it).

[4] Although comparatives share important properties with relatives (v. Chomsky (1977)), there are significant differences, e.g.:
i) You're not as intelligent as/*that your sister is. In:
ii) the most intelligent that you've ever been
iii) the fastest that you've ever run
the adjective or adverb, which is not the target of relativization, has been pied-piped by the (non-PP) superlative, which is.
Although *woody* and *wood-like* seem close, they differ in a way that needs to be accounted for:
iv) woodier, woodiest
v) *wood-liker, *wood-likest

silent Ps, or, more likely, the silent P in (10) has been stranded within the relative clause[5].
The PP character of *once*, with P = *-ce*, is also relevant to the following contrast, I think:

(19) He's going to be just a *one*-time champion.
(20) *He's going to be just a *once* champion.

The idea is that compound-like phrases such as *one-time champion* disallow Ps, as seen in:

(21) He's a former champion.
(22) *He's an at *one* time champion.

where (22) also contrasts with the non-compound-like:

(23) He was a champion at *one* time.

In other words, (20) is excluded parallel to (22), supporting the proposal that *once* contains a P.

3. *Twice*
The facts of the preceding paragraph are mimicked, to my ear, by corresponding facts with *two time(s)* vs. *twice*[6]:

(24) He's going to be just a two-time champion.
(25) *He's going to be just a twice champion.

suggesting, not surprisingly, that the *-ce* of *twice* has the same postpositional status as the *-ce* of *once*. Put another way, (25), like (20) and (22), runs afoul of the restriction barring PPs from appearing within compounds[7].
It is worth noting that the fact that *time* in (24) must be singular[8]:

(26) *He's going to be just a two-times champion.

---

[5]The stranding of a silent P may also be at issue in:
i) a five-thousand dollar car
if:
ii) This car is just $5000.
contains a silent AT.

[6] And similarly for archaic *thrice*:
i) He's going to be just a three-time champion.
ii) *He's going to be just a thrice champion.
whose *-ce* is certainly the same morpheme as the *-ce* of *once* and twice.
Despite being archaic relative to my English, *thrice* displays differential behavior in:
iii) ?They were thrice criticized.
iv) *They were criticized thrice.

[7] Note the contrast with the non-compound example:
i) Twice winner of the Open, Mary...

[8] I have the impression that at least some British English allows *-s* in some such cases more readily than my English does. The details of this cross-English difference need looking into.

reflects a widespread restriction (in my English) c*once*rning 'compounds', e.g.:

(27) You're an avid newspaper(*s)-reader, I see.

Moreover, the very fact that *two-time* is possible in (24) leads to the possibility that the silent TIME associated with *twice* (exactly as TIME is associated with *once*) is actually singular rather than plural; in other words, *twice* might have the representation[9]:
(28) twi- TIME -*ce*

I will return to this question shortly.
Before doing so, let me note that *twice* also mimics *once* with respect to the relative clause facts of (10) and (11):

(29) They told us about the two times they thought they were really in danger.
(30) *They told us about the twice they thought they were really in danger.

As in that earlier discussion, the proposal is that (30) is excluded because the 'head' of a relative clause cannot be a PP, which *twice* is, as in (28), with P = '*-ce*'. (Again as in the earlier discussion, if (29) contains a silent P, then either the restriction in question fails to apply to silent Ps, or else, more likely, that silent P in (29) has been stranded.)

4. The singularity of TIME
Coming back now to the question of singular TIME in (28), we can note that its being a comp*one*nt of *twice* (as opposed to plural TIMES being a comp*one*nt of *twice*) receives support from:

(31) Two times are enough.
(32) Two times is enough.

[9] Not important for the present discussion (though interesting in its own right) is the question whether the 'twi-' here is *one* morpheme or two. The same question arises with twin, twenty, twelve, two, between. What is clear is that the 'tw-' of *twice* is identical to the 'tw-' of these other forms. (The non-pronunciation of the 'w' of *two* is in all likelihood predictable from general properties of English phonology.)
Worth noting is that the very close link between *twice* and *two times* is not limited to cases in which *time* is akin to *occasion*, given:
i) This car is worth at least two times/twice what that car is worth.
ii) This car is two times/twice as valuable as that *one*.
Gathercole (1981) has noted:
iii) John is two times/*twice older than his son.
Her proposal in terms of contraction (and rightward movement) has a problem with:
iv) He's older than his son. Alternatively, there's a link to:
v) John is older than his son by ??two times/*twice.
which may be due to the necessary presence of a postposition here with *twice*, but not with *two times*.
On the other hand, we have:
vi) Nobody should two-time their spouse.
vii) *Nobody should twice their spouse.

vs.
(33) *Twice are enough.
(34) Twice is enough.

Two times allows plural agreement in such sentences (in addition to allowing singular agreement). *Twice*, on the other hand, allows only singular agreement. This must reflect the fact that *twice* contains singular TIME, as in (28), and that twice cannot contain plural TIMES[10].
A further consideration pointing in the direction of singular TIME for *twice*, rather than plural TIMES, comes from facts related to those discussed earlier at (7) and (8) c*once*rning *(just) this/the once*. An initial complication, however, arises from the fact that my English strongly resists combining *twice* with a definite determiner. I do not accept the following, though I have seen written examples of this sort:

(35) *You should have d*one* it just the twice.

More important, though, for the present discussion are comparable examples with demonstratives. I find the following contrast:

(36) *?You could have d*one* it just that twice.
(37) *You could have d*one* it just those twice.

with the singular demonstrative not quite as bad as the plural demonstrative, in a way that gives comfort to the view that twice contains singular TIME.
Here I have in mind (m*one*tary) arguably because *two time* as a (rather complex) verb has an analysis involving 'two N at a time', in which *two* is not a modifier of *time*, but rather of a silent N that may be classifier-like (PERSON) in a way comparable to TIME, as discussed later. Phrases like *five pound*, which are not possible for me, but are possible for Neil Myler (p.c.), who has the following set of judgments:

(38) Five pounds are/is enough.

With plural *pounds*, either plural or singular agreement is possible for him (as for me) in this kind of sentence. Whereas with singular *pound*, he has:

(39) Five pound is enough.
(40) *?Five pound are enough.

The fact that *five pound* for him favors singular agreement here is of some interest. Of even more interest to the present discussion is the fact that he finds (40) slightly less bad than (33), which tried to have plural agreement with subject *twice*. This

[10] Note the contrast with:
i) Fifty head of cattle are enough.
in which the plural verb is presumably keyed to the plural lexical noun *cattle*, no counterpart of which is present with *twice*.

difference for him between **Twice are...* and **?Five pound are...* may be related to his accepting:

(41) He'd better give us back those five pound by next week.

in which, in the presence of a numeral, singular *pound* is compatible with plural *those*. Yet for him a plural demonstrative with *twice* is marginal (for me, *those twice* is sharply out, as in (37)):

(42) ?(?)We could have agreed (just) those twice.

Moreover, adding *those* to a sentence like (40) appreciably improves, for him, the status of plural verb agreement:

(43) ?Those five pound are enough (to buy lunch with).

This improvement, i.e. the contrast for him between (43) and (40), recalls phenomena discussed in Collins and Postal (2012), den Dikken (2001), Kayne (1972), and Pesetsky (2014). Adapted to (43), the proposals in those works suggest the following (for the relevant speakers). In (39), the phrase *five pound* contains no plural morpheme at all[11].
A plural morpheme can, however, be introduced above *five pound*, if a demonstrative is merged, too. That allows (41) and also (43) (though why (43) is not perfectly acceptable remains to be accounted for). Only very marginally can a plural morpheme be introduced above *five pound* even in the absence of a demonstrative, to yield (40).
We can now return to the comparison between *five pound* and *twice* (with the analysis 'twi TIME -*ce*'), both of which contain a singular noun in the context of a numeral. The question is why (33), repeated here:
(44) *Twice are enough.

is worse than (40). A possible answer is that the contrast can be traced back to the difference between the silence of TIME and the non-silence of *pound*. Thinking of Kayne's (2006) proposal that silent elements are never in exactly the same position that their overt counterparts end up in, it may be that TIME, in the case of *twice*, actually occurs preceding *twi-*, i.e. that (28) should be replaced by[12]:

(45) TIME twi- -ce

If so, then the following comes to mind. The (very marginal) merger of the (silent) plural morpheme above *five pound* in (40) that yields (very marginal) plural agreement is available only if the numeral precedes (is higher than) the noun. Since *twi-* does not precede TIME in (45), that merger is blocked, yielding the sharper

[11] Presumably, this is equally true of compound-like examples such as:
i) a five-pound book
[12] Possibly, TIME has reached the position preceding *twi-* via movement.

unacceptability of (44). This must hold in sentences like (44) in which *twice* is not associated with a demonstrative.
With a demonstrative present, Neil Myler (p.c.) to some extent accepts:

(46) ?Those twice were enough.

indicating much as before that the demonstrative by itself is, with some degree of marginality, sufficient to license a higher plural morpheme even with *twice*.

5. The importance of being antecedentless
TIME is necessarily singular in (45). In (46), a plural morpheme has been merged high in a way dependent on the demonstrative. But TIME itself remains singular even in (46), in a way exactly parallel to the way in which *pound* remains singular in *those* five pound in (41) and (43).
That TIME is necessarily singular in (45), i.e. when it is a subcomp*one*nt of *twice*, cannot, however, be a general property of silent TIME. This is strongly suggested by the by and large well-formed character of:
(47) Mary's seen it four times and John five.
(48) We've already been there three times, but we're planning to go another four.
(49) You scolded him three times; (the first) two were enough.

which contrast sharply, in effect, with (44). That is, there is every reason to think that the silent noun in (47)-(49) is plural, just as silent nouns can in general be plural in such contexts:

(50) Mary has written four papers this year, but John has written only three.
(51) Four people I know are interested in your paper, but two are not.

(Note in particular the plural agreement licensed by the silent noun in the second part of (51) and (49, again contrasting with (44).)

Sentences like (47)-(51), by showing that the language faculty allows for silent plurals (including plural TIMES), make even more pointed the question why *twice* must contain singular TIME. The key difference would seem to be that the silent plural TIMES of (47)-(49) has an antecedent, namely (overt) times. Whereas the silent singular TIME of *twice* does not have any antecedent.

6. Classifiers
Continuing to think in terms of 'silent elements' rather than in terms of 'deletion', to keep open the possibility that Kayne (2006) was correct to deny the existence of deletion operations, we might be tempted to formulate a proposal to the effect that a silent plural is licensable only via an antecedent. This does not seem right, however, given often-noted sentences like:

(52) The very poor are in need of help.

in which the plural verb form indicates the presence of a silent (antecedentless) plural noun[13]. The absence of an antecedent for the silent TIME of *twice* is therefore not sufficient to account for its obligatory singularity[14].

Thinking of our earlier discussion centering on (39)-(43) of the (partial) parallelism between *twice* and *five pound*, with singular *pound*, it seems likely that a(nother) relevant factor distinguishing *twice* from *the very poor* is the presence within *twice* (and within *once*) of a numeral. The relevance of the numeral subpart of (*once* and) *twice* is brought out by the following consideration. Although the possibility of having a singular noun with a numeral in sentences like (39)-(43) is limited to some varieties of English (not including mine), much more widespread (and perhaps pan-English) is the possibility of numeral + singular noun in compound-like structures such as in:

(53) They're caught up in a three-year old quarrel.
(54) That three-year old quarrel of theirs has got to stop.

At least in my English, a singular here is the only option:

(55) *They're caught up in a three-years old quarrel.
(56) *That three years-old quarrel of theirs has got to stop.

Yet I accept:

(57) They're caught up in a years old quarrel.
(58) That years old quarrel of theirs has got to stop.

with the interpretation that the quarrel in question is quite a number of years old. That interpretation disappears if plural *years* here is replaced by singular *year*:

(59) They're caught up in a year-old quarrel.
(60) That year-old quarrel of theirs has got to stop.

In these, with *year-old quarrel*, the quarrel must be only one year old.
I conclude, then, that singular *year* in (53) and (54) is licensed in my English in part by the compound-like structure (to distinguish (53) and (54) from (39)-(43)), but also in part by the preceding numeral, to allow (53) and (54) while prohibiting (59) and (60) from having the interpretation of (57) and (58). This conclusion, combined with the parallelism between *twice* and *five pound* (and now with *three year*), leads in turn to the following proposal:

(61) A necessary condition for silent TIME in *twice* and *once* is the presence of the numeral itself (*two*, *one*).

If we now ask why (61) should hold, we are led, I think, to (numeral) classifiers.
The reason is that some languages clearly show that (a noun corresponding to) *time* has classifier-like behavior even when from an English perspective *one* would have

[13] Note the difference between the *very poor* and:
i) They have two four-year olds.
in which the plural *-s* is not silent, even in the presence of a silent N
[14] This point is reinforced by:
i) Three times are enough, whereas twice is/*are not.

thought it an ordinary (non-classifier-like) noun. This classifier-like behavior of *time* is discussed in recent work by Cinque (2013) and Simpson (2005), most strikingly for Thai and Khmer, which normally have 'N Num Clf' order, yet with numeral + 'time' have the order 'Num time', as if 'time' itself is a classifier, rather than the order 'time Num'[15].
These considerations lead, then, to[16]:

(62) Antecedentless silent TIME is necessarily classifier-like.

which converges with the proposal in Kayne (2003a) that the silent YEAR found in English in:

(63) At the age of seven, Mary could already speak three languages.

is a classifier. If TIME and YEAR in *twice* and in (63) are classifiers, and if classifiers are universally not pluralizable[17], then it will follow that TIME and YEAR in these cases must be singular, as argued earlier for TIME (and as suggested in Kayne (2003a) for YEAR).

7. Licensing conditions
Antecedentless silent TIME is not always licensed in the presence of a numeral:

(64) Mary is a two*(-time) Olympic champion.

Not surprisingly now, a parallel restriction holds for antecedentless silent YEAR:

(65) John's seven*(-year) stretch in prison is coming to an end.

Comparing (65) with (63), *one* might think that a left-branch-type restriction is at issue, with YEAR impossible in (65) by virtue of being contained within a left branch (and similarly for TIME in (64)). However, further evidence casts doubt on the viability of a left-branch restriction.
Consider this baseball-related example:

(66) The Yankees won the game with two home runs in the seventh (inning).

This contrasts with:

(67) The Yankees won the game with two seventh *(inning) home runs.

in which *inning* is not allowed to remain silent. The restriction seen in (67) might again appear to be a kind
of 'left-branch' constraint, but that cannot be exactly right, given the quite acceptable[18]:

[15] In English, overt time would appear to fairly straightforwardly act in a classifier-like fashion for those speakers (myself not included) who accept *sometime else*.
[16] Consideration of the question whether all antecedentless silent nouns must be classifier- like is beyond the scope of this paper.
[17] At least classifiers of this sort. For some apparent exceptions to the general statement, see Aikhenvald (2000, 249n).
[18] The word *top* in this example modifies a silent counterpart of *half*:
i) two top HALF of the seventh INNING home runs

(68) The Yankees won the game with two top of the seventh home runs.

in which silent INNING is much more readily available than in (67). It seems, instead, that silent INNING is favored by the greater amount of syntactic structure associated with 'top of the seventh INNING' in (68) as compared with just 'seventh INNING' in (67).
This in turn is reminiscent of the well-known pair:

(69) John criticized him.
(70) John criticized himself.

Kayne (2002) proposed, as part of an attempt to account for the existence of reflexives in the language faculty, that the extra DP structure associated with *self* provides an additional (A-bar- like) position in (70) that *John* can avail itself of in the course of moving from within the complex doubling DP containing *him* (but not *self*) up to the subject theta position associated with criticize. In partially similar fashion, we can now take *top of the seventh* in (68) to make available to INNING a specifier position not available to it in (67), with that specifier position a necessary comp*one*nt of the derivational silence of INNING, along the lines of Kayne (2006).
In the same way, TIME in (64) and YEAR in (65), by virtue of not having access to the required specifier position, will fail to be licensed.
Returning to *twice*, it must now be the case that the silent TIME that is part of *twice* does have access to an appropriate specifier position, presumably *one* whose presence is made available by the presence of the postposition *-ce*[19].
I note in passing that a rather different kind of licensing question arises if we ask why *once* and *twice* by and large lack (in contemporary English) a counterpart based on three, i.e. if we ask why *thrice* has become archaic, and if we further ask why no English (that I know of) has ever had a counterpart of *once* or *twice* based on a numeral higher than three. There must in all likelihood be a link to the fact that *one*, two and three are also special in English in having the corresponding ordinals *first*, *second* and *third*, rather than the usual ordinal formation with suffixal *-th*, as in *fourth* and higher[20]. (The fact that *thrice* has become archaic may be related to the fact that *first* and *second* are suppletive[21], whereas *third* is only partially irregular.) In a more general way, all of this must be connected to the widely attested special behavior of low numerals[22], but I will not pursue this question any further.

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[19] Cf. the effect of P on French relative pronouns as discussed in Kayne (1994, sect. 8.2); also the effect of P on Italian reflexives discussed in Kayne (2003b, sect. 13).

[20] Apart from higher additive ordinals such as twenty-first, twenty-second. Left open is the contrast between these and (ii):

i) We've been there twenty-*one*/two times.
ii) *We've been there twenty-*once*/twenty-twice.

unless it's that singular TIME is incompatible with 21 or 22, etc

[21] For relevant discussion, see Barbiers (2007), whose interesting proposals c*once*rning **oneth* lead to the question what exactly distinguishes it from *once*.

[22] Cf. Pesetsky (2014) and references cited there for recent discussion of Russian Case. Note in addition that *couple* and *pair*, despite their interpretation, cannot mimic *two* here, insofar as:

i) They arrived late a couple/?pair of times. have no corresponding:
ii) *They arrived late (a) couple-*ce*/pair-*ce*.

The lack of a counterpart to *twice* with four and higher is probably crucially mediated by *- ce*, in particular since YEAR in At the age of seven,... is perfectly compatible with higher numerals. Possibly, the absence of *once* or *twice* in French and various other languages reduces to the absence of a postposition with the properties of English *-ce*; a plausible conjecture would be that a counterpart to *-ce* will be lacking in any language that otherwise entirely lacks postpositions.

8. More on adpositions and TIME

The idea suggested two paragraphs back to the effect that TIME with *twice* is in part (indirectly) licensed by postpositional *-ce* receives support from other cases of TIME involving adpositions. *One* striking case has to do with *soon*. Consider:

(71) We'll be there soon.

which has an interpretation involving time such that *soon* appears to pick out a certain point or interval of time. Yet adding overt *time* to *soon* here yields a sharply unacceptable example in[23]:

(72) *We'll be there at a soon time. which, however, contrasts with:
(73) ?We'll be there at the so*one*st time possible.
(74) ?You showed up at too soon a time

The relative acceptability of (73) and (74) supports taking (71) to contain an instance of silent TIME, as well as a silent AT that will play a role in its licensing[24].

The difference beween (73) and (74), on the *one* hand, and (72) on the other recalls the discussion in Kayne (2007) of facts concerning *few* and *number*:

(75) John has written (a) few papers this year.
(76) *John has written (a) few number of papers this year.
(77) ?John's the student who's written the fewest number of papers this year.
(78) ??John's written too few a number of papers to qualify for a grant.

in which it was proposed that (75) contains silent NUMBER.

Soon and *few* are modifiers of *time*/TIME and *number*/NUMBER, respectively. For some reason (yet to be discovered)[25], *soon* and *few* can modify overt *time* and *number* only if *soon* and *few* are raised sufficiently high in the DP, as can happen with too *soon* and too few (as shown by the following indefinite article)[26], and also with superlatives, as suggested for English by:

(79) They're the best of friends.
(80) *They're good of friends.

and cross-linguistically by the fact that Persian generally has prenominal adjectives only in the case of superlatives[27]. If *soon* and *few* cannot raise sufficiently high, overt *time* and *number* must give way to silent TIME and NUMBER, as in (71) and (75).

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[23] My English does not allow *soontime(s)*, but there are attestations that may ultimately strengthen the text argument.

[24] Silent adpositions might at first glance look very different from Larson (1985), but that would change if KP and PP are indeed close.

Soon itself, whose interpretation is close to that of *short* in time contexts, may well also be accompanied by silent FROM NOW/THEN, thinking of sentences like:

i) We'll be there a short time from now.

[25] Part of the reason might be that *time* and *number*, being classifier-like, are high in the DP to begin with.

[26] Cf. Hendrick (1990).

[27] Cf. Moshiri (1988, 24).

9. More on postpositions in English

English is normally thought of as a prepositional language. Yet if I am correct in taking the - *ce* of *once* and *twice* to be a postposition, then English has at least *one* postposition. Thinking of Dutch and German[28], there is nothing surprising here. Let me, however, briefly touch on further examples of postpositions in English.

One well-known case is that of:

(81) We have a plan whereby we will read everything a day early.

Whereby here is related to *thereby*, hereby, therefore, forthwith, whereupon and probably *whence*, thence and hence, with *whereby* perhaps being the closest to colloquial English. Somewhat similar is:

(82) His whereabouts are unknown. with about arguably an adposition[29].

More surprising, perhaps, is:

(83) We don't have the wherewithal to do it.

in which *with* is postpositional relative to *where*. Although *wherewithal* lends itself to being called 'idiomatic', pieces of an analysis readily come to mind. The *-al* is *all*. The definite article in (83) recalls that found overtly with *whole*, as well as recalling the fact that *all* is non- initial in:

(84) He gave it his all.

in which there is arguably a silent definite article. In the manner of Dutch and German, *wherewith* corresponds to *with what*[30], with the result that (83) can be thought of as very close to:

(85) *We don't have the all with which to do it.

even though this sentence is not acceptable. The fact that *wherewith* precedes *al(l)* in (83), whereas *with which* follows *all* in (85) suggests that in (83) *wherewith* has raised past *al(l)* in a way related to the way in which *destruct-* (remnant-)raises past *-ion* in the relative clause approach to derived nominals suggested in Collins (2006) and Kayne (2008).

Furthermore, some speakers of English, in particular Bob Frank (p.c.), accept some sentences like:

(86) What about were you guys talking?
(87) Who to are you hoping to talk about that?
(88) Who from are you convinced that John stole the idea?

[28] Cf. for example Noonan (2010).
[29] The plural here suggests the possibility of a silent PLACE, thinking of:
i) ?The places where he is about are unknown.
[30] Cf. van Riemsdijk (1978) and work stemming from his.

in which *about*, *to* and *from* look postpositional[31]. Possibly, English adpositions are postpositional in the same way in sluicing examples like:

(89) I knew they were talking, but I wasn't sure what about.

as is suggested by Bob Frank's sharply rejecting:

(90) *What topic about were you guys talking?

with a wh-phrase containing a lexical noun, just as in sluicing:

(91) *I knew they were talking, but I wasn't sure what topic about.

As a final example of an English postposition, we might think of *ago*, or, more likely, of the *a-* of *ago*, especially if the following two sentences are closely related:

(92) They left three days ago.
(93) It's going on three days since they left.

with *a-* in (92) corresponding to *on* in (93), with *go* in (92) corresponding to *going* in (93), and *with three* days in (92) preposed to adpositional *a-* in a way that has something in common with postpositions[32].

10. A further instance of TIME

Alongside (92) *one* also has:

(94) They left a long time ago.
(95) They left long ago.

It is hard to see how (95) could fail to contain TIME[33]. A related use of *long* (but one that shows polarity behavior in the absence of overt *time*) is found in:

(96) You haven't been here very long.

Again, there is presumably a silent TIME. In all likelihood there is also a silent adposition in (96), given the strong similarity to:

(97) You haven't been here for a very long time.

An interesting challenge is to understand why TIME is not compatible with the indefinite article[34]:

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[31] For Bob Frank, the first of these three is the most fully acceptable.

[32] For relevant discussion of postpositions, see Kayne (2003c).

[33] Similarly, Tsoulas (2013) has argued that *before* can be followed by TIME; Zamparelli (2004) had suggested TIME for *every two days*; TIME is clearly called for in the shorter version of:

i) We'll be there in two hours' (time).

as well as with *often*, given *oftentimes*. (Whether *often* has TIME or TIMES needs to be looked into further.) In addition, Purves (2002, 30) notes that Scots uses *this*, that and yon for this/that/yon time/place/person.

(98) *They left a long ago.
(99) *You haven't been here a very long.

It may be that this is just the same fact, thinking of Kester (1996), as:

(100) Mary has written a long paper and John has written a long *(paper), too.

Alternatively (or in addition), there is a link to the fact that French *longtemps* ('long time') is compatible with the absence of an indefinite article:

(101) Marie est restée longtemps à Paris. ('M is remained longtime in P')

11. Conclusion

Both *once* and *twice* are complex phrases (containing two visible morphemes and one silent one), rather than simple lexical items. The presence of silent TIME with *once* and *twice* (and in other cases mentioned) indirectly reinforces the presence of other antecedentless silent elements in the human language faculty. Since silent elements of this sort are not visible (even via an antecedent) in the primary data available to the learner, study of their properties, for example of their singularity or plurality, and of their licensing conditions, provides us with a privileged window onto the invariant core of the language faculty itself.

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[34] Another involves:
i) They left long/*short ago. and, conversely:
ii) They left shortly/*longly before noon

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Eliciting clitics in French: against the Generalized Null Object Stage*

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1. Introduction

In many languages, a prominent feature of children's first productions is the possibility to leave one or more verbal arguments unpronounced. For example, children often omit the direct complement of a transitive verb, even in contexts where the adult grammar obligatory requires the presence of an overt object. Fragments like "I give __" or "I push __" are well attested in children's spontaneous speech, even when adults would never produce them. One way of looking at this type of omission is to consider it as a purely phonological phenomenon: children might simply decide to cut the sentence in order to minimize their articulatory efforts. However, this type of explanation is too simplistic. In fact, once the omission pattern is closely examined, the distribution of null-objects appears to be sensitive to discursive and syntactic factors (a.o. Costa, Lobo & Silva 2009, Tedeschi 2009). Although our understanding of the omission pattern has improved over the years, many properties of null objects remain unclear. In particular, some aspects related to their interpretive and morpho-syntactic properties are still controversial.

A first issue concerns the bundle of morpho-syntactic features associated with null-objects. In particular, it is not entirely clear what are, if any, the syntactic features that these null elements carry. A possible way to look at this matter is to observe the verb-object agreement pattern in languages where this relation is overtly expressed (McKee & Emiliani 1993, Wexler et al. 2004, Moscati & Tedeschi 2009). Results are not clear-cut, however. In fact, past participle agreement could be problematic *per se* (Moscati & Rizzi 2013, 2014) and its validity as a diagnostic to detect the feature specification of null-objects is not as solid as previously assumed.

A second issue concerns instead the interpretation of null-objects. A fairly standard view (a.o. Schaeffer 2000; Hamann, Rizzi & Frauenfelder 1996; Wexler et al. 2004) is that null-objects are anaphors and that their status is similar to that of pronouns. However, this view has recently been challenged. In a recent study, Pérez-Leroux et al. (2008) reported that null-objects in French and English would alternate not only with pronouns, but also with full DPs. Is this result a genuine one, or it is instead an artefact of the elicitation procedure they employed? The main goal of this paper is to provide an answer to this question.

A new experiment has been designed in order to test one of the predictions associated with the hypothesis that all children go through a Generalized Null Object

*Thanks to E. Servidio for being, beside a linguist, also a talented illustrator. Thanks also to Candice Coyer for having run the experiment on French and having collaborating to earlier stages of this project.

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti.
C. Contemori and L. Dal Pozzo (eds.) Siena, CISCL Press.

Stage (Pérez-Leroux et al., 2008). For what concerns instead the morpho-syntactic features associated with children's null objects, their production will be also classified in accordance to the past participle agreement pattern in order to collect some preliminary data on the robustness of the object-verb agreement rule in the early grammar.

2. Contexts for Early Object Omissions

A first basic distinction, useful to introduce those contexts where null objects are ungrammatical, is the typological one between languages that allow a phonetically null object and languages that require instead an overt pronoun. This difference is illustrated in (1) Speaker A: E o teu carro?, taken from European Portuguese:

(1) Speaker A: E o teu carro?

'*What about your car?'*

Speaker B: Levei para a oficina hoje.
Took to the garage today
'I took it to the garage today.'

The example shows that, once a salient antecedent is provided, in this case "the car", the object can be left unpronounced, like in the Speaker B's answer. As the translation shows, this possibility is instead excluded in English. In fact, the overt pronoun *"it"* must be added to make the English sentence grammatical. In this respect, English patterns alike with many Romance languages that lack null objects. When we observe children early production, however, object omissions are attested also in Romance languages that do not typically allow null objects, like Italian (Schaeffer 2000, McKee & Emiliani 1992, Serratrice et al. 2004, Tedeschi 2008), Catalan (Wexler et al. 2004), French (Jakubowicz et al. 1996, Pérez-Leroux et al. 2008) and Spanish (Castilla et al. 2008, Fujino & Sano 2002). A thorough discussion of the various proposals that have been advanced in the aforementioned studies goes beyond the purpose of this short paper. In general, however, all of them capitalize on the fact that object omissions go hand in hand with the presence of clitic pronouns in the target language.

This very general view, according to which object omissions in Romance languages are tightly linked to clitics, has been recently challenged in a comparative study on English and French, reported in Perez-Leroux et al. (2008). The crucial difference between the two adult grammars is that French, but not English, has a series of clitic pronouns. Perez-Leroux et al. found no difference in the omission rate between these two languages, suggesting that the type of pronoun available in the target language is not the main factor to explain children object omissions. Moreover, in their elicited production study, Perez-Leroux et al. also tested the role played by the discursive context on the realization of the direct object. The main goal was to establish whether object omissions are dependent upon the presence of an overt and retrievable antecedent in the discourse. They used two experimental conditions, the *Individuated* and the *non-Individuated* condition, that are exemplified in (2) and (3). In (2), the Individuated condition, an antecedent was provided in the question. Instead, in the non-Individuated condition in (3), no antecedent was available in the experimenter's question:

(2) Condition I (Individuated): **What did X do with Y?**

CROCO: I know! The girl is smelling the flower!
CHILD:_____(NO)
CROCO: No, the little girl isn't smelling the flower?
EXP: Please tell Croco what the little girl is doing with the flower.
CHILD: (she's drawing it)

(3) Condition NI (non-Individuated): **What did X do?**

CROCO: I know! I know! He's calling his friend.
CHILD:_____(NO)
CROCO: No? He isn't calling his friend?
EXP: Please tell Croco what Clifford's doing.
CHILD: [Clifford is eating (his bone).]

The Individuated condition constitutes a typical context for a pronominal object: the salient antecedent (the flower) was overtly introduced in the discourse. In (3), the non-Individuated condition, instead, the interaction was centred on the action and its theme of the action was never mentioned. In this latter context, according to Perez-Leroux et al. (2008), an object clitic was not felicitous. Given these two different elicitation contexts, a prediction follows: if null-objects are silent clitics, they should be confined to the pronominal contexts, i.e. the Individuated contexts. However, Perez-Leroux et al. (2008)'s results on Early French disconfirmed this prediction. The object omission's rate was not significantly dissimilar in the two contexts, a result that is consistent with a different hypothesis, spelled out in (4) below:

(4) Generalized null object stage

Children at the initial stage will overgenerate not only null objects in individuated contexts but in all contexts.

Is this hypothesis tenable? The problem is that the hypothesis in (4) is in contrast with the results of other analogous studies. In her elicited production study on Italian, for example, Tedeschi (2009) also used two contexts of elicitation, similar to (2) and (3) and what she found was a significantly higher rate of object omissions in the pronominal contexts.

How can this difference between the two studies be explained? A first possibility is that the target language, French in one case and Italian in the other, is responsible for this difference. Therefore, a careful cross-linguistic comparison is necessary to individuate the crucial factors. A second possibility is instead that minor variations between the two studies in the elicitation procedure generated sensitive differences in the object omission's rate. Let me discuss this second point in more depth, in order to show how the different experimental protocol might have affected the production of null objects in the two studies. In Perez-Leroux et al.'s study, the puppet Croco gave a wrong description of the picture in both contexts. For example, in (2) it said at first that the girl was "SMELLING the flower". This answer was

obviously inconsistent with the pictures and, successively, the experimenter asked the child to correct Croco and tell what actually happened in the picture. Tedeschi's contexts were instead slightly simpler: the puppet directly asked the children what the character was doing in the picture. Therefore, the child had not to correct a previous wrong statement.

Why these different procedures could have influenced the object omission's rate? Consider first the Individuated condition in (2). The puppet first uttered the sentence in (5)

(5) The girl is smelling the flower.

and then the experimenter asked the children to correct the puppet by asking "what did the girl do with THE FLOWER?". A felicitous answer to this question would require two elements. First, the DP "the flower" is topical and should be replaced by a pronoun. Second, the wrong action mentioned by the puppet must be corrected and a contrastive focus is required on the main verb. The most felicitous answer would be something like the following sentence:

(6) [$^{\text{Topic}}$~~The flower~~] She is $^{\text{Focus}}$drawing it

In this scenario, children should correct the verb AND produce a pronoun: the most felicitous answer is the one in which the full VP constituent, in its transitive frame, is spelled out. If children have troubles with clitics, object omission is then expected.

Now consider the non-Individuated condition in (3). In this condition, the puppet uttered a sentence like (5) but later the experimenter only asked the children to tell "what did X do?". Therefore, the focus was on the action itself and a felicitous answer could simply consist in the verb alone, used intransitively:

(7) She is $^{\text{Focus}}$drawing

If this reasoning is on the right track, we then would expect that also adults would give answers like (7). This seemed to be the case. In fact, in the Perez-Leroux's study, English adults (26.4%) and French adults (27.8%) also produces sentences like (7), without the direct complement. In this sense, children's and adult's behavior in the non-Individuated contexts did not differ that much. What I'm suggesting here is that it is more felicitous to give an answer that omits the direct object in the context used in the non-Individuated condition than in the Individuated condition. Thus the high rate of null-objects in both conditions can be due to two different factors. In the Individuated condition – the one where a clitic pronoun is felicitous – null objects are of the kind only allowed in the early grammar. Instead, the null-objects used in the non-Individuated condition could be due to the relative easiness to use an intransitive verb alone in the answer. Therefore the non-Individuated condition does not tell us much about the existence of a *generalized null object stage*, since this type of null object is probably of the same kind of the one produced by adults. In Tedeschi's experiment, instead, the puppet never tried a wrong answer. Therefore, there was no focus on the verb itself. A consequence of this was that adults produced null objects at negligible rate – always below 3.5%. Therefore this type of elicitation protocol seems to be more appropriate to check whether children overextend the use of null objects to contexts where adults don't. For this reason, we decided to use Tedeschi's procedure to eliminate the potential confound introduced by focus. Moreover, we tested a

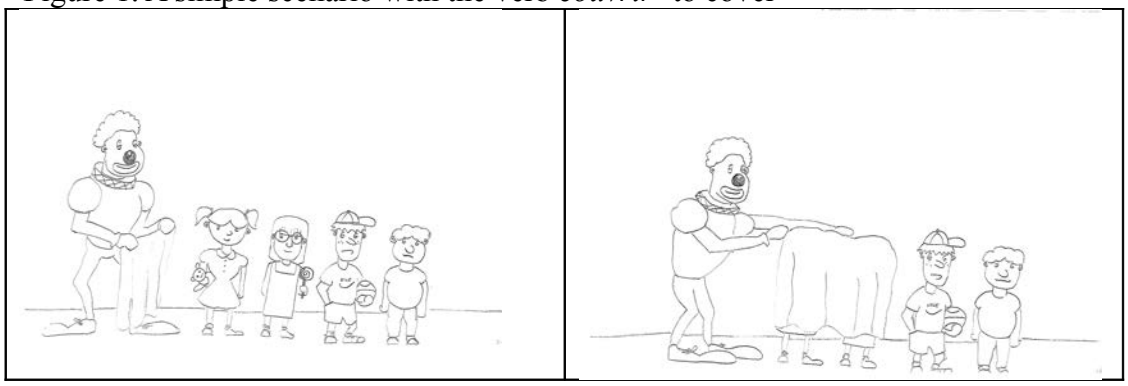
population of French-speaking children in order to get rid of any other potential cross-linguistic factor.

3. An elicited production experiment

3.1. The referential context

In order to assess if children generalize null objects to non-pronominal contexts, a new experiment was designed. The elicitation procedure was the same described in Tedeschi (2009): two different contexts were used to elicit clitic pronouns or full DPs. Since the key factor distinguishing the two elicitation contexts is the Type of Reference, the two scenarios were labelled *+anaphoric* and *-anaphoric*. The sole difference between the two was the question asked after the presentation of a two-picture sequence. Figure 1 illustrates one sequence that was common to both the +anaphoric and the – anaphoric condition:

Figure 1. A simple scenario with the verb *couvrir* 'to cover'



(8) *+Anaphoric Scenario*

Question: Qu'est-ce qu'il a fait le clown avec les petites filles?

'What has the clown done to the little girls?'

Answer: Il les a couvertes

he them$_{[f, p]}$ aux covered$_{[f, p]}$

'he has covered them'

(9) *-Anaphoric Scenario*

Question: Qu'est-ce qu'il a fait le clown ?

'What has the clown done'

Answer: Il a couvert les petites filles

he aux covered the little girls

'he has covered the little girls'

The examples in (8) and (9) show that the two scenarios only differ in the question asked to the participants. In the +anaphoric scenario in (8), the question took the form "*what has X done to Y"* while in the -anaphoric scenario in (9) the direct object was not mentioned and the question was instead in the form *"what has X done?"*. These two elicitation contexts were used to assess the role of the Type of Reference on the production of null-objects.

3.2. Verb type and object-verb agreement

In addition to the referential properties of null-objects, another open question concerns their morpho-syntactic status. An early account of object omissions from McKee and Emiliani (1993) considered them to be a purely phonological phenomenon, with a null form (entirely specified for gender and number) in free alternation with a phonologically full-fledged clitic. The main argument came from the observation of object-verb agreement. McKee and Emiliani (1993) found that, in past-participial construction, the past-participle was always correctly inflected for gender and number, even in those cases where no object was produced by children[1]. Moreover, a causal connection between the presence of past participle agreement and clitic omission was also proposed by Wexler et al. 2004. In this respect, the syntactic operation that links the pronoun with the verbal form might increase the processing complexity, resulting in a high rate of null pronouns.

Like Italian, also Standard French presents object-verb agreement with clitic pronouns, audible with irregular verbs. Therefore, we decided to explore the role played by past participle agreement on object omission. Since past participle agreement is audible in French only with a certain class of verbs, Class II and Class III verbs, we used them in the majority of the experimental trials. In Figure 1, for example, the verb *couvrir* was elicited. This lexical verb carries audible past-participial agreement morphology and it agrees in gender and number with the feminine, plural pronominal clitic *les*. When the direct object is instead a post-verbal full DP, no past participle agreement is allowed (see Belletti 2006). Thus, if past participle agreement influences the null-objects' production, the omission rate should be higher with Class II and Class III verbs. In addition, if null-objects are full-fledged clitics without phonological content, also in this case the past participle should be inflected for gender and number.

3.3. Materials

The experiment consisted of four experimental conditions, generated by the interplay of two factors: Verb Type (-Agreement, + Agreement) and Referentiality (+Anaphoric, -Anaphoric). The examples (8) and (9) illustrate the conditions [+Agreement, + Anaphoric] and [+Agreement, - Anaphoric] since the verb *couvrir* carries audible agreement morphology. Beside the use of Class II and Class III verbs, Class I verbs were also included. This verbal category does not have audible agreement. Therefore,

[1] This result has been questioned in a series of successive studies (Schaeffer 2000, Moscati & Tedeschi 2009)

the other two conditions were [-Agreement, +Anaphoric] and [-Agreement, -Anaphoric]. In total, the four experimental conditions were the following:

(10) Experimental conditions
a. + anaphoric, + agreement
b. + anaphoric, - agreement
c. - anaphoric, + agreement
d. - anaphoric, - agreement

All the verbs used in the experiment are reported in Table 1, with their relative frequency calculated on the LEXIQUE3 corpus (New et al. 2001).

Table 1 – Elicited Verbs and frequency indexes calculated on the LEXIQUE3

NO PAST PARTICIPLE AGR		NO PAST PARTICIPLE AGR			
CLASS I		CLASS II		CLASS III	
VERBS	FREQ.	VERBS	FREQ.	VERBS	FREQ.
coiffer	30.43	*ouvrir*	431.13	*étendre*	59.28
laver	51.16	*couvrir*	134.26	*construire*	85.12
pousser	220.58			*peindre*	75.36
manger	160.73			*prendre*	1140.98

Verbal lexical entries belonging to class II and III are estimated to represent about 13% of the French Verbal Lexicon (Legendre et al. in press). However, these verbs are high-frequency verbs (about 51% on the total occurrences). Therefore six high-frequency verbs were selected: the ones that children are likely to have met in their past participial forms. Eleven fillers were interspersed between the ten experimental trials. Also with fillers, sequences of two pictures were shown on a computer screen followed by a simple question. The fillers were used to prime three other types of agreement: S-V agreement, N-adj agreement and D-N agreement.

3.4. Method

Each experimental session consisted of two phases. In the first, children were familiarized with the computer presentation and they had to pass a simple naming task. After that, if children were paying enough attention to the drawings and they correctly named the objects, they proceeded to the test phase. In the test phase, subjects watched 21 sequences of pictures: eleven fillers plus ten experimental trials. Of these, six were pictures eliciting the use of verbs with audible past-participle agreement morphology. Items were randomly presented and the fillers were interspersed between the experimental items. Subjects were randomly divided in two groups and assigned either to the +anaphoric contexts or to the -anaphoric contexts. Therefore, Referentiality was a between-subject factor while Verb Type was a within-subject factor.

3.5. Participants

83 French-speaking children between age 2;5 and 4;11 took part to the experiment. They were divided into two age groups. Within each age group, subjects were assigned either to the – anaphoric contexts or to the + anaphoric contexts. In addition, the experiment was also run on a control group of 18 adults. Participant's data are summarized in Table 2.

Table 2. Participants

GROUP	+ ANAPHORIC		- ANAPHORIC	
	N	mean age	N	age
3 Y.O.	20	3;5	21	3;5
4 Y.O.	21	4;4	21	4;5
ADULTS	9	> 18	9	> 18

4. Results

4.1. Null objects

Let us first consider the production of null objects and the impact of the context of elicitation (i.e. Referentiality) on the object omission's rate. The experimental hypothesis was that, if null-objects are generalized across different referential contexts, the omission's rate should be the same in the + and – anaphoric contexts. In order to establish the role of the context, subjects' answers were classified in accordance to the object's type: null, full DPs and clitic pronouns. Results for the three different age groups are summarized in Figures 1, 2 and 3.

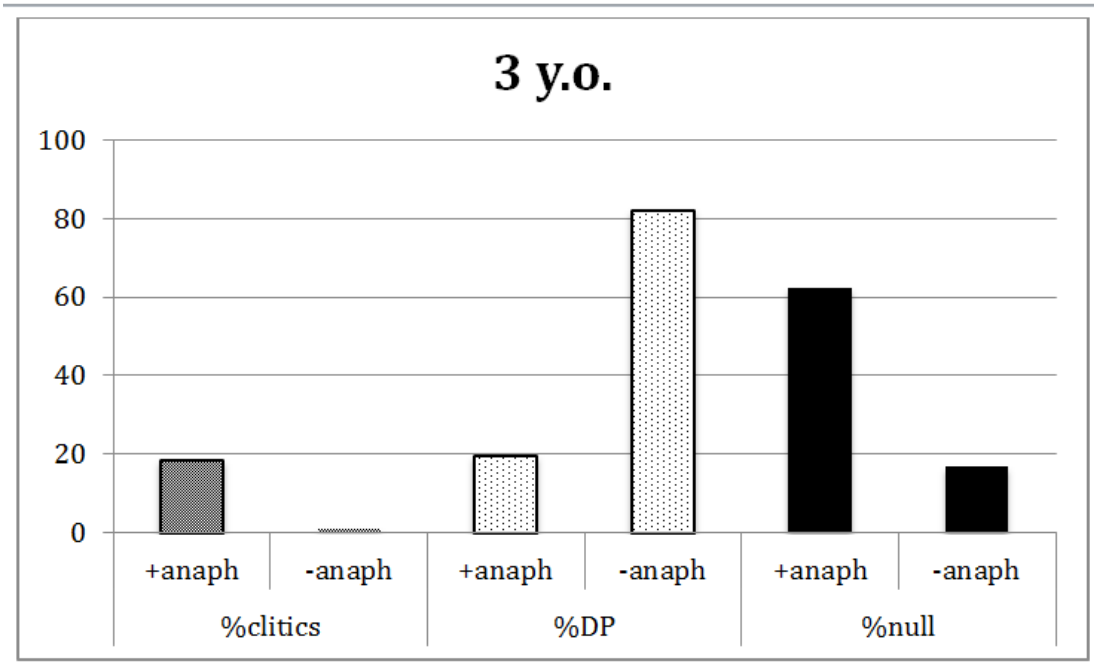


Figure 1. Types of direct objects in the two elicitation contexts for the 3-year-old group.

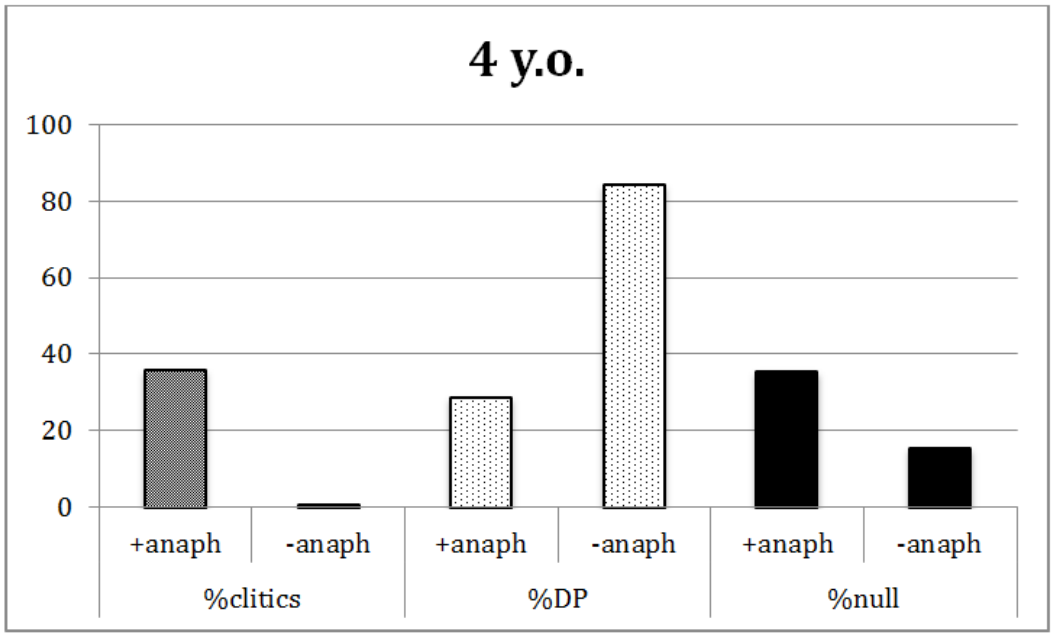


Figure 2. Types of direct objects in the two elicitation contexts for the 4-year-old group.

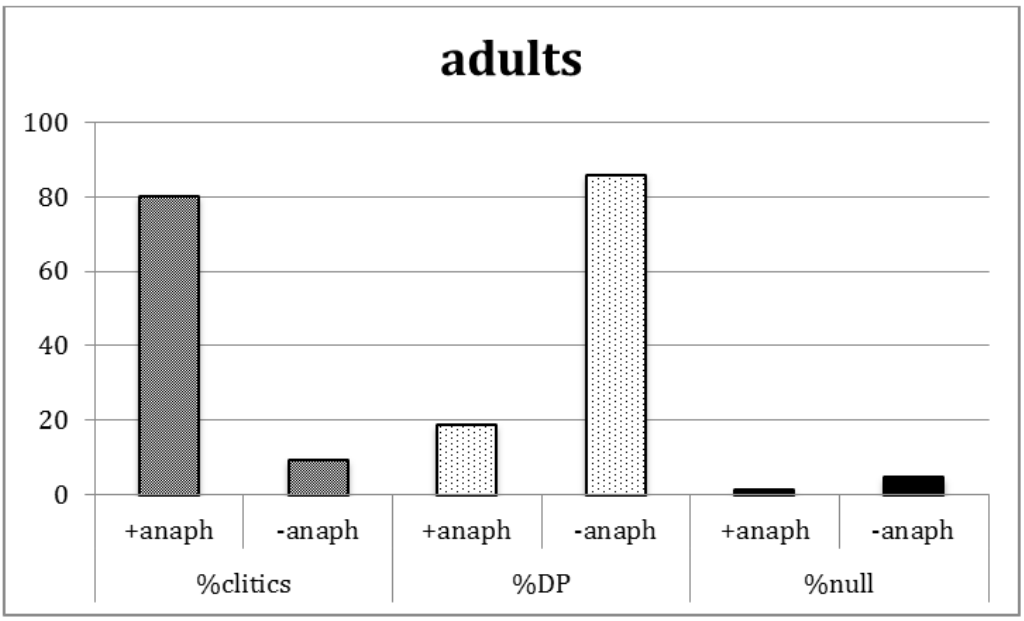


Figure 3. Types of direct objects in the two elicitation contexts for the Adult group.

Figure 1 shows that in the 3-year-old group the proportion of null objects is sensibly higher in the + *anaphoric* condition. In fact, in this elicitation context, null-objects are found in the majority of the observations and they are attested at 62.1%. Interestingly, this proportion is not the same across conditions and it drops to a lower 16.9% in the – *anaphoric* contexts. Figure 1 also shows that 3 year-olds disfavour the use of clitic pronouns, with a slightly higher rate of clitics produced in the +*anaphoric* condition, where they are attested at 11.2% on total. At age four, the difference between + *anaphoric* and – *anaphoric* contexts in the proportion of null-objects is still visible.

Figure 2 shows that while null-objects are attested at 35.5% in the + *anaphoric* contexts, they decrease to 15.4% in the -*anaphoric* condition. At age 4, the production of clitics also steadily increases and it raises at 26.6% in the +*anaphoric* condition. For what concerns the adult control group, results conform to the dictates of the French grammar: null-objects are virtually unattested in the adults' productions (always below 5%) and the distribution of clitics and full DPs varies in function of the elicitation context.

Children data were analysed in R using linear-mixed-effects-models. The proportion of null-object was contrasted with the other types of objects and Referentiality and Verb Type were used as predictors, with Subjects and Items as random effects (Bates 2007, Baayen 2008). Results of the analysis are summarized in Table 3.

Table 3. Best-fitting logistic regression of probability of correct answers for Groups, Referentiality and Verb-Type.

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-0.1153	0.3835	-0.301	0.764
4 y.o.	-0.7910	0.4054	-1.951	0.051 .
Non_Anaphoric	-2.0264	0.4446	-4.557	5.18e-06 ***
Verbs (-Agr)	0.5937	0.5132	1.157	0.247
4y.o.-Non_Anaphoric	0.7042	0.6282	1.121	0.262
4y.o.- Verbs (-Agr)	-0.6226	0.4516	-1.379	0.168
Non_Anaphoric-Verbs (-Agr)	-0.7084	0.5404	-1.311	0.190
4y.o.- Non_Anaphoric; Verbs (-Agr)	0.8985	0.7597	1.183	0.237

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1.
Formula in R: Null_objects ~ Groups * Condition * Verb_Type + (1 | Subjects) + (1 | Items)
AIC 845.5 ; BIC 892.8 ; logLik -412.8 deviance 825.5. Random effects: Subjects SD. 0.9; Items SD 0.6. Number of obs: 830, groups: Subjects, 83; Items, 10

The analysis revealed a significant main effect of Referentiality and a marginal effect of Group, with the proportion of null-objects significantly lower in the *–anaphoric* condition and in the 4 years-old group. Interestingly, the Verb Type did not play any role in predicting the probability of null-objects. This is visible in Figure 4, 5, and 6, where the three different object's types are plotted separately for +agreement and –agreement verbs. The figures show that, for each age group, the proportions are substantially the same.

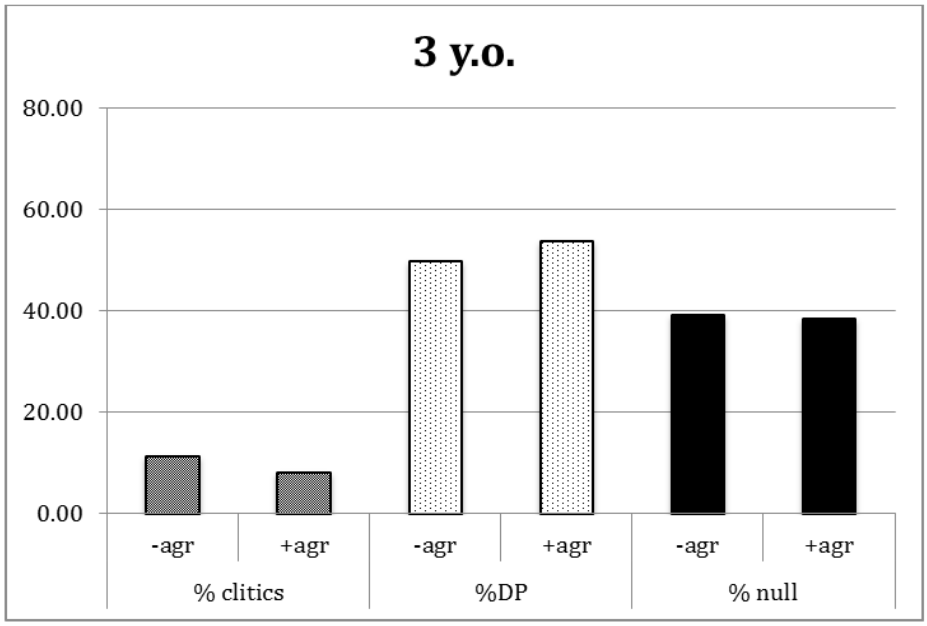


Figure 4. Types of direct objects for the two types of verbs for the 3-year-old group.

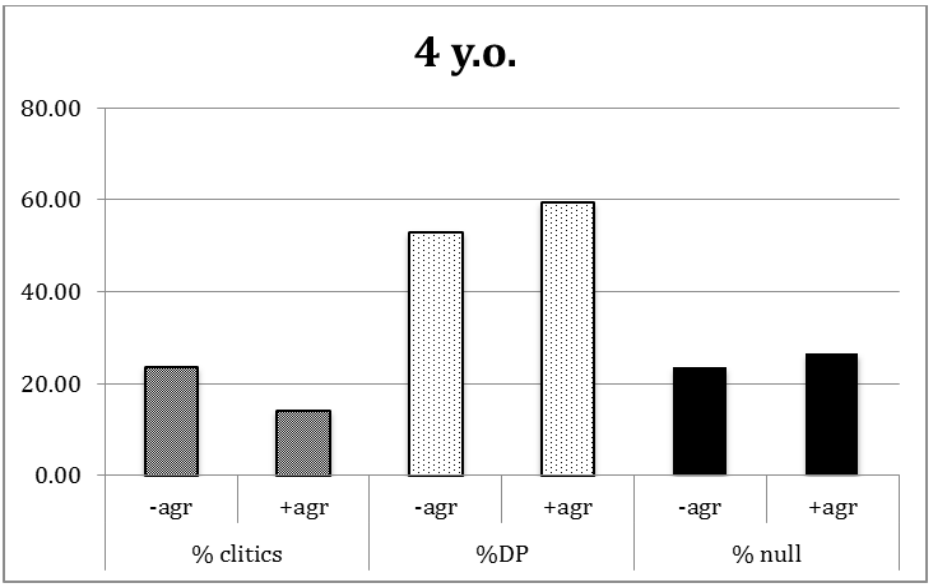


Figure 5. Types of direct objects for the two types of verbs for the 4-year-old group.

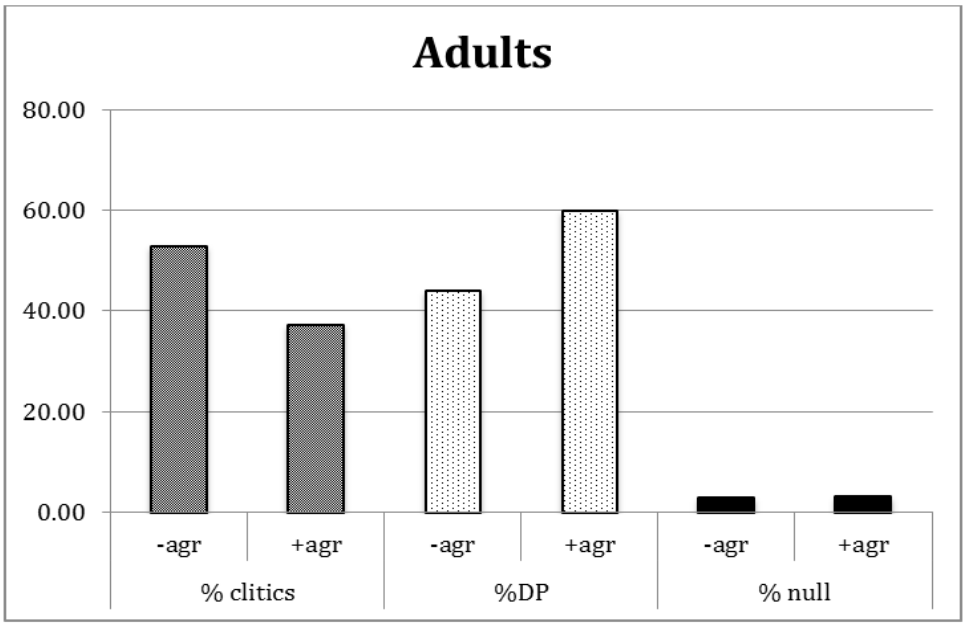


Figure 6. Types of direct objects for the two types of verbs for the Adult group.

4.2. Past participle agreement

Children's production was recorded and their utterances were classified in accordance to the verbal morphology. Unsurprisingly, the majority of children's utterances were in the simple present tense. Moreover, many sentences produced by children involved the use of verbs where past participle agreement was not audible. This is not unexpected, since 40% of our experimental trials were designed to elicit the use of verbs that do not carry overt past-participle agreement. Overall, children produced 28 past tense sentences with Class II and Class III verbs. These sentences were further classified in accordance to the object's type: null, clitic or full DP. For each of these types of object, figure 7 reports the overall rate of past participle agreement. Adults produced past participle agreement with clitics in the 88.4% of the cases and never with full DPs and null objects. Children, instead, up to the age of four, did not consistently produced agreement on the past participle: children in the 3-year-old group used past participle agreement only in 33.3 % of the cases and also 4-year-old children did not go over the 9%. Although numbers are low, only 28 utterances over the two groups, these results suggest that this agreement relation is still not mastered at age 4.

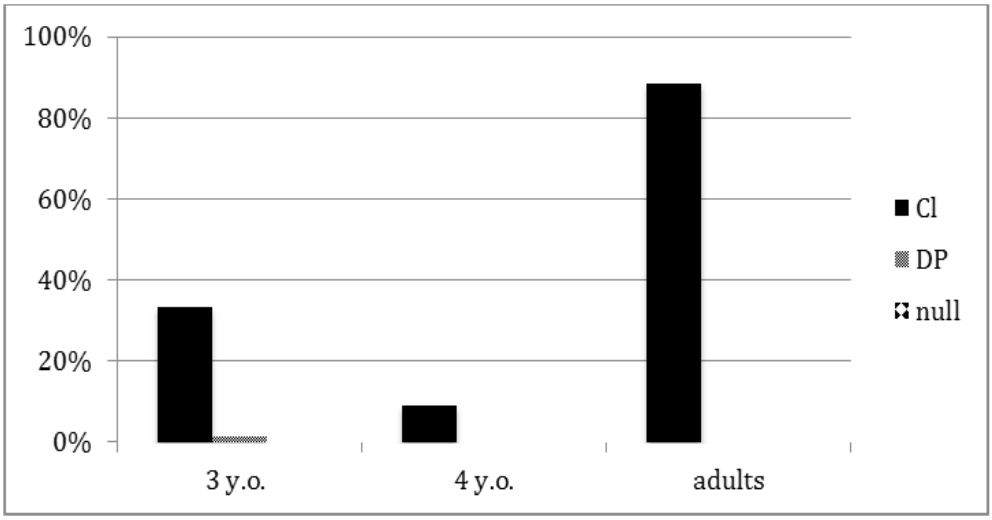


Figure 7. Past Participle agreement for 3 and 4 years-old with verbs of Class II and III.

Remember that in the experiment, we also elicited other types of agreement. We then classified this small corpus in accordance to the agreement's type. It is possible to compare then the proportion of past participle agreement with other types of agreement configurations. Results are reported in Table 4.

Table 4. Agreement's Types

Age	N	N-Adj	D-N	Cl-part
3 (MA 3;5)	41	77% (113/146)	97% (173/179)	33.3%(2/6)
4 (MA 4 ;5)	42	95% (163/171)	>99% (204/205)	9%(2/22)
Adults	18	100% (84/84)	100% (85/85)	88.4%(23/26)

The table shows that, while children do not have problems with D-N agreement and their proportion of N-Adj agreement in predicative constructions is already adult-like at age 4, past participle agreement is the only agreement configuration that is not acquired yet.

5. Discussion

The major finding of the experiment was that the contextual manipulation associated with the elicitation procedure has an effect on the rate of null objects produced by French-speaking children. Our experiment revealed that the proportion of null objects was significantly higher in the +*anaphoric* conditions, regardless of the verbal class. This result is similar to the one reported in Tedeschi (2009) for Italian-speaking children and it is consistent with the idea that null-objects are anaphoric expressions whose distribution alternates with overt clitics. This result is apparently in contrast with the one reported in Pérez-Leroux et al. (2008). However, the difference in the object omission's rate can be due to the slightly different elicitation procedure. This would also explain the high rate of object omissions found in the adult's population by Pérez-Leroux et al. (2008).

The significant difference between the two elicitation contexts is directly relevant to evaluate the tentative hypothesis, put forth in Pérez-Leroux et al. (2008), according to which children's omissions are generalized across different contexts. This

does not seem to be the case, for they avoid object omissions when the referent was not salient and overtly mentioned in the previous linguistic context.

A concluding remark concerns the realization of object-verb agreement in Early French. Previous studies (Pirvulescu & Belzil 2008, Moscati & Tedeschi 2009, Moscati & Rizzi 2013, 2014) suggested that this agreement configuration is quite problematic for young children and that it might be acquired later with respect to other types of agreement, including D-N, S-V and N-Adj agreement. The results of our experiment go in the same direction. By the age of four, the great majority of children did not realize past participle agreement in gender and number with the clitic pronoun. Moreover, when children omit the direct object, the past participle was always in its uninflected form. Notice that the extremely low rate of past participle agreement cannot be simply explained by the fact that this type of agreement is, to a certain extent, optional in the adult language. In fact, a similar result has been found also in Italian (Moscati & Tedeschi 2009) with 3rd person object clitics, a configuration where past participle is obligatory in the target grammar.

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Ne-attachment (*Ne-tuke*) on the Truncated Sentences*

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Children at around the age of two produce the main declarative in a non-finite form or Root Infinitives (RI) and Root Infinitive Analogues (RIAs). They are elegantly explained by Truncation Hypothesis (Rizzi 1993/1994), but there is apparently counter-evidence to the hypothesis. That is, very young children learning Japanese produce the sentence-ending discourse particles at the stage of RIAs.

In this paper, we focus on Japanese and argue that (i) discourse particles are not T/C-elements in both child and adult Japanese, and (ii) the descriptive findings of Japanese acquisition rather supports the Truncation Hypothesis.

To a friend far apart but close in heart
since our families met each others in Cambridge

1. Introduction

The Truncation Hypothesis proposed by Rizzi (1993/1994) suggests that languages may vary in terms what is optionally allows the root projections, and child grammar allows the choice of optionally truncated structures. CP is the root of all clauses in the

* The research presented here would not have been possible without discussions with colleagues and students involved in the activities of the Center for Linguistics at Nanzan University. Although I cannot name them all, I would especially like to thank Adriana Belletti, Luigi Rizzi, Mamoru Saito, Chisato Fuji, Tomomi Nakatani Murai, Tomoko Hashimoto, Naoko Sawada, Ken Wexler, Kamil Deen, Diane Lillo-Martin, William Snyder, Jonah Lin, Koji Sugisaki, Kensuke Takita, Hideki Kishimoto, K.A. Jayaseelan, and R. Amritavalli, Dylan Tsai, Andrew Simpson, and Audrey Li, for their insightful comments on the topic discussed here.

The research reported here was supported in part by by JSPS Grant-in-Aid to Nanzan University (#26370515, PI: Keiko Murasugi) for the study of the Root Infinitives and Truncation Hypothesis and by Nanzan University Pache Research Subsidy I-A-2 (2014). Thanks also go to the members of the series of the International Symposium (2006-present) of the Cambridge-Connecticut-Hyderabad-Nanzan-Siena-Tsinghua Consortium in Linguistics, which are the base of the present work.

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adult grammar, but children lack the specific knowledge that every well-formed clause is CP in adult grammar. Adults build their phrase structure all the way to CP because CP is the root of all clauses, while child phrase structures can only go partway up to CP. This hypothesis naturally explains why the children at around the age of two go through the Root Infinitive (analogue) (=RI(A)) stage, producing the main declarative either in infinitive (e.g., Dutch, German), bare verb (e.g., English, Swahili, Chinese), or surrogate non-finite form (e.g., Turkish, Japanese, Kuwaiti-Arabic), and why RIAs are incompatible with C/T-related items such as *wh*-elements, subject clitics, and auxiliaries.

However, it seems that there is a descriptive question it might raise. Does the Truncation Hypothesis imply that all the elements above TP are incompatible with the RI(A)s? In fact, in child Japanese, sentence-ending markers, which should reside outside TP, are typically produced in the natural production at around the age of two.

The sentence-ending marker, *ne*, for example, indicates that the speaker considers that the addressee shares the information and thoughts, is used when the speaker is seeking the hearer's agreement just like "right?" or such a tag question as "isn't it?". Japanese-speaking children, even at the two-word stage, produce discourse markers such as *ne* to consolidate the already established relation of the speaker with the "addressee"[1].

In this short paper, we will first show the evidence that the sentence-ending discourse markers are typically produced by very young Japanese-speaking children at the RIA stage, and argue that the fact does not constitute counter-evidence to the Truncation Hypothesis.

2. Speech Act Elements

2.1. The Adult Grammar of Discourse Markers

The languages typologically very far apart may share common properties. West Flemish, a dialect of Dutch, and Japanese, for example, share an intriguing property regarding the sentence-discourse interface. Both languages have sentence-initial and sentence-ending "particles" which are used to establish discourse relations between the speaker and the hearer. They encode the speaker's attitude with respect to the (content of the) speech act and/or with respect to the addressee. The discourse markers are optional in that an utterance remains grammatical even if they are removed, but their deletion results in a change in interpretation, and they can never appear in the embedded clauses. Discourse markers can only be attached to the edge of the utterances.

There are some restrictions that sentence-final discourse markers obey. According to Haegeman and Hill (2011), sentence-final discourse markers in West Flemish co-occur only in a specified order. When sentence-final discourse marker *né* and *wè* co-occur, *né* must be to the right of *wè* shown in (1a) and (1b).

[1] A matron at Yamazato daycare told the present writer that a Japanese-speaking toddler, Sachiko, would touch the matron's shoulder smiling, turned toward her, and said "ne (long [e])" whenever she came near the girl. The matron's report that she could not scold the girl whenever the girl did so suggests that the discourse marker "ne" successfully bonded the speaker (a toddler) and the hearer (a matron) in the adult way.

(1) a. Men artikel is gedoan wè né.

b. * Men artikel is gedoan né wè.
My paper is done

'My paper is finished.' (Haegeman 2010)

When sentence-final discourse markers *zè* co-occurs with *né* or *wè*, *né* follows *zè* as shown in (21a,b) but *wè* precedes *zè* as in (3a,b).

(2) a. Men artikel is gedoan zè né.

b. * Men artikel is gedoan né zè.

(3) a. Men artikel is gedoan wè zè.

b. * Men artikel is gedoan zè wè. (Haegeman 2010)

West Flemish has just two positions for discourse markers. Though *né* can co-occur with *zè* as in (2a) and with *wè* as in (1a), and though *wè* can also co-occur with *zè* as in (3a), the three discourse markers cannot co-occur, regardless of the order, as we can see in (4).

(4) a. *Men artikel is gedoan wè zè né.

b. Men artikel is gedoan wè zè. Né! (Haegeman 2010)

(4b) is acceptable because *né* is clearly set off from the preceding segment.
Sentence-final discourse markers in West Flemish are not clause typers, and they co-occur with clauses that are independently typed. Though some of them are insensitive to clause type, others are sensitive to the type of the sentence. For example, *zè* (and its variant *ghè*) co-occurs mainly with declaratives and with some imperatives. With regard to interrogatives, only rhetorical questions can co-occur with *zè*/*ghè*.

The properties of Japanese discourse markers are very similar with those in West Flemish, although the sentence-ending particles in Japanese can be attached not only to the sentence, but also basically to any major syntactic categories. Japanese discourse markers encode the speaker's attitude with respect to the (content of the) speech act and/or with respect to the addressee. It is optional in that an utterance remains grammatical even if it is removed although the deletion of the discourse markers results in a change in interpretation.

Murasugi and Kido (2011) argue that there are also restrictions that discourse markers in Japanese obey just as in West Flemish. The particles such as *ne*, *na*, and *yo*, among others, are pragmatic markers used to profile the speaker-hearer relationship in Japanese. The particles are involved in the licensing of vocatives. The initial vocative has an "appeal" or attention seeking function, aiming at establishing a discourse relation; the final vocative consolidates the already established relation of

the speaker with an "addressee". Examples are shown below:

(5) a. **Nee Nee** Otoosan, torampu siyoo **yo**
NE NE Daddy card do-Vocative Sentence-ending particle

'Hey, Daddy, let's play cards.'

b. Kono kootya-wa oisii **ne**
this tea -Top yummy-is NE

'This tea is tasty, isn't it?'

Just like West Flemish, the sentence-final particles display rigid ordering restrictions as shown in (6).

(6) a. Kobe-no pan-wa oisii <u>yo ne</u>/<u>yo na</u>.
Kobe-Gen bread-Top tasty

'Kobe's bread is tasty.'

b. *Kobe-no pan-wa oisii <u>ne yo</u>/<u>na yo</u>.

The sequences, *yone* and *yona*, are grammatical, but *neyo* or *nayo* are ungrammatical as shown in (6b). When sentence-final discourse markers *yo* and *ne* co-occur, *ne* must be to the right of *yo.*

Second, just like West Flemish, Japanese basically only has two positions for discourse markers. Though *yo* can co-occur with *ne* (7a) and with *na* (7b), the three discourse markers cannot co-occur, regardless of the order as we can see in (8):

(7) a. Taro-wa ringo -o taberu <u>yo ne</u>.
Taro-Top apple-Acc eat

b. Taro-wa ringo -o taberu <u>yo na</u>.
Taro-Top apple-Acc eat

(8) *Taro-wa ringo -o taberu <u>yo ne na</u>.
Taro-Top apple-Acc eat

'Taro eats apples.'

(8) is only acceptable when *na* is clearly set off from the preceding segment.[2] Just

[2]Three sentence-final particles are allowed only when *wa* comes first.

like sentence-final discourse markers in West Flemish, Japanese sentence-final particles are basically not clause-typers either, and they co-occur with clauses that are independently typed. For example, *yo* co-occurs mainly with declaratives and imperatives.

These discourse markers do not seem to be part of the CP system. The property of the right periphery of Japanese parallels with that of left periphery in head-initial languages such as Italian (Rizzi 1997) in many respects (Saito 2009), and the discourse markers such as *ne*, *na*, and *yo*, all seem to reside outside the CP system. According to Saito (2009), *to* is the complementizer that heads a Report Phrase, which expresses paraphrases or reports of direct discourse in the sense of Plann (1982); *ka* is a head of Force Phrase (ForceP), for questions. And *no* is the complementizer that heads a Finite Phrase, for propositions. The structure is schematized below.

(9) a. [CP [CP… [CP… Finite (*no*)] Force (ka)] Report (to)]

b. [CP… [CP… [CP… [CP… Finite (no)] (Topic*)] Force (ka)] Report (to)]

c. [CP… [CP… [CP thematic topic [C'[CP [TP ...] Finite (no)] Topic]] Force (ka)] Report (to)]

And the discourse markers *ne*, *na*, and *yo* follow *ka*, which is the sentence-typer.

(10) a. [Force[Fin[TP Taroo-wa unagi-o taberu] no] ka] **ne**
-Top
eel-Acc eat Finite Force Sentence-final particle

'I wonder whether or not Taro eats eels.'

b. [Force[Fin[TP Taroo-wa unagi-o taberu] no] ka] **na**

c. [Force[Fin[TP Taroo-wa unagi-o taberu] no] ka] **yo**

ForceP is a sentence typer, and if the sentence is interrogative, *ka* appears in the head of ForceP. As (10a-c) indicate, sentence-final particles follow *ka*, and this shows that the discourse markers are above ForceP at least.

Haegeman and Hill (2011) proposes the Speech Act Shell Hypothesis for the phenomena, and argues that sentence-ending particles in West Flemish constitute the heads of the Speech Act Phrases. The analysis may apply to Japanese adult grammar as well, although we do not discuss it in detail here. Rather, in what follows, we argue that early acquisition of the sentence-ending particles, which should reside in the very

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(i) Anata asita gakko-ni iku wa yo ne.
You tomorrow school-Dat go WA YO NE

'You are going to school tomorrow, aren't you?'

top-most edge of the utterance, make an impact upon the issues regarding how children acquire the syntactic structure.

2.2. Sentence-ending Particles and RIAs in Child Japanese

It has been widely observed by a lot of researchers that Japanese-speaking children produce discourse particles at a very early stage of language acquisition. Shirai, Shirai and Furuta (1999), for example, based on the corpus analysis of four Japanese monolingual children's longitudinal data (CHILDES), find that the children begin to use sentence-final particles when their MLU (Mean Length of Utterances) is below 1;02. Even in the 1960s, Okubo (1967), for instance, has already found that sentence-ending particles such as *yo*, *ne*, and *na*, are first produced at 1;6, 1;7, and 1;8, respectively, by a child Y, and they are produced earlier than the Case particles. According to Okubo (1967), the child Y's *ga*, the nominative Case marker, for example, first appeared in the natural production at 1;9.

Nanzan Acquisition Project (e.g., Murasugi, Fuji and Hashimoto 2006, Murasugi and Fuji 2008, 2009, Murasugi, Nakatani and Fuji 2009, Murasugi and Kido 2011, among others) has found that the discourse particles appear in the natural production of children learning Japanese during the stage of the RIA stage.

Before the full conjugation of the verbs appears in the production, at around the age of late one, the discourse markers are observed. The examples in (11) indicate that the discourse markers follow the mimetic expression (11a), RIAs (11b and 11c), and an shortened verbal stem (11d).

(11) a. Pan **naa** (1;05)
bread Sentence-final particle

'I want a piece of bread.'

b. Atti ita **na** (1;07) (volition) (talking to his mother, the addressee)
there go-TA Sentence-final particle

'(I) want to go over there'

c. Sii **si-ta** **naa** (1;07) (adult : **volition** *si-tai*)
pee do-TA Sentence-final particle

'(I) want to pee.'

e. Rii **na** **na** (1;07)
go down Sentence-final particle

'I want to go down.'
Context: Sumihare is on his father's shoulder. (Murasugi and Fuji 2008)

The children at around the age of one to two years produce the main declarative either in bare mimetics/onomatopeia (English-type) or surrogate non-finite form (Verb-*ta* form, Turkish-type) as the RIAs. (Murasugi, Nakatani and Fuji 2009) The

RIAs given in (11a) through (11e), which are eventive and receive a modal interpretation, are associated with the sentence-ending marker that link the speaker and the hearer. Volitional modality in the early stages of acquisition is expressed by the *-ta* form or mimetics/onomatopoeia, sometimes associated with the sentence-final particle *-na*.

It is worth mentioning here that the discourse markers are pragmatically used in the adult way, while the verb forms *per se* are not. The observer (Noji) notes that it is around then that the social and communicative skills of the child becomes noticeable, and Sumihare, the child, in fact, appropriately distinguishes *ne* from *na* just like adults do: He employs *na* when he talks to himself, while he employs *ne* when he talks to the addressee who holds him, as the contrast between (12a) and (12b) indicates:

(12) a. Tyun mien **naa** (talking to himself) (1;09)
the plane is-not-visible sentence-final particle

'(I) cannot see the plane.'

b. Tyun mien **ne** (talking to father, the addressee who holds him)(1;09)
the plane is-not-visible sentence-final particle

'(I) cannot see the plane.'

c. …**ne** (1;07)
Sentence-final particle

'isn't it?' (Sumihare pronounces *ne* clearly.)

A sentence-final particle without the phonetically realized phrase is also often produced, as shown in (12c) and the footnote 1 in child Japanese. This is also possible in the adult Japanese in fact; it is used when the speaker wants to confirm the statement of his/hers to the addressee in the context where the addresser and the addressee both share the information expressed phonetically null.

Although discourse markers are productively used at the stage of RIAs. RIAs are incompatible with C/T-related items such as *wh*-element and Case markers. Children produce such sentence-ending discourse markers as *ne* and *na* earlier than CP elements. Okada and Grinstead (2003), for example, report that *ne* appears at 1;11, while C-related element such as *no* and *te* appear later in 2;02, and *ka* appears even later at 2;04, based on the corpus analysis of Aki (CHILDES).

As for Sumihare, the Japanese-speaking child we examined, the head of FiniteP first appear at around the time when nominative Case marker and some conjugation of the verbs come to be produced, much later than such discourse markers as *na* and *ne*.

(13) a. Nenne ta **noo** (Sumihare, 1;10)
sleep Past NO

'(I) am sleeping with my daddy.'

b. Katai **no** (Sumihare, 1;10)
is-hard NO

'(This candy) is (very) hard.'

c. Katai yo zya **no** (talking to his mother, the addressee) (1;10)
hard is NO

'(It) is very hard and difficult to take.'

The data given above indicates that the end point of the sentence is marked by *no*. They appear only after 1;10, later than the stage where the discourse markers are produced. Furthermore, Sumihare produces such discourse markers as *ne* and *na* earlier than the head of ForceP *ka*, too. Sumihare starts producing *ka* at 2;03, much later than *ne* and *na*, and even after *no*.

Interestingly enough, sequences of two discourse markers (or sentence-final particles) such as *yo ne* start to appear a bit before *no* does in the production. Observe examples in (14).

(14) a. Atui yo ne (Sumihare, 1:09)
hot YO NE

'It is hot, isn't it?'

b. Hairan yo ne (Sumiare, 1;09)
doesn't fit YO NE

'(The feet) do not fit (in the socks).'

c. Oimo oiti yo ne (Sunmiare, 1;10)
potato delicious YO NE

'The potatoes (are) delicious, aren't they?'

d. Toofu kita yo ne (Sumihare, 1;11)
Tofu came YO NE

'A man selling Tofu came over, didn't he?'

At around the time children discover that more than one sentence-final particle can be attached to a phrase, the head of FinP and the verbal conjugations come to appear.

To sum up, Nanzan Acquisition Project's 8-year research on RIAs indicates that sentence-ending discourse markers are produced at the RIA stage. Japanese RIAs are

incompatible with such C/T-related items as *wh*-element and Case markers just like other languages, but they are compatible with sentence-final discourse markers.

2.3. Where the Truncation Hypothesis and Japanese Discourse Particles Meet

The very early emergence of the Japanese sentence-ending discourse particles suggest that the syntactic structure is not only constructed in the bottom-up fashion but also in the top-down fashion. The co-occurrence of RIAs with a sentence-final particle in child grammar would indicate that a discourse marker or a Speech Act element can be preceded by the truncated structure, even when there is no T/C heads. Then it might apparently seem to cast doubt on the Truncation Hypothesis. How is it possible that children have elements of Speech Act Phrase up above CP when there is no TP in the structure hypothesized then? Does the early appearance of sentence-final particles constitute a counter-example to the Truncation Hypothesis?

A detailed analysis of child Japanese indicates that it is, probably, not the case.[3]

As we noted above, Japanese-speaking children produce sentence-final particles at the RIA stage. The sentence-final particles look as if they are added on the "truncated" structures as shown in (15).

(15) Buuwa tui-ta **ne** **ne** (Sumihare, 1;09)
candle light-ta Sentence-final particle Sentence-final particle

Intended meaning: Please light the candle.
Literal meaning: The candle lit, didn't it?

In (15), the child verb, *tui-ta* (intransitive verb stem with *-ta*) in the declarative should be, in the adult grammar, the transitive verb (imperative), *tuke-te*. It is the example indicating that the child still has difficulties in choosing the adult lexical realization of *v*, thereby producing the transitive and intransitive verbs in the same form, and the surrogate non-finite form (RIA), which are eventive and receive a modal interpretation, co-occurs with a sentence-ending particle *ne*.

Recall here that it is only at a later stage that two sentence ending particles appear as the examples in (14) show. The fact that only one discourse marker is compatible with RIAs indicates that it is doubtful to hypothesize that there is an adult-like phrase of Speech Act then. In other words, just a discourse marker such as *ne* is attached ("*ne-tsuke*") to the edge of the utterance produced at the RIA stage.

Then, the next question is regarding why it is the case that children attach a discourse marker to the truncated phrases. Recall here that adult Japanese is different from West Flemish in that the former allows the discourse markers to be attached basically on any major syntactic unit as shown in (16).

(16) kawaii neko(-ga) **ne**, yane-kara **ne**, otita **ne**
Cute cat (-Nom) roof-from fell

'A cut cat fell from the roof.'

[3]The parallel observation and analysis of Chinese is discussed in Murasugi (2013).

Japanese discourse markers can follow NPs (with a Case marker), PPs, and TPs, and so on, as far as the structure constitutes a well-formed major syntactic constituent, while they cannot be inserted between NP and a Case marker, nor NP and P in PP.

(17) a. *Neko ne-ga
Cat NE-Nom 'The cat (nominative).'

b. *yane **ne** kara,
roof NE from 'from the roof'

Given that sentence-final particles follow basically any proposition in adult Japanese, and given also the fact that the child discourse marker are not only associated with various types of syntactic constituent but also appears as a separate item, the child structure of the sentence-final particles following such a truncated phrase as an RIA would be something like (18).

(18) $[_{XP}$] ***ne/na***
X=Proposition

XP is a proposition, and can be phonetically realized as zero in Japanese, the argument-drop language. Children produce truncated sentence or even a phonetically null form, followed by a discourse marker that links the speaker and the addressee. Tense Phrase can be projected only at around the stage where nominative Case marker and several conjugation forms of verbs come to be used.

In fact, children after two even tend to put *ne* on the every propositional unit. (19) is an example of an utterance of a child at the age of four.

(19) (Answering to the question, "What do you want to be in the future?")
Kasutera ya san tte **ne**, wakaranakatta kara **ne**, ii ni itte **ne**,
Cake-baker C did not recall because tell to go

ganbareta **ne** tte **ne**, homete kureta
did great C admire got

'I did not say that I would like to be a baker (when I was asked), so
I went to tell so to the person (later) and the person admired me saying
that I did a good job.'

In (19), *ne* is attached to the underlined proposition given above, which "sounds very childish" to the adult Japanese-speakers although the position *ne* is inserted is grammatically adult-like.

The fact that the RIAs and the sentence-final particle may co-occur in Japanese acquisition would be explained naturally by assuming that children do not fully know the (adult) syntactic properties of sentence-final particles at the RIA stage, although they know the pragmatic properties associated with them.

The finding that T- and C-related items are not compatible with RIAs also suggests that discourse markers do not constitute a natural class with the T- and C-related elements. From the view point of Japanese acquisition, it is more natural to hypothesize that the sentence-ending discourse markers such as *ne*, *na* and *yo* are located above the CP layer, as Haegeman and Hill (2011) and Saito (2009) suggest.

3. Conclusion

In this paper, focussing on Japanese, we argued that the fact that Japanese RIAs are compatible with sentence-ending discourse particle at around the age of two does not constitute a counter-example to the Truncation Hypothesis proposed by Rizzi (1993/1994).

The phonetic realization of proposition-discourse interface would be the onset of the phrase structure. Japanese-learning children at the babbling stage and one-word stage raise the intonation at the edge of utterances when they ask/command something (Murasugi and Nakatani 2007), and such discourse marker as *ne* is lexically realized at around one/two-word stage. The RIA observed at the age of one and two is naturally compatible with a lexically realized discourse marker, and children put one on the truncated structure as well.

There are always two processes, bottom-up and top-down, involved in human processing. The Truncation Hypothesis naturally explains the bottom-up process in the acquisition of syntactic structure, while the argument presented in this short paper may suggest a possible top-down process found in the acquisition of phrase structure.

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Clausal extraposition and syntactic doubling: *pro*-legomena

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The relationship between an expletive and its sentential associate happens via doubling in pro-drop languages. In non-pro-drop languages doubling is also an option, unless the expletive is inherently a full argument (Dutch *het*, French *cela*), in which case the expletive is generated as an argument and the clause is generated in a non-argumental position. The emerging grammaticality patterns follow naturally from well-known constraints on sub-extraction. If the [expl [clause]] doubling structure is generated in a licit extraction domain (typically object position), then sub-extraction of the expletive is grammatical; when the clause is a *bona fide* extraposition structure, then extraction of the expletive yields ungrammaticality. Certain hypothetical-looking structures are amenable to the same analysis.

Ad Adriana, che mi ha insegnato
linguistica e resistenza.

1. Introduction

The distribution of clausal extraposition differs among languages. Non pro-drop languages appear to be more permissive in allowing these structures (Iatridou and Embick, 1997) (I&E henceforth).

(1) a. It convinced Mary to buy us a car that we were often late
b. *pro epise tin Maria na mas
convince the Maria MOD us
aγorasi aftokinito oti/pu arγsame poles fores Greek
buy car that be-late-1pl many times
c. *pro convinse Maria a comprarci una macchina che fossimo in ritardo
convinced Maria to buy.us a car that were-subj.1pl in late
„It convinced Maria to buy us a car that we were often late"
d. It scared Mary that we arrived late
e. *pro tromakase tin Maria oti/pu ftasame arγa Greek
scared the Mary that arrived.1pl late
f. ??pro impaurì Maria che fossimo arrivati in ritardo Italian

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti.
C. Contemori and L. Dal Pozzo (eds.). Siena, CISCL Press.

scared Maria that were arrived late
„It scared Mary that we arrived late"

English thus allows for structures like (1), where an it-type expletive referring to the extraposed clause can grammatically surface in subject position in the matrix clause (1a). In pro-drop languages like Greek (1b) and Italian (1c) a sentence word by word identical to English, except for the crucial absence of an overt expletive, is ungrammatical. Since the matrix clause has a direct object in all sentences in (1), the clause that follows the object is certainly extraposed. Sentence (1f) is my Italian translation of the examples given by I&E. While the authors consider both (1a) and (1e) completely ungrammatical (*), the deviance of (1f) seems to me to be less severe than that of (1c), for reasons that I account for in section 3 below. In addition to cases like (1) some *if*-clauses like (2) also display the contrast observed in (1). The discussion of these cases is delayed until section (5)

(2) a. If we are often late, it will convince the boss to buy us a car
b. *An arγsume poles fores, *pro* Θa pisi tin Mari na mas aγorasi afto
If be-late many times, fut convince the Maria mod us buy a
kinito
car Greek
c. *Se siamo spesso in ritardo, *pro* convincerà Maria a comprarci una macchina
„If we are often late, it will convince Mary to buy us a car"

The descriptive generalization arrived at in Iatridou and Embick (1997: 67) is as follows:

(3) pro cannot have C/IP as a linguistic antecedent.

'pro' in (3) is to be understood as „argumental *pro*". Following standard assumptions about the licensing and identification of argumental *pro* (Rizzi, 1986a), it is assumed that argumental *pro* has person, number, gender (PNG) features, while pro_{expl} lacks such features. In a nutshell, I&E propose that a featural mismatch between *pro* and C/IP is the cause of the ungrammaticality of structures like (1): since clauses (and verbs with unmarked default inflection) lack PNG features, they are unable to license/identify *pro*.
Picallo (2007) shows that the generalization in (3) is inaccurate. *pro* is in fact able to refer anaphorically to a clause, both when the clause is a sentential subject or a sentential object (e.g. (4c))[1]:

(4) a. [Que leamos en voz alta]$_i$ molesta a Maria pero pro_i distrae a Pedro
That we.read in voice hight disturbs to Maria but pro distracts to Pedro
„That we read aloud disturbs Maria but it distracts Pedro"
b. A Juan no le gusta [PRO ir en bicicleta]I porque pro_i lo hace sudar
To Juan not it likes go in byke because him makes sweat

[1] Glosses and translations of the following Spanish examples from Picallo (2007) are mine.

„Juan doesn‟t like to ride a bike because it makes him sweat‟

b. Maria querìa [que te presentaras como candidato]$_i$ porque *pro$_i$* podia beneficiar
Maria wanted that you run as candidate because could benefit
sus planes
her plans
„Maria wanted that you would run in the elections because it could benefit her plans‟

I&E themselves observed cases where were *pro* can corefer with a clause (I&E p.60-61) in certain extraposition contexts, a fact they attributed to the specific class of predicates involved. The difference between pro-drop and non-pro-drop languages is obliterated in conjunction with a different class of predicates, dubbed PRED2 by the authors (see (5), (6)).

(5) a. It is a shame that John will leave
b. pro ine dropi pu o Kostas Θa fiγi — Greek
be shame that the Kostas fut leave
c. pro È una vergogna che Gianni se ne vada — Italian
is a shame that Gianni si ne goes
„It‟s a shame that Kostas/Gianni will leave‟

(6) a. It seemed impolite that we arrived late
b. pro fanike aγenes pu ftasame arγa — Greek
seemed impolite that arrived-1pl late
c. *pro* sembrava scortese che arrivassimo in ritardo — Italian
seemed impolite that arrive.1pl in late
„It seemed impolite that we arrived late‟

pro and overt expletives pattern alike with respect to PRED2 predicates. With these predicates, an extraposed clause is grammatical, be it construed with an overt expletive (5), like in English, or with *pro*, like in pro-drop languages (6). I&E propose that the difference is to be ascribed to the different type of *pro* involved in (1) vs. (5), (6). They posit that (5), (6) instantiate expletive pro (*pro$_{expl}$*), while *pro* in (1) is argumental.

Picallo (2007) further observes that in the case of adjuncts, in some cases *it* and *pro* contrast (7), while in others they behave alike (8).

(7) a. When(ever) [I go to New York]$_i$ it$_i$ worries my mother
b. *Cuando [(yo) voy a Nueva York]$_i$ pro$_i$ preocupa a mi madre

(8) a. *Although [I read the newspaper]$_i$ it$_i$ worries John
b. *Sebbene io legga il giornale, preoccupa Gianni

Picallo assumes that in cases like (7) *it* and *pro* refer to the TP in square brackets. Picallo proposes that TP cannot be the syntactic antecedent of *pro*[2]. She later generalizes this idea by proposing that TP cannot be a syntactic antecedent of a pronoun[3]. In cases where *it* can corefer with a clause the relationship between pronoun and clause is not one of syntactic antecedence, but *it* is rather an element which simply names the state of affairs referred to by the clause[4]. This would be the case for example in (7a). Picallo attributes the lack of Principle C effects in (9a) to this principle. In (9b) Principle C effects are triggered by the DP „she" c-commanding the DP „Gemma".

(9) a. It$_i$ bothered my mother [if/when(ever) [I sang]$_i$]
b. *She$_i$ becomes sick [if/when(ever) [Gemma$_i$ eats a BigMac]

Notice that, as Picallo admits, the idea does not explain why cases like (8a) are ungrammatical.

In this paper I would like to explore a different analysis of the extraposition structures described so far, while at the same broadening somewhat the empirical basis of inquiry. I will propose that extraposed argumental structures are doubling structures where the expletive can under certain conditions be sub-extracted out of the big-DP where it is generated. Before doing so, I will first introduce the two main features of the analysis, doubling and sub-extraction.

2.Doubling, subextraction

It is well know[5] that many languages use different expletive elements in different structures, or even different expletives for the same structures. Expletives are also known to differ in their argumental status, *it*-type expletive being generally more argumental than *there*-type expletives. Null subject languages pose additional challenges. Some scholars have adopted the reductionist view that null expletives do not exist altogether (see Alexiadou and Anagnostopoulou (1998). Moreover, even assuming that null expletives exist, the homophony between them (silence) makes it impossible to observe directly whether an expletive form or an argumental form is being used. Crosslinguistic comparison is therefore necessary in this case: can any parallelism be drawn between languages with overt expletives and null subject languages in the relevant cases? In particular, is it possible to show that the specific syntactic constraints forcing or banning the presence/absence of an overt expletive in a given structure are also operative in null subject languages?

[2]"SFlex/ST no puede ser el antecedente de *pro*." in her original formulation.
[3] "SFlex/ST no puede ser el antecedente sintáctico de un pronombre." in her original formulation.
[4] "Sugerimos que it en estos casos nombra simplemente la situación o el estado de cosas hipotético que se expresa en la prótasis del condicional --o de las construcciones de tipo condicional-- pero no es un pronombre anafórico relacionado sintácticamente con la categoría SFlex/ST." in her original formulation.
[5] By some

Most of the argument presented in this paper will be fairly uncontroversial. The one non-standard claim which lies at the heart of my proposal is the following:

(10) In structures where a clausal argument and an expletive co-refer, the expletive can be generated in a doubling configuration with the associated clausal argument. *Pro* must be generated in a doubling configuration, while overt expletives need not to.

2.1 Doubling

Let us first clarify what I mean by „doubling configuration". An idea which is occasionally found in generative linguistics is that that two coreferent XPs spelled-out in different positions are in fact generated as a single argument. At least one of the two XPs is later internally merged in a higher position. Several authors have adopted this basic idea to account for structures where there appears to be an "extra argument". Such (potential) theta-theoretical issue is trivially solved under a doubling approach: what counts as the argument is the "Big DP" containing the two "pieces".

Uriagereka (1995: 81ff.), following Jaeggli (1982), proposes that clitic doubling structures in Spanish involve base generation of the clitic and the doubled DP inside the same DP (with the clitic in D° and the double in Spec,DP). The two elements will later separate during the course of the derivation.

(Kayne, 2005) generalizes this idea and proposes that antecedent pronoun relations should be analyzed as doubling configurations: the antecedent and the pronoun are generated together and the antecedent is then extracted out of the original constituent containing antecedent and pronoun. Kayne (2005, 107) schematically exemplifies the process for the sentence "John thinks he's smart" as follows:

(11) thinks [John he] is smart ➞ $John_i$ thinks [t_i he] is smart

Kayne proposes that in this doubling configuration only the Spec can be extracted, a fact which he essentially derives from Chomsky's PIC: only the edge of a phase can be accessed, hence only *John* can be extracted from [John he], under the plausible assumption that John occupies a Spec position. Among other things, this approach allows Kayne to dispense with Principle C as a primitive principle of UG: given the PIC and a base constituent of the form *[John he*], *he* cannot be extracted to yield a sentence like *$*He_i$ thinks $John_i$ is smart*. Under this hypothesis, Principle C thus reduces to a by-product of the properties of computation, a third factor matter, in (Chomsky, 2005)'s sense.

Cecchetto (1999, 2000) proposes that Right Clitic dislocation in Italian involves generation of the dislocated constituent and the clitic pronoun together in a thematic position. Consider (Cecchetto (1999: ex.40)

(12) Lo odia Maria, Gianni
Him hates Maria, Gianni
„It is Maria who hates Gianni"

Cecchetto proposes that the DP *Gianni* and the pronoun *lo* are inserted together in the structure in object position as part of a „Big DP". Such „Big Dp" is treated as a single argument for theta-theoretic / argument structure purposes. Subsequently, the pronominal DP and the lexical DP vacate the Big DP and move independently. The lexical DP is (eventually) moved to a right-peripheral Topic position above VP and AgrOP and the clitic is moved up to IP, as follows:

(13) $[_{IP}$ pro lo odia $[_{FocusP}$ Maria $_{Focus°}$ $[_{TopicP}$ Gianni $_{Topic°}$ $[_{AgrOP}$ $[_{BigDP}$ t Gianni t_{lo} $_{Agr°}$ $[_{VP}$ t Maria ... t BigDP]]]]]

The specifics of Cecchetto"s derivation are not crucial to my proposal. However, in order to clarify the derivation above, I shall point out that Cecchetto assumes that a „right periphery" is projected above VP. Such right periphery shares several similarities with the better known „left periphery" (Rizzi (1997) and much related work), but also important differences. For example, on the interpretive side, the right peripheral Focus position introduces new information and is not contrastive, contrary to the left peripheral Focus position.

Belletti (2005) proposes that in the Italian construction she dubs Strong Pronoun Doubling (SPD), a lexical DP and a strong pronoun are generated together in a „Big DP". The lexical DP is then extracted yielding sentences like the following:

(14) a. Gianni verrà lui
Gianni will.come he
„Gianni himself will come"

b. Gli studenti risponderanno loro
The students will.answer they
„The students themselves will answer"

Belletti (2005: 7) proposes that the original constituent has the form $[_{DP1}$ D1 $[_{DP2}$ D2 NP]], where DP1 is the "Big DP" headed by the pronominal head D1, and DP2 is the lexical DP. The crucial point of the derivation is the following:

(15) $[_{T}$ … $[_{vP}$ $[_{BigDP}$ lui $[_{DP}$ Gianni]]

The lexical DP is extracted from the Big DP and is moved to [Spec, TP] for Case/EPP reasons.

In this section I have reviewed several proposals which involve syntactic doubling. The general idea shared by these approaches is that two nominal elements are generated together as a single argument and they later separate to satisfy whatever formal or interpretive requirement each needs to satisfy. The proposals differ in both the characterization of the „Big DP" constituent and in the movement possibilities

allowed. Is the PIC active in these cases, as postulated by Uriagereka, or is it generally possible to extract the embedded DP as in Belletti"s approach?

The proposal I advance in this paper is that extraposition structures can also be generated as doubling configurations, where the expletive pronoun and the extraposed clause form a single argument out of which the pronoun is later extracted.

Before detailing the empirical aspects of my theory, I would like to introduce the second „ingredient" of the proposal, namely the constraints on extraction which are typically taken to hold in bona fide cases of subextraction.

2.2 Subextraction

A case which is generally taken to involve subextraction out of a larger constituent is that of „discontinuous constituents". In particular, German and Dutch display the so called *was…für / wat...voor* split construction, where a wh- DP (what) and a PP introduced by *for* are generated together; the wh- constituent is then extracted and moved to the C-systsem.

(16) a. [... [$_{DP}$ [$_{DP}$ what] [$_{PP}$ for DP]] ...]
b. [$_{XP}$ [$_{DP}$ what]$_1$ ... [$_{DP}$ t$_1$ [$_{PP}$ for DP]] ...]

Grewendorf (1989) analyzes the *was…für* split construction in German as involving subextraction of <u>was</u> out of an original constituent containing both *was* and the *für*-PP. He observed that the split is not unconstrained, but is rather only possible out of objects (17a), subjects of passives and subjects of unaccusative verbs (17b-c). Given standard assumptions on passives and unaccusative verbs, the emerging generalization is that the *was…für* split construction is only possible out of underlying objects. This is confirmed by the ungrammatical status of (17d-e), where the verb is unergative.

(17) a. Was hast du für Bücher gekauft?
what have you for books bought
„What kind of books have you bought?"
b. Was sind für Bücher erschienen?
what are for books appeared
„What kind of books appeared?"
c. Was sind für Leute angekommen?
What are for people arrived
„What kind of people have arrived?"
d. *Was haben für Leute getanzt?
what have for people danced
„What kind of people danced?"
e. *Was haben für Leute gearbeitet?
What have for people worked
„What kind of people have worked?"

The data in (17) follow straightforwardly from Huang‟s (1982) CED, which prohibits movement out of a non-properly governed domain (typically adjuncts and subjects not generated in object position). Objects are properly governed by V hence (sub)-extraction out of objects is never problematic. The grammaticality of sentences (17a-c) follows: (17a) is extraction of an object, while in (17b-c) the subject is an underlying object and as such it is reducible to an object extraction case. Since [Spec, v] is not a properly governed position, extraction out that position violates the CED, as witnessed by the ungrammatical status of (17d-e). Den Besten (1985) presented similar data from Dutch[6].

[6] Recently, the validity of the generalization has been cast into doubt for both Dutch and German. Both Broekius (2006) for Dutch and Mayr (2008) for German propose that the correct generalization with respect to subjects is that, independent of whether the subject is generated in object position or in [Spec, v], extraction is always possible from the vP-internal base position, but it becomes impossible from a derived position.

(i) a. Wat voor rare verhalen zijn (er) jouw vader verteld?
wat for strange stories are there your father told
„What kind of strange stories have been told to your father?‟
a′. Wat zijn (er) jouw vader voor rare verhalen verteld?
b. Wat voor mensen hebben je moeder bezocht?
what for people have your mother visited
„What sort of people have visited your mother?‟
b′. *Wat hebben voor mensen je moeder bezocht?

(ii) a. *Wat zijn voor rare verhalen jouw vader verteld?
b. Wat hebben er voor mensen je moeder bezocht?

The data in (i), from Broekius (2006:64), constitute the expected pattern: the *wat...voor* split is grammatical out of an underlying object, but is ungrammatical out of [Spec, v] ((ia‟) vs (ib‟)). (ii) is surprising under the standard theory: (iia) is ungrammatical because extraction takes place from a position higher than vP; this is so despite the fact that the subject is an underlying object. (iib) is grammatical because extraction takes place from the base generation position (notice the presence of *er* if Spec, T).

Mayr (2008) provides converging evidence from German. Object extraction is grammatical in both the unsplit and split version:

(iii) a. [Was für Jagdbücher]1 hat Heidegger wohl t1 gelesen?
what for hunting books has Heidegger maybe read
b. Was1 hat Heidegger wohl [t1 für Jagdbücher] gelesen?
what has Heidegger maybe for hunting books read
„Which kind of hunting books did Heidegger maybe read?‟

The split version is ungrammatical in the case of the subject in (ivb):

(iv) a. Was für Leute lesen wohl Bücher von Heidegger?
what for people read probably books by Heidegger
„What kind of people probably read books by Heidegger?‟
b. *Was$_1$ lesen [t_1 für Leute] wohl Bücher von Heidegger?
what read for people probably books by Heidegger

3. Extraposition and expletive sub-extraction.

As anticipated above, I propose that in sentential extraposition, certain expletives are generated in a doubling configuration with the clause and subsequently subextracted from the Big DP. The conditions on subextraction reviewed above regulate the extraction possibilities. In particular, subextraction out of an adjunct is impossible, subextraction out of subjects and objects depends on where extraction takes place from. What makes doubling available in certain cases but not in others? I propose that since a doubled constituent is a constituent which behaves thematically as a single argument, doubling is not an option for those elements which are themselves fully argumental. The issue arising is that in many languages the same expletive can be used in different contexts, thus somewhat blurring the picture.

It was pointed out in the introduction that for a class of predicates, dubbed PRED2 in I&E, extraposition works identically in pro-drop and non-pro-drop languages. All the cases of PRED2 presented in I&E feature unaccusative predicates. I will thus assume that the PRED2 class corresponds in fact to the unaccusative class. Converging evidence from psych-verbs below confirms that this is indeed the case. Consider again (6)

(6) a. It seemed impolite that we arrived late
b. pro fanike aγenes pu ftasame arγa Greek
seemed impolite that arrived-1pl late
„It seemed impolite that we arrived late"
c. pro sembrava scortese che arrivassimo in ritardo Italian
seemed impolite that arrive.1pl in late

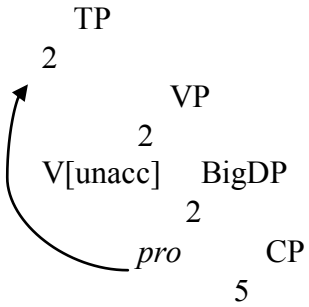
In (6) expletive and extraposed clause are generated together as a Big-DP object of an unaccusative verb. Sub-extraction of the expletive occurs from a licit extraction domain: the sentence is grammatical (see partial representation in (18))

However, if the object is first scrambled out of vP across the particles nur and immer and then wh-subextraction takes place (20a), the result is ungrammatical (this is analogous to (ib")); if sub-extraction takes place from object position, the result is grammatical (vb).

(v) a. *Was1 lesen [t1 für Bücher] nur immer Philosophen?
what read for books always only philosophers
b. Was1 lesen Philosophen nur immer [t1 für Bücher]?
what read philosophers only always for books
„What kind of books do only philosophers always read?"

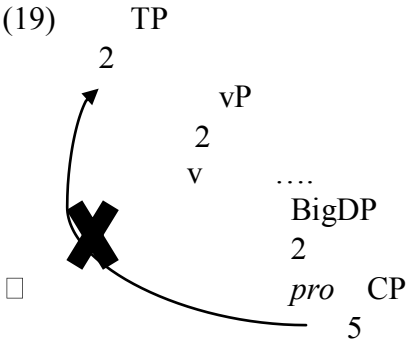
In the same way, subextraction out of a subject is grammatical if it takes place from inside the vP, like in (via) (notice nur immer > für Bücher), but it is ungrammatical if it takes place from a vP external position (vib) (notice für Bücher > nur immer)

(vi) a. Was_1 lesen solche Bücher nur immer [t_1 für Philosophen]?
what read such books only always for philosophers
„Which kind of philosophers only read such books?"
b. *Was_1 lesen [t_1 für Philosophen] nur immer solche Bücher?
what read for philosophers only always such books

(18)


When the verb is not unaccusative, the clause occupies a position which is not a licit extraction domain[7]. The relevant cases on (1) are repeated below:

(1) a. It convinced Mary to buy us a car that we were often late
b.*pro convinse Maria a comprarci una macchina che fossimo in ritardo
convinced Maria to buy.us a car that were-subj.1pl in late

(19)


In this case *pro* is generated in a doubling configuration; as such, it cannot be successfully extracted since that would violate the CED. English *it* can evidently employ a different strategy: the expletive is itself argumental and it can nonetheless refer to the clause, which is in this case a *bona fide* adjunct. *It* is an argument of *convince* and is generated independently of the clause.

3.1 Psych-verbs
The classical analysis of psych-verbs offered in Belletti and Rizzi (1988) distinguished three different verbal classes, as illustrated in (20), (21)

(20) a. Class I NOM experiencer, ACC theme.
b. Class II, NOM theme, ACC experiencer (e.g. spaventare („to frighten“) in Italian)

[7] I will not discuss the extract structural position of the extraposed clause in these cases, a topic which has to do with the exact position of „adjuncts“ (pair merged phrases) under current minimalist assumptions. This is not a choice, but is rather attributable to author“s ignorance.

c. Class III, NOM theme, DAT experience (e.g. piacere („to please") in Italian)

Class I verbs are universally taken to be transitive verbs. Belletti and Rizzi (1988) have uncovered several asymmetries between Class II and Class III verbs. While the precise structural characterization of the two verbal classes is still open to debate (see (Pesetsky, 1995), (Landau, 2010) among many others), there is widespread agreement in the literature that Class III verbs are core unaccusatives, while class II verbs are not.
The extraction data reported below (from Belletti and Rizzi (1988)), are consistent with this conclusion. The authors first observe that extraction from objects is grammatical (21a) and so is extraction from the postverbal subject of unaccusative verbs (an object, under standard assumptions (21b)). In stark contrast with the case of the extraction from objects, extraction from free inverted subjects (21c) is degraded and extraction from adjuncts is ungrammatical (21d); both are essentially CED violations (Huang (1981)).

(21) a. Il ragazzo di cui amavi [la sorella e]
The boy of whom loved.2s the sister
„The boy whose sister you loved"
b. Il ragazzo di cui è tornata [la sorella e]
The boy of whom is come back the sister
„The boy whose sister has come back"
c. ??Il ragazzo di cui ti amava [la sorella e]
The boy of whom you.OBJ loved the sister
„The boy whose sister you loved"
d. *Il mese di cui Gianni è tornato [la prima settimana e]
The month of which Gianni is come back the first week

Extraction out of the internal argument of Class II psych-verbs (ACC experiencer) yields the same type of sharp ungrammaticality encountered in the case of extraction out of adjuncts (22a-b). However, extraction out of the internal argument of Class III verbs is perfectly grammatical (22c).

(22) a. *La compagnia di cui questo spaventa [il presidente e] Class II
The company of which this frightens the president
b. *La ragazza di cui Gianni preoccupa [il padre e] Class II
The girl of which Gianni worries the father
c. La ragazza di cui mi piace [il padre e] Class III
The girl of whom to.me „pleases" the father

The extraction facts in (22) indicate that the internal argument of Class III verbs is in object position; it follows that Class III verbs behave like bona fide unaccusatives. By contrast, Class II verbs disallow extraction from their internal argument. They are therefore not bona fide unaccusatives. Belletti and Rizzi (1988) propose that while Class II verbs are not core unaccusatives, they still are a special kind of

unaccusatives, double object unaccusatives, where the experiencer argument is adjoined to VP. The insularity of extraction out of Class II psych-verb follows from their proposed structure. The sharp ungrammaticality of (22a-b) suggests that the postverbal ACC experiencer occupies an adjoined position (see the similarly sharply ungrammatical case in (21d). Therefore, despite the linear similarity of (22b) and (22c), the authors show that it is only in (22c) that the DP *il padre di cui* („the father of which") is generated in object position (see Belletti and Rizzi (1988) for additional arguments and discussion; see Belletti and Rizzi (2012) for a recent reinterpretation of these fact, which does not change the basic facts reported here).
The extraction facts discussed so far lead to the following prediction: given that only Class III verbs are unaccusatives and assuming that I&E"s PRED2 predicates are in fact unaccusatives, we predict that an extraposed clause can grammatically occur as the theme of a Class III verb (in object position). On the contrary, the result should be marginal if the clause occurs as the (ACC) experiencer of a Class II verb (i.e. in adjoined position), since Class II verbs are not unaccusatives. The prediction is borne out by the data in (23): while (23c) is probably not fully *, the sentence is to my ears still very degraded compared to (23b).

(23) a. Agli ospiti dispiacerà che arriveremo tardi alla festa
to.the guests will.displease-3S that will.arrive-1P late at-the party
„It will displease the guests that we will arrive late at the party"
b. Dispiacerà agli ospiti che arriveremo tardi alla festa
will.displease-3S to.the guests that will.arrive-1P late at-the party
„It will displease the guests that we will arrive late at the party"
c. ?? *pro* Preoccuperà gli ospiti [e_i che arriveremo tardi alla festa]
ζ_____+_____μ
will.worry-3S the guests that will.arrive-1P late at-the party
„It will worry the guests that we will arrive late at the party"

In the unaccusative structure (23b) the BigDP is generated in object position (the verb *dispiacere* „to displease" is a class III verb) and *pro* can successfully be subextracted and moved to T. The case of *preoccupare* is somewhat surprising: the BigDP is generated in object position[8], however the structure is deviant. A complicating factor is that cliticization of the experiencer improves this type of structures to full grammaticality:

(24) *pro* mi ha sorpreso [e_i che foste arrivati in ritardo]
ζ–––––––___μ
to.me has surprised that were.2pl arrived in late
„It surprised me that you were late"

[8] Recall that the structure proposed in Belletti and Rizzi (1988) for these cases is one where the theme is generated in object position and the experiencer is a VP-adjunct, which accounts for the ungrammaticality of extraction of the experiencer DP (see (22b) above).

I would like to relate this effect to experiencer blocking effects attested in Italian (a fact originally observed, I believe, in Rizzi (1986b fn.9), from where the following example is taken):

(25) *?Gianni$_i$ sembra a Piero [e$_i$ non fare il suo dovere]
„Gianni seems to Piero not to do his duty"

While an overt experiencer blocks raising of a subject across it, a cliticized experiencer is unable to induce such effects.

(26) Gianni$_i$ gli sembra [e$_i$ non fare il suo dovere]

Boskovic (2011) follows previous literature in subsuming experiencer blocking effects under Relativized Minimality:

(27) Traces do not count as interveners for relativized minimality effects.

I propose that the contrast between (23c) and (24) is an instantiation of (27): in (23c) subextraction of *pro* occurs across an overt experiencer, triggering a RM effect. In (24) the effect is absent due to (27): the crossing of a trace does not trigger RM effects. This provides independent evidence in favor of the proposed analysis of clausal extraposition in terms of *pro* subextraction out of a BigDP. It further shows that the subextraction of *pro* is A-movement since it triggers RM effects with respect to an intervening element in an A position.

A natural question related to the full grammaticality achieved in the cliticization structures in (24) is why (1f) is less deviant than (1c).

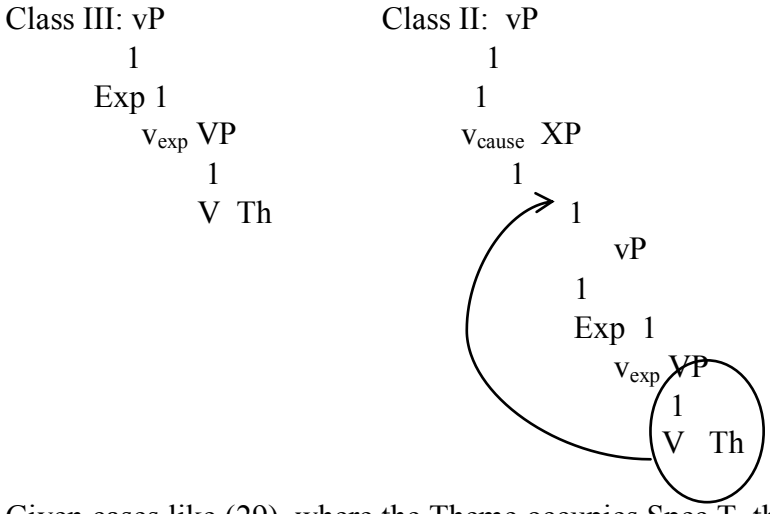
(1) c. *pro convinse Maria a comprarci una macchina che fossimo in ritardo
convinced Maria to buy.us a car that were-subj.1pl in late
„It convinced Maria to buy us a car that we were often late
f. ??*pro* impaurì Maria che fossimo arrivati in ritardo[9]
scared Maria that were arrived late
„It scared Mary that we arrived late"

While in both structures subject position is filled by a null expletive, the status of the „extraposed" clause differs substantially. Since in (1c) the extraposed clause follows the object of the embedded V, it is unquestionable that it occupies a derived position. I will refer to this position as the "adjunct" position throughout the remainder of the paper. In (1f), the clause is a deep object, under both Belletti and Rizzi"s (1988) and Belletti and Rizzi (2012)"s analyses. The latter work captures the difference between class II and class III psych-verbs by proposing that Class II verbs have an additional

[9] (1f) is my Italian translation of the examples given by I&E. The ungrammaticality of (1f) seems to be less severe than that of (1c), for reasons that I discuss in section 3 below.

layer of causative structure, which accounts for the causative-like interpretation carried by Class II verbs (as observed originally in Pesetsky (1995)).[10]

(28)



Given cases like (29), where the Theme occupies Spec,T, the derivation proceeds in a similar fashion for both verbal classes.

(29) a. Queste notizie piacciono a Gianni Class III
These news like.pl to Gianni
b. Queste notizie preoccupano Gianni Class II
These news worry Gianni

The VP is smuggled (in Collins' (2005) sense) across the Experiencer (to Spec, XP in the Class II case and to a projection higher than vP in the Class III case) thereby circumventing RM violations which would otherwise arise from the movement of the theme across the experiencer. From these derived positions the theme is then extracted and moved to T.

It follows from the Class II structure in (28) that a different grammatical derivation is available, if we assume that *pro* can be extracted directly from object position. (1f) thus reduces to a case of *pro* subextraction from object position: (24) is perfect since

[10] That Exp is generated higher than Th is suggested by backward binding facts like the following:

(i) a. *?Ai $suoi_i$ genitori piace $ogni_i$ bambino
To his parents like every child
b. I $suoi_i$ genitori piacciono ad $ogni_i$ bambino
(ii) a Questi pettegolezzi su di sé preoccupano Gianni più di ogni altra cosa
These rumors about himself worry Gianni more than anything else
b *Questi pettegolezzi su di sé descrivono Gianni meglio di ogni altra cosa
These rumors about himself describe Gianni better than anything else

cliticization prevents RM violations; (1f) is deviant because *pro* moves across Exp, triggering a RM violation[11].

3.1.1 French psych-verbs

Let us now consider cases involving psych-predicates and an extraposed clause in French. Zaring (1995) shows that class III verb *plaisir* („to please") can generally be constructed with both *il* and *cela* and an „extraposed" clause[12]. I will show below, following Zaring"s work, that *cela* surfaces when the clause is extraposed (=adjoined), whereas *il* is grammatical only when the clause is generated in object position.

(30) {Cela / il} plaît a nos parents que nous travaillons beaucoup
It pleases to our parents that we work a lot

The two elements differ in their allowing extraction from the extraposed clause. *Il* allows extraction of both arguments (+Arg) and adjuncts (-Arg) from both finite (+fin) and non-finite (-fin) clauses (data from Zaring (1995: 528ff.). *Il* allows extraction of both arguments and adjuncts from both finite and non-finite clauses:

(31) a. [+Arg,+Fin]
Quelle sorte de gens plaît-il aux riches de traiter avec mépris?
what sort of people pleases it to-the rich of to-treat with contempt?
„What sort of people does it please the rich to treat with contempt?"
b.[-Arg,+Fin]
Comment plaît-il aux riches de traiter les pauvres?
How pleases it to-the rich of to-treat the poor
„How does it please the rich to treat the poor?"
c.[+Arg,-Fin]
Quels devoirs plaît-il aux instituteurs que ces èléves fassent le soir?
which homework pleases it to-the teachers that these students do the evening
„Which homework does it please the teachers that these students do in the evening?"
d.[-Arg,-Fin]

---

[11] It also needs to be assumed that Th will also move to an adjoined position of sorts, given the marginality of *wh*- extraction out of these structures:

(i) a. Ti preccupa molto che Gianni abbia comprato una pistola
you worries a.lot that Gianni has bought a gun
„It worries you a lot that Gianni has bought a gun"
b. *?Che cosa ti preoccupa molto che Gianni abbia comprato?
What you worries a.lot that Gianni has bought
„What does it worry you that Gianni bought?"

If remnant movement to a position like Spec,XP is at all conceivable, then the marginality of extraction would be parallel to that of the German/Dutch sub-extraction cases described in fn. 6 above. Sub-extraction out of a derived position is marginal.

[12] In what follows, I assume

Comment plaît-il aux instituteurs que ces èléves se comportent?
How pleases it to-the teachers that these students self behave
„How does it please the teachers that these students behave?"

Cela makes extraction marginal or impossible:

(32) a. [+Arg,+Fin]
?Quelle sorte de gens est-ce que cela plaît aux riches de traiter avec mépris?
what sort of people Q it pleases to-the rich of to-treat with contempt?
„What sort of people does it please the rich to treat with contempt?"
b.[-Arg,+Fin]
??Comment est-ce que cela plaît-il aux riches de traiter les pauvres?
How Q it pleases it to-the rich of to-treat the poor
„How does it please the rich to treat the poor?"
c.[+Arg,-Fin]
?Quels devoirs est-ce que cela plaît aux instituteurs que ces èléves fassent
which homework Q it pleases to-the teachers that these students do
le soir?
the evening
„Which homework does it please the teachers that these students to in the evening?
d.[-Arg,-Fin]
*Comment est-ce que cela plait aux instituteurs que ces èléves se
How Q it pleases it to-the teachers that these students self
comportent?
behave
„How does it please the teachers that these students behave?"

I would like to conclude (following in part Zaring (1995)) that in the *cela* cases (32) the clause does not occupy object position but is rather in an adjunct position, much like (1a) and similar cases: insularity effects follow. In the *il* variant (31) the clause is in object position, therefore no insularity is attested. This state of affairs in turn suggests that *il* can be generated as a doubler of the clause in object position, where it is grammatically extracted from, allowing for subsequent wh- extraction of other material[13]. *Cela* appears instead to behave consistently like *it* does in cases like (1a): it is argumental and generated independently of the extraposed clause. Subsequent wh- extraction out of the extraposed clause produces different degrees of marginality depending on the status of the extracted phrase. Zaring shows in fact that there is a strong correlation between *cela* and islandhood across a variety of constructions[14].

[13] This is quite circular, but I hope no one will notice.
[14] When clauses are right dislocated, the alternation between *il* and *cela* is not attested, consistently with the idea that when clauses are not in an argumental position, *cela* is the only option (data from Zaring 1995, p.519):

(i) Cela/*il me plait, ce qu'il fait
it me pleases what he does

French extraposition structures featuring class II verbs differ from their Italian counterpart in that they can only be constructed with *cela* even when the experiencer is cliticized.

(33) a. Cela/*il étonne mon père que nous travaillons beaucoup.
It surprises my father that we work a.lot
b. Cela/*il l'étonne que nous travaillons beaucoup.
It him.surprises that we work a.lot

Under the reasonable assumption that *il* is used when the clause is generated in a licit extraction domain, a derivation similar to the one proposed for (30) should be available: *il* and the clause are generated as a BigDP, *il* is subextracted across a cliticized experiencer. This is evidently impossible: (33) is essentially parallel to (1a). The selection of a certain expletive over another may be a lexical property of certain verbs: see below for a surprising difference with respect to the verbs *seem* vs. *appear* in Dutch.

3.2 Rasing/impersonal verbs
Zaring reports the following pattern for raising verbs:

(34)

	il	**cela**
Raising verbs		
infinitival clause	no	no
finite clause	yes	no
Impersonal verbs		
infinitival clause	yes	no
finite clause	yes	no

(35) Il/*cela semble que mon fils ait lave la voiture
It seems that my son has washed the car

This is consistent with the theory spelled out so far. *Il* can act as a doubler: it is thus the option used when the clause is in object position. The impossibility of *cela* might be ascribable to economy considerations: whenever a simpler structure which allows more extraction possibilities is available, there will be a tendency for languages to choose that structure over a more complex and more restrictive one. Notice that if *cela* was used then the clause would have to be extraposed, given the inability of *cela* to occur in conjunction with non extraposed clauses.

3.3 Extraposition and transitive verbs
If the analysis sketched out so far is correct, namely that *cela* always corresponds to the argumental version of *it* in (1a), we expect the *il/cela* alternation not to be possible in contexts similar to (1a): *cela* should be the only grammatical option, since extraction of *il* out of an adjoined BigDP would violate the CED. Zaring (1995)

shows that this is indeed the case. Transitive verbs taking clausal subjects can only take *cela* as subjects when the clause is extraposed:

(36) Cela/*il prouve sa culpabilité que Jean ait menti
It proves his guilt that Jean has lied
„it proves his being guilty that Jean has lied"

Since the clause is not in object position in this case, as proven by the presence of the nominal object *sa culpabilit*é we expect wh- extraction to be marginal/impossible, which Zaring proves to be true.

(37) a. ??Quels enfants est-ce que cela prouve son innocence d' avoir traité si
Which children Q it proves his innocence to have treated so
doucement?
tenderly
b. *Comment est-ce que cela prouve son innocence d' avoir traité ses enfants?
How Q it proves his innocence to have treated his children
c. ?* Quels enfants est-ce que cela prouve son innocence que cet homme traite
Which children Q it proves his innocence that this man treats
si doucement?
so tenderly
d. * Comment est-ce que cela prouve son innocence que cet home les traite?
How Q it proves his innocence that this man them treat

Summarizing the conclusions reached so far, it appears that *cela* is used only when the clause is extraposed in a *bona fide* adjunct position (structures corresponding to the English (1a) above). *Il* is used when the clause is generated in object position (a licit extraction domain): this is consistent with the idea that *il* (and *pro* in similar structures) are generated as BigDPs and then subextracted. Subextraction is only possible from licit extraction domains. When a structure allows for both *il* and *cela*, then two structures are actually associated with it, as shown by the extraction patterns reported above in the case of class III psych-verbs in French: in the *il* structure the clause is in an underlying object position, in the *cela* case the clause is in an adjoined position. What *pro* is unable to do, crosslinguistically, is the work done by *cela*: be generated independently of the associate sentence and refer to it[15]. As for English *it*, this expletive is ambiguous between *cela* and *il*. *It* can in fact both act as a doubler (like *il*), as shown by the grammaticality of (5a), (6a) and (38) below, but can also be used as an argument referring to a bone fide extraposed clause, like in (1a).

(38) It_i appears [BigDP [e_i [CP that John has bought a car]
ζ_____μ

4. Dutch

[15] Now, if I knew why this would be a much better paper. I don't though.

The analysis of Dutch, based on Bennis (1987) provides a different partition of the expletive space. The language has three different expletive elements (*het*, *er* and *pro*), which can all co-occur with an extraposed clause, in some cases.
Het is the most argumental of the three. An extraposed finite clause associated with it induces insularity, confirming its adjunct status. From this standpoint, *het* corresponds to French *cela*. The verb „to seem" appears to select for *het* only in extraposition contexts: extraction of out the extraposed clause is expectedly banned, since the clause is an adjunct.

(39) a. Het scheen dat Jan ziek was
It seemed that Jan sick was
b.* Er scheen dat Jan ziek was
There seemed that Jan sick was
c. *Gisteren scheen dat Jaan ziek was
Yesterday seemed that Jan sick was

(40) a. *Wat scheen het dat Jan gezgd had?
What seemed it that Jan said has
b. *Wat scheen er dat Jan gezgd had?
What seemed there that Jan said has
c. *Wat scheen gisteren dat Jan gezgd had?
What seemed yesterday that Jan said has

The verb „to appear" on the contrary allows for *het*, *er* and *pro* to be associated with the clause. I am here adopting the CP analysis of the V2 phenomenon (following den Besten (1983) and much subsequent work). Under this family of analyses, a null expletive fills the Spec, T position in cases like (41c), where an adverb fills first position and no overt expletive is present in Spec, T.

(41) a. Het is gebleken dat Jan ziek was
It is appeared that Jan sick was
b. Er is gebleken dat Jan ziek was
There is appeared that Jan sick was
c. Gisteren is gebleken dat Jan ziek is
Yesterday is appeared that Jan sick is

We have seen in (40) that *het* is argumental, thus we expect extraction out of (41a) to be ungrammatical; we have also seen that *pro* must crosslinguistically be generated as a doubler of the „extraposed" clause: we thus expect extraction from (41b) to be grammatical. As for *er*, *there*-type expletives are less argumental than *it*-type expletives, and as such we expect (41c) to pattern more with (41b) than with (41a). This is all borne out, as shown in (42).
`

(42) a. *Wat is het gebleken dat Jan gezegd heeft?
What is it appeared that Jan said has
b. Wat is er gebleken dat Jan gezegd heeft?

What is there appeared that Jan said has
c. Wat is gisteren gebleken dat Jan gezegd heeft?
What is yesterday appeared that Jan said has

Very similar conclusions can be drawn from the analysis of extraction out of clauses where *het* acts as the object of the matrix verb, compared to similar *het*-less cases.

(43) a. ... dat ik ?(het) haat dat Jan ziek is
...that I it hate that Jan sick is
b. ...dat ik (het) betreur dat Jan ziek is
...that I it regret that Jan sick is
c. ....dat ik (?het) zeg dat Jan ziek is
....that I it say that Jan sick is

Extraction from the version with *het* is ungrammatical, whereas extraction from the *het*-less version is grammatical.

(44) a. Wat betreurde jij dat hij gezegd had?
What regretted you that he said had?
b. *Wat betreurde jij het dat hij gezegd had?
What regretted you it that he said had?
`What do you regret that he said?'

The same point about *het* vs *pro* can be made with respect to Class II and Class III psych-verbs in Dutch. In both cases, extraction out of the *het*-less version is grammatical, whereas extraction out of the *het* version is ungrammatical.

(45) a.Mij bevalt het niet dat Jan dat gezegd heeft
Me pleases it not that Jan that said has
b. Mij bevalt niet dat Jan dat gezegd heeft
Me pleases not that Jan that said has
c. *Wat bevalt het jou niet dat Jan wat gezegd heeft?
What pleases it you not that Jan said has
d. Wat bevalt jou niet dat Jan wat gezegd heeft?
What pleases you not that Jan said has

(46) a. Mij ergert het dat Jan dat gezegd heeft
Me irritates it that Jan that said has
b. Mij ergert dat Jan dat gezegd heeft
Me irritates that Jan that said has
c. *Wat ergert het jou dat Jan wat gezegd heeft?
What irritates it you that Jan said has
d. Wat ergert jou dat Jan wat gezegd heeft?
What irritates you that Jan said has

5. On certain hypothetical (looking) structures

I&E noted that alongside the extraposition structures analyzed so far, some *if*-clauses also display the same range of effects. Consider (47) vs. (48): with non unaccusative verbs like those in (1) we obtain a grammatical structure in English (47), but not in pro-drop languages (48).

(47) a. If we arrive late, it will make Mary think that we don‟t like her
b. If we are often late, it will convince the boss to buy us a car

(48) b. *An arγsume poles fores, *pro* Θa pisi tin Mari na mas aγorasi afto
If be-late many times, fut convince the Maria mod us buy a kinito
car Greek
c. *Se siamo spesso in ritardo, *pro* convincerà Maria a comprarci una
If we.are often in late convince Maria to buy.us a macchina
car
„If we are often late, it will convince Mary to buy us a car‟

With Class II psych-verbs we also obtain ungrammatical sentences, like in the corresponding extraposition cases discussed above.

(49) a. *An ftasume arγa, pro Θa tromkasi tin Maria
If arrive.1pl late, FUT scare the Maria
„If we arrive late, it will scare Mary
c. *Se arriviamo tardi, spaventerà Maria
If we.arrive late will.scare Maria
d. *Se arriviamo tardi, la spaventerà
If we.arrive late her will.scare

When the verb in the main clause is unaccusative, the resulting structure is grammatical, again much like the extraposition cases analyzed above.

(50) a. An o Kostas arγisi pro Θa ine dropi
if the Kostas is-late FUT be a shame
„If Kostas arrives late, it will be a shame‟
b. An arγisume pro Θa fani aγenes
If be-late-1PL FUT seem impolite
„If we are late, it will seem impolite‟
c. Se arriviamo tardi, sembrerà scortese
If we.arrive late, will.seem impolite

I would like to propose that while there are some differences between these cases and the cases analyzed above (for example the complete lack of amelioration effects through cliticization in the case of Class II psych-verbs (see (49c-d) above), a unified analysis is in order. While these clauses look like hypothetical clauses, they become in fact marginal when the hallmark of hypothetical clauses (the word *allora* („then‟))

is added at the beginning of the main clause. (51a) is a case of *bona fide* hypothetical and „*allora*" is of course perfect. In (51b-c), adding *allora* yields a marginal sentence, which indicates that these structures are better treated as „extraposition" structures, much like the cases analyzed in previous sections.

(51) a. se Gianni parte, allora me ne vado anch'io
If Gianni leaves, then me of.it go too I
„If Gianni leaves, then I will leave too"
b. *?se Gianni parte, allora mi dispiace
If Gianni leaves, then to.me „displeases"
„If Gianni leaves, then this will displease me"
c. *?se Gianni parte, allora sarà un peccato / allora sembrerà scortese
If Gianni leaves, then will.be a shame / then will seem unpolite

A sentence like (51b), without *allora*, is generated as:

(52) [Mi dispiace] [pro [se Gianni parte]]
To.me displeases if Gianni leaves

(52) is thus identical in relevant respects to its „che" counterpart

(53) [Mi dispiace] [pro [che Gianni parta]]

In both (52) and (53) *pro* can be grammatically subextracted for the reasons discussed above. The next step in the derivation is movement of the remnant up. By the same token, the ungrammaticality of (48), (49) also follows. The base generation position is in essence identical to that of the *bona fide* extraposed clauses analyzed above, and the same analysis should also carry over: *pro* cannot be extracted since extraction would violate the CED.

Seen from this perspective, Picallo"s cases in (7), repeated below, are also amenable to a similar explanation. Despite appearances, the temporal sentences are not generated as adjuncts, but they are rather generated as extraposed clauses, or in object position.

(7) a. When(ever) [I go to New York]$_i$ it$_i$ worries my mother
b. *Cuando [(yo) voy a Nueva York]$_i$ pro$_i$ preocupa a mi madre

Consider (55):

(55) a. I like (it) when(ever) you sing
b. Mi preoccupa quando canti
to.me worries when you.sing

Despite the unusual complementizer, these clauses can be grammatically used as sentential objects. I thus propose that (7) is derived roughly as follows:

(56) It_i worries my mother [t_i whenever I go to NY] →
[whenever I go to NY]$_j$ it_i worries my mother t_j

More work is needed to establish why the second movement in (56) is ungrammatical in pro-drop languages (e.g. (7b)).

6. Conclusion

The following table somewhat crudely summarizes the conclusions reached in this paper, while proving some differences in the mapping of the expletive space in Dutch, English, French, Italian (and plausibly pro-drop languages at large). The first two columns refer to whether the expletive can/must behave as a full argument when the associate is a clause. The third column, added for completeness, shows whether the expletive can be the associate of a DP.

Dutch *het* and French *cela* appear to be exclusively argumental; as such, they always trigger insularity when they are associated with a clause. (e.g. (37) for *cela*, (42) for *het*). Both Dutch *er* and French *il* are used as doublers when their associate is a clause : (41b),(42b) for *er*, (30), (31) for *il*. Both *er* and *il* can be used with a DP associate:

(57) a. Il est arrivé trois filles
It is arrived three girls
„Three girls arrived"
b. Er heeft zo-even een Amerikaan het toneel betreden
Expl has just an American the platform entered
„An American has just mounted the platform"

English *there* differs from *er/il* in that it cannot take a clause as associate; it is an expletive specialized for DP associates.

English *it* is ambiguous between a full argumental expletive (like *cela, het*) and a doubling expletive (like *il*,*pro*).

As for *pro*, it must be used as a doubling expletive when the associate is a clause. What *pro* cannot do in these contexts is act as a full argument. I don"t know why.

		FULL ARG?	**DOUBLER?**	**EXPL… DP**
DUTCH	*het*	✓	*	*
	er	*	✓	✓
ENGLISH	*it*	✓	✓	*
	there	*	*	✓
FRENCH	*cela*	✓	*	*
	il	*	✓	✓
ITALIAN	*pro*	*	✓	✓

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The negative marker that escaped the cycle: some notes on *manco*[*]

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In this article we observe a phenomenon considered to be extremely rare by typological literature. The dialect of Rionero in Vulture, a Lucanian dialect, displays a new negative marker derived from the verb/adverb 'lack/less' which has not undergone the typical doubling step of the Jespersen cycle but has directly substituted the original negative marker *n'*. We believe this is an important observation because it can potentially shed light on the way negative markers become standard and more generally it suggests that negation in natural languages is not a simple operator placed in front of the proposition as in formal logic, but stems from a set of complex operations, whose reflex is visible in the varied morpho-syntactic patterns we observe.

To Adriana,
whose straight and insightful way of doing linguistics
has been a constant source of inspiration through the years
and a driving force in keeping formal syntax
anchored to its empirical foundations

1. Introduction

The evolution of the negative markers known as the Jespersen cycle has recently received much attention in the literature of both Romance and Germanic (see among others Breitbarth (2014), van Gelderen (2011), van der Auwera (2009) and (2010)). In general, both Germanic and Romance display a clitic-like negative marker which is then substituted by a structurally low negative marker through the well known stage of doubling of the two negative markers, which first starts out in so called "emphatic contexts" and then generalizes to all contexts followed by a last stage where the originally negative marker is entirely lost and negation is represented by the original "reinforcer". Looking at both Romance and Germanic, the change in the position of the negative marker seems to be an in-built property of the Jespersen cycle: van der Auwera considers it from a typological perspective and notices that

[*] We thank all the members of the ASIt project who have commented on various stages of our investigation on negation and Emanuela Sanfelici and Luca Rigobianco for helping us with the data from Venosa and Rionero in Vulture. Although the article has been developed together, Jacopo Garzonio takes responsibility over sections 1, 3.2 and Cecilia Poletto over sections 2, 3.1, 4.

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C. Contemori and L. Dal Pozzo (eds.) Siena, CISCL Press.

even in the Bantu family, the substitution goes with a change in the position similar to the one of Romance (see also Vossen (2011) on the Jespersen cycle in languages of South-East Asia, Oceania and Australia). Even considering the latest evolution of English *n't*, the "new" negative marker substituting for *not*, we see that there is a change in position, in this case the new negative marker is higher than the original one.

Van der Auwera also acknowledges that, contrary to other types of negative markers, standard sentential negative markers do not undergo a process of sheer substitution, i.e. sentential negation is generally recreated through the doubling mechanism of the Jespersen cycle.

Furthermore, the "new" negative marker generally does not display negative concord with n-words even if the old one does, at least not at the first stage of evolution where it imposes itself as the new standard negative marker. This is the case in both French and Germanic.

In this work we concentrate on the distribution of a special negative marker, *manco*, approximately meaning 'not even' which is found in both standard Italian (SI) and Southern Italian dialects (SIDs) but which has lost its 'even' meaning becoming the standard negative marker in the Southern variety of Rionero in Vulture, spoken in Basilicata, as the following example already shows:

(1) Vivə spessə se mankə vu carè malatə.
drink.imp often if not want.2sg fall ill
'Drink a lot if you do not want to get ill.'

The reason why we think this negative marker is interesting from the theoretical point of view, is that it represents precisely a case where one negative marker substitutes for another without changing its position and more notably, without triggering any doubling effect as usually found in more typical cases of the Jespersen cycle. This would mean that there are cases of development of new sentential negative markers which do not obey the Jespersen cycle, i.e. the missing type noted by van der Auwera (2010).[1]

Furthermore, contrary to the general path of evolution of negation in French, Northern Italian dialects and Germanic, the new negative marker in Rionero is obligatory in negative concord contexts just like Italian *non*:

(2) Manc am fatt nint.
not have.1pl done nothing
'We did not do anything.'

Our main research questions will then be: has the adverb *manco* in Rionero different syntactic properties with respect to its closest variety, Venosa, and with respect to SI? How come it has developed into the standard negative marker following an unattested path of development, namely a) keeping the same position as *non*, and b) keeping negative concord properties and c) most probably without

[1] We use the term "Standard Negation" or "Standard Negative Marker" to indicate the negative morpheme or adverb that has scope on the whole clause and has no further specific interpretative nuances ("In standard negation the scope of negation is the entire clause, the clause is a declarative, its main predicate is a verb and the procedure is a general (productive) one", van der Auwera (2010, 1)). We will use the term 'Non-standard Negation' to indicate those negative morphemes or adverbs that not only negate a whole clause, but also add discourse implicatures and are used in peculiar contexts (for instance we consider Italian *mica* ("presuppositional negation" in Cinque's (1976) terminology) a case of Non-standard Negation (see Miestamo (2007) on the concept of Non-standard Negation in typological work).

undergoing any doubling stage? What consequences does this have for Jespersen cycle in general?

The article is organized as follows: in section 2 we will first provide a brief description of the meaning and syntactic distribution of *manco* in SI showing that it can only occur in specific contexts where it has the meaning of an additive scalar negation and is inserted in a position immediately c-commanding the domain it takes scope on. In section 3 we consider two neighboring Southern Italian dialects in order to investigate the development of this negative marker in detail. The first one is the variety of Venosa, where the distribution of *manco* shows that it still has the same semantic import observed in SI, although its syntax is restricted to a preverbal position. We then consider the closest dialect to Venosa, i.e. the one of Rionero in Vulture, and show that the adverb *manco* has entirely substituted for the original negative marker *non/n'*, so that *non/n'* has completely disappeared from the modern dialect, although it can still be observed in sayings and fixed expressions.

We will then draw some conclusions for the general theory on the historical development of negative markers and propose that the evolution of negative markers does not necessarily go through the usual three (or five, see van der Auwera (2010)) stages which go under the label of Jespersen cycle, but it can also find other ways to change the form and properties of the negative marker.

2. Additive negation in SI and Southern Italian dialects

In both SI and SIDs *manco* can be roughly described as the negative counterpart of SI *perfino* 'even', which is an additive marker similar to *anche*, 'also', and its negative counterpart *neanche* (literally 'not-too'). The first basic component of *manco/perfino* is Focus in the sense that these adverbs single out one element inside the set and take it out from the set. The second component (which distinguishes the pair *perfino/manco* from the pair *anche/neanche*) is an effect of semantic widening of a probability scale so that the element taken out from the set is the most improbable one and like in the cases of *neanche* this implies that all the others elements have already been taken out from the set. In this *perfino/manco* are similar to exclamative clauses, where the same effect is described by Zanuttini and Portner (2003).

2.1 The properties of mica *in colloquial Standard Italian*

In what follows we briefly sum up the semantic import and syntactic distribution of the non-standard negative marker *mica* in colloquial standard Italian in order to distinguish the contexts in which it appears with respect to the other non-standard negative marker we investigate here, namely *manco*. This will become relevant when we consider Venosino, where *manco* has extended to cover also the meanings of *mica*. As Cinque (1976) already points out, *mica* is a non-standard negative marker which in Italian actually does not only negate the clause it is inserted in, but also the conversational implicature the sentence conveys. Cinque dubs it a "presuppositional negation", and notes that its usage is restricted to contexts where there can be an implicature.[2] Hence, *mica* is excluded from the following contexts: *if* clauses, *wh*-interrogatives, infinitive and gerund clauses, and adjunct clauses in general (temporal, purpose, etc.).

(3) a. Se non arriva (#mica) partiamo senza di lui.
if not arrives not leave.1pl without of him
'If he does not arrive we leave without him.'
b. Dove non sei (#mica) andato?
where not are not gone

[2] Although the term presuppositional negation can be misleading, as *mica* is actually related to an implicature, we keep it, because it has imposed itself in the literature on negation.

'Where have you not been?'

c. Non riconoscendola (#mica), non l'abbiamo salutata.
not recognizing=her not not her=have.1pl greeted
'Since we did not recognize her, we didn't greet her.'

d. Quando non dormono (#mica) possiamo parlare.
when not sleep.3pl not can.1pl talk
'When they do not sleep we can talk.'

Although the colloquial varieties spoken in Northern Italy have the tendency to accept postverbal *mica* in a wider domain of contexts, the situation we describe is the one of the colloquial, standard Italian variety spoken in Florence.

In this variety, *mica* can either be pre- or postverbal, if it is postverbal, it obligatorily co-occurs with the preverbal negative marker *non*, if it is preverbal it never does (contrary to Old Italian varieties; see also Garzonio (2009) on the postverbal negation *punto* in Old Florentine, which is never found in preverbal position).

(4) a. *(Non) ci vado mica.
not there=go.1sg not

b. Mica (*non) ci vado.
not not there=go.1sg

c. (*Non) mica ci vado.
not not there=go.1sg
'I am not going there.'

When it is postverbal, it appears before aspectual adverbs and the Tense Anterior adverb *già*, a distribution that suggests that *mica* (like other similar elements in Italian dialects) is inserted in the specifier of a dedicated negative projection above the IP aspectual layer (see on this among others Zanuttini (1997), Cinque (1999), Garzonio and Poletto (2009), Manzini and Savoia (2011)). According to this analysis, when *mica* is preverbal it has been moved from the internal IP position to a landing position above TP. This operation blocks the insertion of the standard negative marker *non*.

2.2. The properties of manco *in colloquial Standard Italian*

The element *manco* is etymologically related to the verb *mancare* 'lack' and to the adjective *manco/mancino* 'defective', 'left-handed'. In some Northern Italian dialects the element *manco* has not (yet) developed into a negative marker, since it can only have the value of the adverb 'less' and modifies adjectives, the quantity of nouns, or is used in comparative clauses, as in the following examples:

(5) a. Giani ga manco caramele de Toni. (Venetian)
G. has less candies of T.
'Giani has less candies than Toni.'

b. El ze manco furbo de mi.
he=is less smart of me
'He is less smart than me.'

c. El ze manco furbo de quanto che me spetasse.
he=is less smart of how-much that me expected.1sg
'He is less smart than I expected.'

In colloquial standard Italian *manco* behaves as a (negative) focalizer. It conveys that the minimal possible prerequisite is negated, and looks like the negative counterpart of focalizers like *perfino*. The meaning seems similar to the one of

neanche, although *neanche* is bi-morphemic, as in addition to the negative morpheme *ne-* it contains the additive particle *anche*, literally 'also, too' (cf. Munaro 2012).

In standard Italian *manco* can be in front of the inflected verb, in front of the past participle or in front of the DP it takes scope on. Contrary to *mica*, it cannot occur in absolute sentence final position. Like *mica* and n-words in general, when it is preverbal, it cannot co-occur with *non*. In the same way, *non* is obligatory with postverbal *manco*:

(6) a. Mica ci sono andato.
not there=am gone
'I have not gone there.'
b. Manco ci sono andato.
not-even there=am gone
'I even did not go there.'
c. Non ci sono mica andato.
not there=am not gone
d. Non ci sono manco andato.
not there=am not-even gone
e. Non ci sono andato mica.
not there=am gone not
f. *Non ci sono andato manco.
not there=am gone not-even

(7) a. Manco lo conosco.
not-even him=know.1sg
'I do not even know him.'
b. Mica lo conosco.
not him=know.1sg
'I do not know him.'
c. Non lo conosco mica.
not him=know.1sg not
d. *Non lo conosco manco.
not him=know.1sg not-even

The reason for this impossibility (see (6f) and (7d)) is not a supposed clitic/weak nature of *manco* but the fact that *manco* is a focalizer like *anche* or *perfino* and it needs to c-command the domain it takes scope on. Thus, it cannot occur after the inflected verb and the past participle if there is no object or a PP, as it is always placed higher than its domain of quantification.

(8) a. *Non la vedo manco.
not her=see.1sg not-even
'I even do not see her.'
b. Non vedo manco Lucia.
not see.1sg not-even L.
'I do not see even Lucy.'
c. Non ho visto manco Lucia.
not have.1sg seen not-even L.
'I have not seen even Lucy.'

With respect to other focalizers, *manco* severely restricts the possibility of occurring after the element it takes scope on. This is in general already rather restricted in Italian, although it is possible to have short answers like the following

with *anche/neanche*. *Manco* works like *solo* 'only' and *perfino* 'even', in not allowing the post-domain position (see Munaro 2012; see also Kayne 1998 on the special status of English *too* among the other focalizers):

(9) A: Lucia non ha finito i compiti.
'Lucy has not finished her homework.'
a. B: E neanche Gianni/ E Gianni neanche.
and neither G./and G. neither
'Neither has John '
b. B: E manco Gianni/ *E Gianni manco.
and not-even G./and G. not-even
'And even John hasn't.'

With respect to *anche*, *perfino* performs a similar additive operation but in addition it implies that the event has a low probability to occur in relation to the focused element. As Bayer (1996: 19-20) notes, "*even* is an operator that adds an element (the one it associates with via focus) to a set under the condition that inclusion of the element in this set is unlikely". Capitalizing on Portner and Zanuttini's (2003) idea that exclamative clauses imply a scalar component where the probability of the event is checked, we propose that the same scalar component is present also with *perfino*. Since *manco* is the negative counterpart of *perfino*, we assume that it contains the same scalar component in its semantics.

A further distributional property that distinguishes *mica* and *manco* is the possibility of co-occurrence with bare quantifiers: while *mica* in some cases can negate a clause with a bare quantifier, this is impossible with *manco*. This derives from the different interpretative content of the two negative elements: *mica* negates the truth value of the proposition contrasting an implicature present in the discourse domain, while *manco* indicates that the focused element is to be taken out of the set of elements displaying a given property. Bare quantifiers, that is quantifiers without a lexical restrictor, cannot enter in similar set relations.

(10) a. Non ho mica visto nessuno.
not have.1sg not seen nobody
'I have not seen anybody (contrary to what you think).'
b. #Non ho manco visto nessuno.
not have.1sg not-even seen nobody

What is relevant here for our discussion is that this incompatibility has only semantic reasons, as a preverbal *manco* does not make the example more acceptable.

(11) #Manco ho visto nessuno.
not-even have.1sg seen nobody

3. The properties of *manco* in Lucanian dialects

Studying the diachronic evolution of non-written languages like most Italian dialects is virtually impossible if one restricts himself to the investigation of older written texts. Luckily, it is well-known that geographic variation generally coincides with diachronic variation, and that the distinction between two similar varieties can be described in the same terms we use to describe the evolution of the same dialect. In other words, the distinction between two neighboring dialects is generally the same distinction found between an older and a newer stage of evolution of the same dialect. Capitalizing on this standard assumption (which goes back to at least De Saussure), we use two very similar dialects to investigate the evolution of the negative marker *manco*. In what follows we focus on two Lucanian dialects, which are a minimal pair

not only because they are spoken in two neighboring villages,[3] but because they represent two distinct stages in the evolution of the negative marker *manco* from an additive negation towards the status of standard negative marker. In section 3.1. we first consider the dialect of Venosa, where the negative marker *manghə* is still a non-standard negative marker, although it can be shown to already have extended its use to constructions where colloquial Italian would rather use the negative marker *mica*, and to have a fixed position in the clause, which the corresponding colloquial Italian *manco* does not have (see above). In section 3.2 we consider the dialect of Rionero in Vulture, where *mankə* has completely substituted the original preverbal negative marker *non*, which is nowadays present only in fixed expressions, but is not a productive negative marker anymore. The comparison between the two varieties shows that one negative marker can substitute for another in the absence of a doubling stage, provided certain structural conditions are met, but in this case the evolution of negative concord is also different.

3.1 Venosa

The first observation to be made is that in Venosa the standard negative marker has the form *non* equivalent to standard Italian. This negative morpheme also displays the same distribution in the sense that it is preverbal, i.e. located in the clitic space preceding the inflected verb:

(12) a. Non saccə addò mammə ha accattetə i fiourə.
not know.1sg where mum has bought the flowers
'I do not know where mum bought the flowers.'

b. Nov volənə sce'nə.
not want.3pl go=there
'They do not want to go there.'

c. Carlə non sə la mangə la frottə.
C. not himself=it=eats the fruit
'Carlo does not eat fruit.'

As Italian *non*, it cannot be used as the pro-sentence negator, where the element *none* is found:

(13) Che l'è vest a Pierə? None.
what him=have.2sg seen to Peter? NEG
'Have you seen Peter? No, I haven't.'

As Italian *non*, it can occur in so called expletive negation contexts:

(14) A la festə che non hannə cumbənetə!
at the party what not have.3pl put-up
`What they have put up at the party!'

As Italian *non*, it is not compatible with a real imperative form, but only with a suppletive form (which in this case is not the infinitive as in standard Italian, but a gerund):

(15) Non t u pəgliannə!
Not to-you=it=take.gerund
'Do not take it!'

[3] Venosa and Rionero are only 12,8 kilometers apart in a straight line.

Furthermore, *non* has the same non-strict negative concord properties of standard Italian *non*, i.e. it occurs with postverbal but not with preverbal n-words:

(16) a. Jeddə no scappə maje.
he not runs never
'He never runs.'
b. Non jè vənoutə nisciounə di fretə.
not is come none of-the brothers
'None of my brothers came'
c. Nisciounə də vouje ha vestə a Markə?
none of you has seen to Marc
'Has any of you seen Marco?'

Venosino has two further non-standard negative markers: the first is the form *meikə*, etymologically analogous to standard Italian *mica*. It is restricted to polar main questions, where it essentially has the meaning of 'by chance' and is only found in preverbal position.

(17) a. Meikə la tinə na səgarettə?
not it=have.2sg a cigarette
'You don't have a cigarette by chance, do you?'
b. Meikə e vestə a qualcherounə?
not have.2sg seen to someone
'You have not seen anyone by chance, have you?'

As seen above, in colloquial standard Italian *mica* can either be pre- or postverbal; some colloquial Italian varieties only have postverbal *mica*, and in this case a preverbal *non* appears, others only display preverbal *mica*, and in this case *non* is not realized. The colloquial Italian spoken in Florence, which we refer to as a comparison, tolerates both options, and crucially doubles *mica* with *non* only if *mica* is postverbal. As expected, in Venosino *meikə* is never doubled by *non*, since it is always preverbal.

From the point of view of its semantic value, Venosino *meikə* is much more restricted than Italian *mica*, since some of the contexts in which Italian uses *mica* are taken by the other non-standard negative marker, namely *manghə*, clearly etymologically the same type of standard Italian *manco*. Here are some examples where Italian *mica* corresponds to Venosino *manghə*:

(18) a. Ca manghə mə la so mangetə la mnestrə.
that not me=it=am eaten the soup
'I have not eaten the soup.'
(translation of 'Non ho mica mangiato la minestra.')
b. Ca manghə so' vənoutə a la festə l'ameicə touje.
that not are come to the party the friends your
'Your friends have not come to the party.'
(Mica sono venuti alla festa i miei amici.)
c. Ca corə mankə jè stobətə, jè solə ca non studjə.
that that-one not is stupid is only that not studies
'He is not stupid…the problem is that he does not study.'
(Mica che sia stupido, è solo che non studia.)

The examples above show that both postverbal and preverbal *mica* are translated in Venosino as preverbal *manghə*. Furthermore, Italian *manco* cannot be used in these contexts to substitute *mica*, which shows that Venosino *manghə* is already more

widely used than Italian *manco*. Nevertheless, Italian *manco* and Venosino *manghə* overlap in some contexts:

(19) a. Non ci vado manco se mi pagano. (Italian)
not there=go.1sg not if me=pay.3pl
b. Non cə vekə manghə sə mə paghənə. (Venosa)
not there=go.1sg not if me=pay.3pl
'I am not going there even if they pay me.'

This can indicate that there is actually a path of extension in the meaning of a non-standard negative marker, which has to extend its usage first to other non-standard contexts, absorbing values that in origin it did not have, and only then can it become a standard negative marker.

In addition to the semantic extension noticed with respect to Italian, Venosino *manghə* also has the property of being exclusively preverbal, while, as seen above, Italian *manco* is located right in front of the syntactic subtree it takes scope on.

Furthermore, being preverbal, *manghə* never co-occurs with the negative marker *non*.

(20) a. Ca manghə jè vənoutə qualcherounə.
that not is come somebody
'Nobody came.'
b. Ca manghə pu enzə kə stu timbə!
that not can.3sg go.out with this weather
'He cannot go out with such weather!'

Manghə often co-occurs with *ca*, a Topic marker also present in other Southern dialects.[4]

As for the exact position of *manghə*, it is clear that it is in the preverbal space, higher than all clitics (see example (18a)). However, it can also occur higher than a complementizer of the 'if' type,

(21) Non cə vekə manghə sə mə paghənə.
not there=go.1sg not if me=pay.3pl
'I am not going there even if they pay me.'

and there are cases where it is higher or lower than a subject DP, depending on its scope:

(22) Ca manghə Marjə si è scurdetə du compleannə.
that not M. himself=is forgotten of-the birthday
'Even Mario has not forgotten about the birthday.'

(23) Ca corə mankə jè stobətə, jè solə ca non studjə.
that that-one not is stupid is only that not studies
'He is not stupid…the problem is that he does not study.'

In the first case, *manghə* only has scope on the subject *Marjə*, while in the second it has scope on the entire predicate. This means that *manghə* still has the property of standard Italian *neanche*, i.e. it can be used as a constituent negation and placed in

[4] See Garzonio and Sorrisi (2013), who propose that this *ca* heads a Discourse Topic projection; the specifier of this projection contains a Null Topic related to information in the Common Ground.

front of the constituent it negates, but only if the constituent is located in the higher structural space of the clause.

We can conclude that, given that in Venosino all negative markers, the standard *non* and the non-standard *meikə* and *manghə,* are preverbal, there are no contexts of negative doubling between the standard and non-standard negative markers, but only negative concord with postverbal n-words. Furthermore, the non-standard negation *manghə* has the following two properties: a) it is more widely used than its Italian counterpart, which uses *mica* instead, and b) it can only be found in preverbal position, contrary to Italian. In our view, these two properties already indicate that *manghə* is on its way to become grammaticalized as the standard negative marker, although the process has not been completed yet. More generally, we conclude that Venosino represents a stage in which *manghə* is not the standard negative marker but does not display doubling in a way similar to French *pas,* so it seems that the Jespersen cycle is missing a step here.

3.2. A special case of preverbal negation: mankə *in Rionero in Vulture*

In order to show that the variety of Rionero in Vulture has completely substituted the usual preverbal negative marker *non* with *mankə,* we need to investigate both its syntactic distribution and its meaning.

The first argument that clearly shows that the Jespersen cycle has been completed is the fact that preverbal *non/nə* is never found in the present day variety in Rionero, it is only attested in some sayings and fixed forms (like (24c-d), similar to the sayings (24a-b) which lack *nə*), which actually show that Rionero was at some point at the same stage like Venosa, i.e. *mankə* was a non-standard negation but there are no attested cases with doubling of the two negative markers:

(24) a. Sə mankə mə lu vù rà, chə tə pozza strafucà.
if not me=it=want.2sg give.inf that you=may chock.inf
'If you do not want to give it to me, may you chock.'

b. E sə manghə mə lu vu rà, chə sə pozza mbractà.
and if not me=it=want.2sg give.inf that you may rot
'If you do not want to give it to me, may you rot.'

c. Sə nə mə nə vù rà, kə sə pòzza strafucà.
if not me=of-it=want.2sg give.inf that you may chock
'If you do not want to give it to me, may you chock.'

d. Sə nə mə nə vù ra na cosa bonə tə rombə rə lastrə cu lu bastonə.
if not me=of.it=want give a good thing you break.1sg the window panes with the club
'If you do not want to give me a good thing, I'll break your window panes with a club.'

In what follows we first show that *mankə* in Rionero in Vulture has completed the cycle and is not a presuppositional negation of any sort anymore and then that it displays the same syntactic distribution of standard italian *non*.

3.2.1. Non presuppositional value

As Jespersen originally noted, new negative markers are generally created from elements which are first introduced as "reinforcers" of the original negative marker: if we look at Northern Italian dialects, we see essentially three etymological (and probably semantic) types of possible reinforcers: the first type are minimizers of the type of standard Italian *mica* described in section 2.1. The second type derive from the n-word corresponding to *niente* 'nothing', which is also used in emphatic contexts with the meaning of 'at all' (see Garzonio and Poletto (2012)). The third type corresponds to the pro-sentence negation *no* 'no', which also conveys Focus on

negation. In addition to these already known types we also consider here the negative marker *nemmeno/manco*, because it is etymologically of the same type of *mankə*.

The following sentences are contexts where none of the non-standard negative markers mentioned above can occur in colloquial Italian, and show that *mankə* is indeed used also in contexts where no non-standard negative marker (either the one triggering a negative implicature or the one subtractive/focussing type) can be used:

(25) Guardə chə rə gaddinə mankə vannə do' u giardin
beware that the hens not go.3pl where the garden
'Make sure that the hens do not go into the garden.'

The corresponding sentences with non-standard negative markers in colloquial Italian are all impossible:

(26) a. *Guarda che le galline non vadano mica in giardino
beware that the hens not go.3pl not where the garden
. b. *Guarda che le galline non vadano niente in giardino.
beware that the hens not go.3pl nothing where the garden
c. *Guarda che le galline non vadano in giardino no.
beware that the hens not go.3pl where the garden no
d. %Guarda che le galline non vadano nemmeno in giardino.
beware that the hens not go.3pl not-even where the garden

A sentence like (26d) is indeed possible but only in the special context in which a whole list of places has been mentioned where the hens should not go, which is not the case in (25).

The same point can be made by cases like the following, where the negative marker occurs inside the *if*-clause of a conditional utterance:

(27) Vivə spessə se mankə vu caré malatə
drink often if not want.2sg fall.inf ill
'Drink often if you do not want to get ill.'

Again, all non standard negative markers are excluded in colloquial Italian:

(28) a. *Bevi spesso se non vuoi mica ammalarti.
b. *Bevi spesso se non vuoi ammalarti niente.
c. *Bevi spesso se non vuoi ammalarti no.
d. *Bevi spesso se non vuoi nemmeno ammalarti.

One further argument that shows that *mankə* has become the standard negative marker in Rionero comes from cases like the following one:

(29) Mankə hai mica vistə i mii amicə?
not have.2sg not seen the my friends
'You have not seen my friends by chance, have you?'

(30) Mankə aggə mikə mangiatə la mnestrə
not have.1sg not eaten the soup
'I have not eaten the soup.'

The negative marker *mankə* behaves like standard Italian *non* and cooccurs with a non-standard negative marker *mica/mikə*, analogous to the colloquial Italian one.

If we compare these data with the corresponding sentences in Venosino already discussed in 3.1 and repeated here as (31),

(31) a. Ca manghə mə la so mangetə la mnestrə.
that not me=it=am eaten the soup
'I have not eaten the soup.'
(translation of 'Non ho mica mangiato la minestra.')
b. Ca manghə so' vənoutə a la festə l'ameicə touje.
that not are come to the party the friends your
'Your friends have not come to the party.'
(Mica sono venuti alla festa i miei amici.)

we see that in Venosa *manghə* is also preverbal, like in Rionero, but *meichə* is not present, i.e. in Venosa *manghə* still has the meaning of a non standard negative marker, while in Rionero, an additional negative marker has to be inserted to convey the same meaning.

Moreover, in Rionero *mica/mikə* can also be preverbal, as the following sentence shows:

(32) Mikə je fessə, je solə ca mankə studə.
not is stupid is only that not studies
'He is not stupid…the problem is that he does not study.'

Again, comparing Rionero and Venosa, we find that Venosa uses preverbal *manghə* in these contexts. In Rionero *mankə* is not used, because it does not convey the special meaning, having developed into a standard negative marker.

Another context that clearly shows that Rionero *mankə* has become the standard negative marker is the following one:

(33) Paulə mankə mangə e mankə se nə vajə.
P. not eats and not himself=leaves
'Paolo does not eat and does not leave.'

(34) Mankə tə rə dikə pecché mankə rə saccə.
not you=it=tell.1sg because not it=know.1sg
'I do not tell you that because I do not know anything about it.'

The fact that *mankə* can occur both in the first and in the second of the following two clauses in the examples above clearly shows that it is not interpreted as an additive negation, which cannot be repeated in such a context.

Furthermore, its distribution in negative concord contexts is identical to the one of standard Italian *non*: it occurs with postverbal but not with preverbal n-words:

(35) a. Nesciunə rə vujə ha vistə Markə?
nobody of you has seen Marc
'Has any of you seen Marco?'
b. Mankə je venutə nesciunə.
not is come nobody
'Nobody came.'
c. Nesciunə ha vistə nintə.
nobody has seen nothing
'Nobody has seen anything.'
d. Mankə amə fattə nintə.

not have.1pl done nothing
'We did nothing.'

Notice that in colloquial Italian, *manco* is incompatible with bare quantifiers. As mentioned above, the effect is probably not related to a supposed general impossibility of having negative concord with Italian *manco*, but to the semantic effect of widening associated to *manco*, which requires non bare quantifiers, where the set of elements is already identified (see above section 2).

Hence, the fact that *mankə* is compatible with bare n-words shows that the effect of semantic widening discussed for Italian is not present, which again shows that *mankə* has become the standard negative marker in Rionero.

We can conclude that in Rionero *mankə* has extended its usage to standard negation.

3.2.2 Position inside the clause

If the negative marker *mankə* is really the standard negation, it should have a fixed position in the clause (leaving aside cases of constituent negation, which are also possible for Italian *non*).

As seen above, standard Italian *manco* can be either pre- or postverbal and attach to various XPs, as it essentially occurs in the position c-commanding its scope domain, which can vary. In Venosa, the possible positions of *manghə* are already restricted to the preverbal area, although the element does not seem to be a clitic-like form.

The syntactic difference with Rionero *mankə* is immediately visible: *mankə* has a fixed position in the clause, and it is in the same area as the one of the preverbal negative marker *non*.

The element *mankə* occurs in Rionero after any preverbal subject, either quantified or not, as standard Italian *non*:

(36) a. Ii pensə ca Giannə mankə venə.
I think that Gianni not comes
'I think that Gianni will not come.'

b. Carlə mankə mangə la fruttə.
Carlo not eats the fruit
'Carlo does note at fruit.'

It occurs in front of all object clitics as standard Italian *non*:

(37) Mankə tə rə dikə pecché mankə rə saccə.
not you=it=tell.1sg because not it=know.1sg
'I do not tell you that because I do not know anything about it.'

It occurs in front of the imperative verb and also requires the change of the imperative form into a suppletive form, as Italian *non*.

(38) Mankə u piglià!
not it=take.inf
'Don't take it!'

As Italian *non*, *mankə* cannot be used as the pro-sentence or in elliptical clauses:

(39) a. Hai vistə a Pierə? No / *Mankə.
have.2sg seen to P. no
'Have you seen Piero? No.'

b. Paulə mangə la fruttə, Massəmə no
P. eats the fruit M. no
'Paolo eats fruit, Massimo does not.'

Hence, the fact that in Rionero *mankə* has the same syntactic distribution of Italian *non* shows that it is located in the same area. At present, we do not know whether *mankə* is to be considered as a head or a specifier of the high NegP (NegP1 in Zanuttin's terms). However, we have shown that the element is indeed bound to occur in NegP1. More generally, we can conclude that not all cases of renewal of the negative marker are found through a low additional element and that the lack of negative concord is not a general property of "new" negations. On the contrary, as it might be expected, the negative concord properties of the new negative marker depend on its structural position.

4. Concluding remarks: where has Jespersen cycle gone?

In this work we have described the substitution of the preverbal negative marker *non* with the preverbal negative marker *mankə*. The peculiarity about this change is that it does not seem to go through the usual intermediate stage of doubling known from French, Northern Italian dialects, (old) Germanic, and Bantu. According to the standard formulation of Jespersen cycle this should be the way through which new standard negative markers develop. The hypothesis has been confirmed by typological studies, where it is shown that, contrary to other negation types, standard sentential negation indeed always presents the doubling stage (see van der Auwera 2010).

Van der Auwera (2010) notices that there are indeed different ways to recreate the negative marker which do not necessarily imply the activation of Jespersen cycle, one of which is precisely the one of substituting the original negator with another element. However, he also notices that standard negation does not typically go through this substitution path, but rather goes for the Jespersen cycle and that the type of development we document here happens precisely with elements etymologically related to the verb 'lack', but rather in the case of prohibitives, which in Italian should approximately correspond to a negative imperative. Here, we have precisely an example of what van der Auwera notices to be a "poorly documented" phenomenon in typological literature, i.e. the development of standard sentential negation which skips the doubling stage.

The development occurred in Rionero is however not exceptional in the sense of the semantic path it has followed, as an element which was originally a non-negative probably meaning 'less' and related to the verb 'lack' has been first reinterpreted as a non-standard additive scalar negative marker as in standard Italian, then has probably extended its usage to presuppositional negation as in Venosa and then has been reanalyzed as a standard one, as in Rionero, exactly as it happens with negations belonging to other etymological types (see above section 3.).

We think that the observation about how *mankə* has spread in Venosa to the presuppositional value, if confirmed by other languages, is potentially very interesting to trace a general development in the semantic extension path of special non-standard negative markers to standard ones.

We would like to propose that the lack of the intermediate stage can be explained in the following terms: the doubling effect originally noticed by Jespersen on the basis of French and then found in many other languages is only present when the two negative markers (the original one and the new one) are not located in the same structural area. The types of cycles described in the literature present in the majority of cases a higher negative marker which is substituted by a lower one (cases of this type are French and Northern Italian Dialects). However, if both negations are located in the same structural area, as it is clearly the case for *non* and *mankə*, the doubling

effect does not manifest itself and we observe only the substitution of one negative morpheme with another. The comparison between colloquial Italian and Lucanian dialects is enlightening in this respect: in colloquial Italian the element *manco* has no fixed position, but is placed in the position immediately c-commanding its scope domain, while in Lucanian dialects it is only preverbal, and this is the case also in Venosino, where it has the same additive scalar value found in Italian but can also be a non-standard negation involving an implicature like Italian *mica*. The fact that *manghə* is exclusively preverbal like *non* is the reason why there is no doubling effect there.

This is also the reason why the new negative marker maintains negative concord, which is not found with "new" negative markers of the French *pas* type. This property clearly depends on the structural area of the negative marker, not on its being "new" or "old".

Furthermore, the missing doubling step in the evolution foresees that the new negative marker is already intrinsically negative, so this can never happen with elements that are still polarity items, which could skip this step, but only with elements that have already been reanalyzed as a true negative marker, albeit a non-standard one.

This has interesting consequences on the general theory of the way the renewal of the negative marker proceeds. One might wonder why there are several procedures to (re)create a negative marker, and why a negative marker has to be "renewed" at all. If we look at the more general picture of the way negative markers are renewed, we find several possible sources for the standard negative marker, whose etymology is rather varied. One might wonder why it is possible to reanalyze as negative markers elements which originally have very different meanings, which range from those indicating a minimal quantity, to verbs like 'lack', 'stop', etc. In a speculative vein, we would like to propose that this is so, because NegP is not a single projection, but has a complex internal structure and can be split into several projections, each of which can be lexically realized by an etymological class of elements and come to represent the whole "NegP ". The fact that elements which originally mean 'lack' or 'less' can express negation has probably to do with the semantic value of one of these internal projections, which is related to the semantic operations made to negate a clause in natural languages. If negation were not a single operator negating the whole proposition, but a complex set of semantic operations which first create a set, then single out one clause inside a set of propositions in a way similar to Focus and then takes this clause out of the set, the semantic connection between negation and an element like 'lack' or 'less' becomes rather transparent. We leave this further development for future research.

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Polarity particles in interrogative tags*

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Italian does not allow for question tags of the English kind. Several constructions of Italian are investigated that cover the same interpretive niche. All of them involve the polarity particles *sì* and *no*. Pragmatic analyses are provided in terms of nature of the commitment that the speaker expresses in uttering a tag question as opposed to a mere polar question. Syntactic implementations are proposed that build on the attempt to map speech acts to abstract functional structure.

Grazie Adriana, per il tuo esempio e la tua fiducia

1. Tag questions in English

Most generally, a tag question is a discourse move effected by means of a sentence with declarative syntax (henceforth, the *anchor*) immediately followed by a fragment with interrogative intonation (henceforth, the *tag*). In the literature, most frequently discussed by far is the following type of English tag questions[1]:

(1) Susan is joining us, isn't she?
(2) Susan isn't joining us, is she?

Here, declarative sentences are followed by elliptical sentences whose polarity alternates with the polarity of the anchor. Two subtypes must be distinguished (Ladd 1981): nuclear tag questions, in which the tag is an autonomous intonational phrase and bears a nuclear accent, and post-nuclear tag questions, in which the anchor and the tag belong to the same intonational phrase. These kinds of tag questions (*dependent* tag questions after Sailor 2011) have been taken to be crosslinguistically uncommon (Moravcsik 1971, Lakoff 1973, but Cf. Sailor 2011 for a range of languages other than English). More common by far are invariant tags (Sailor 2011, metatags in Moravcsik's terms): these tags belong to a small class including predicates translating *true* or *right,* their negated counterparts, and responding particles (the equivalents of *yes* and *no*).

* I thank Simona Matteini for her editorial efforts and her understanding. The tree diagrams have been drawn using LaTeX2e (qtree package by J.M. Siskind and A. Dimitriadis) and syntree, by Miles Shang.

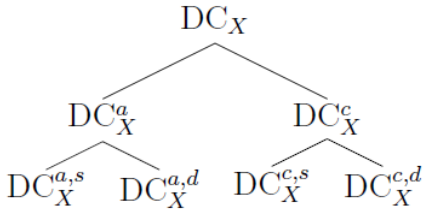
[1] Examples borrowed from Farkas and Roelofsen (2012).

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti.
C. Contemori and L. Dal Pozzo (eds.). Siena, CISCL Press.

The English dependent tag questions have been often discussed in the early generative literature. Klima (1964) proposed a transformational analysis in which material from the anchor was copied in the tag. A copying mechanism is also invoked, in a much more modern framework, by den Dikken (1994). A second line of analysis takes the anchor and the tag to belong to independent clauses, the relation between the two being ensured by some kind of anaphoric relation (Huddleston 1970, Culicover 1992). Sailor (2009, 2011) argues against both approaches. Analyses involving copying (or, more neutrally, identity) must be discarded because a range of number, tense and modality mismatches are attested in English tags (Sailor 2009:17ff). Analyses in terms of sentential anaphora, on the other hand, are unappealing because they must postulate an *ad hoc* relation[2].

As far as the pragmatics of the tag questions is concerned, I will follow Farkas and Roelofsen (2012), who build on concepts introduced by Gunlogson (2008) and Malamud and Stephenson (2011) and incorporate them in their inquisitive semantic model of conversation. Most notions peculiar to the framework (possibilities, highlighting etc.) are not directly relevant to our present purposes, and will be ignored. Let us limit ourselves to the introduction of the discourse commitment set of a speaker *X*, DC_X. While CG (the common ground) includes the propositions that have been jointly committed to by all the discourse participants, DC_X includes the propositions that the speaker *X* has committed to (and such that not every other discourse participant has committed to yet: otherwise, the proposition would migrate to CG). DC_X is a useful device to capture some basic aspects of the conversational dynamics, e.g., that one is committed to the truth of the proposition she asserts, or that someone's assertions can be ratified or rejected by other discourse participants. In order to cover tag questions in English, Farkas and Roelofsen (2012) further refines the notion of DC_X. Commitments, in the refined framework, are crossclassified with respect to two dichotomies: (a) whether they are *actual* or *conditional*; (b) whether the speaker presents herself as having epistemic authority over her assertion (she presents herself as a *source*) or not (she presents herself as a *dependent*):

(3)



[2] More precisely, Culicover's proposal in terms of [+pro] features on syntactic nodes is unconstrained with respect to the distribution of the features themselves. I refer the reader to Culicover (1992) and Sailor (2009) for details.

The notion of conditional commitment is paramount in distinguishing tag questions from run-of-the-mill assertions[3]. Whereas a speaker who asserts *p* actually commits to *p*, a speaker who uses a tag question commits only conditionally to *p*. Conditional commitment amounts to expressing one's readiness to (actually) commit to *p* as soon as the other discourse participant (actually) commits to *p* too. The second refinement, the source vs dependent status of a speaker, is relevant to draw the distinction between confirmation moves and mere acceptance move. Farkas and Roelofsen (2012) makes a point for English that can as well be made for Italian. In Italian an utterance of *sì* counts as an assertion of the content *p* at issue. It is easy to see that whenever the only basis for one's belief that *p* is some other speaker's assertion, the use of *sì* is infelicitous, while a paralinguistic acceptance signal (here, *ah*) is fine:

(4) a. Magda è venuta al ricevimento.
'Magda came to the gala.'
b. Sì.
'Yes.'
c. #Sì, non ne avevo idea.
yes not of-it had idea

(5) a. Magda è venuta al ricevimento.
'Magda came to the gala.'
b. Ah.
'Oh, I see.'
b. Ah, non ne avevo idea.
'Oh, I had no idea.'

In Farkas and Roelofsen's terms, *sì* presents the speaker *X* as a source, so *p* is added to $DC_X^{a,s}$, i.e., *X* takes epistemic responsibility for the commitment to *p*. On the other hand, signals such as *ah* add the content at issue *p* to $DC_X^{a,d}$, i.e., they express the commitment of the speaker as dependent on the other speaker's epistemic authority. Farkas and Roelofsen (2012) show that both notions are relevant for the analysis of tag questions in English. In the next section, analyses along the same lines are discussed for Italian tag questions, and in each case, the relevant parallels with English are made clear.

2. Particle tags

2.1 Pragmatics

Italian, as said above, does not have English-type dependent tags. If Sailor (2009, 2011) is on the right track in reducing English tags to VP ellipsis, the fact is expected: VP ellipsis is known to be unavailable in Italian. Italian, on the other hand, exploits a number of invariant tags, among which one must mentions at least *no?* (lit. 'no?'), *sì?*

[3] The identification of tag questions as involving conditional, as opposed to actual, commitment plays the same role in Farkas and Roelofsen's model as the Check component in Ginzburg (2012) and projected DCs in Malamud and Stephenson (2011).

(lit. 'yes?'), *vero?* (lit. 'true?'), *giusto?* (lit. 'right?'), *o sbaglio?* (lit. 'or am I wrong?'). All of them are invariant, in that they do not have different forms depending on the polarity of the anchor, and fall squarely in the list of metatags from Moravcsik (1971). All of them can combine with anchors of either polarity, with the notable exception of *sì?*, which cannot combine with negative anchors.

The most relevant contrast is between *no?* and *sì?*. Imagine a context in which the speaker is not in a position to assert that *p*, while the addressee can. One class of clear examples involves taste predicates (Malamud and Stephenson 2011, Farkas and Roelofsen 2012):

(6) [The addressee is eating ice-cream, the speaker is not.]
   a. #È buono, no?
      is-it good no
   b. È buono, sì?
      is-it good yes

All other things being equal (i.e., under the assumption that the speaker has never eaten ice-cream from the same factory before and has no other privileged information), (6a) is unacceptable, while (6b) is just fine. As for the other invariant tags, all of them seem to pattern with *no?*:

(7) [The addressee is eating ice-cream, the speaker is not.]
   a. #È buono, vero?
      is-it good true
   b. #È buono, giusto?
      is-it good right
   c. #È buono, o sbaglio?
      is-it good or am-I-wrong

For a tag question whose propositional content is *p*, one can formulate the discourse effect of *no?* and *sì?* as in (8) and (9), respectively[4]:

(8) Add *p* to $DC_X^{c,s}$.
(9) Add *p* to $DC_X^{c,d}$.

By means of tag questions with *no?* and *sì?*, the speaker express a conditional commitment to *p*: this feature, assumed to be common to all tag questions, is revealed by the fact that tag questions expect confirmation by the addressee. On the other hand, the tags differ as far as the source-dependent dichotomy is concerned. With

[4] One further component of Farkas and Roelofsen's analysis of tag questions that can be extended to the Italian cases is the notion that these moves are inquisitive proposals, just as expected of polar questions. In addition to the effect on the DC components, then, one must take for granted that the proposal made out of *p* and its complement is added to the Table. For simplicity, I am not adopting possibilities in the present discussion, so suffice it to say that tag questions raise polar questions (which is, after all, intuitive).

no?, the speaker presents herself as a source for the commitment, and invites the addressee to express herself as a source. With *sì?*, the speaker presents herself as dependent on the addressee's commitment as a source, i.e., as not being in a good epistemic position to justify the commitment. These formulations explain why (6a) is out but (6b) is fine: the use of *no?* presents the speaker as a source, but by hypothesis she was not in a position to judge of the quality of the ice-cream. *Sì?*, by contrast, is expected to be fine, because it commits the speaker only as a dependent (here, dependent on the epistemic authority on somebody who is presently tasting the ice-cream).

Notice, in the same vein, that the formulation in (9) makes the prediction that *sì?* should be suboptimal when used by a speaker who has, in fact, epistemic authority on the matter. On the other hand, the infelicity is only expected to the extent that there are no reasons for the speaker to present herself as dependent all the same. But politeness, attempts at irony or mere shyness can motivate the choice. Take a variation on the context in (6): suppose that the speaker herself is eating the ice-cream, or she had tasted ice-cream from the same factory before, or perhaps the evidence is the addressee's behavior itself (he is giving signs of enjoying the ice-cream.) In such case, (6b) could be rationalized as a subtle form of irony: in using *sì?*, the speaker is presenting herself as not in a position to judge whether the ice-cream is good or not. Since she knows well that it is good, and the addressee is aware of this knowledge of hers, the choice can be rationalized as conveying the message that she knows that it is good. Politeness could also justify the choice of *sì?*, in a scenario like the following, where '#' means 'impolite':

(10) [The speaker is at the addressee's door. It is unusually late.]
a. Posso entrare?
'May I come in?'
b. #Posso entrare, no?
c. Posso entrare, sì?

Suppose the speaker has been invited by the addressee to enter her room by phone or e-mail. One would say that this fact gives the speaker permission to enter the room: so, all other things being equal, asking for permission as in (10a) should be awkward. This is clearly not the case: asking for permission, even though the permission is unneeded or cannot be denied, is a typical politeness strategy, that can be seen to follow from maxims such as 'Do not impose' (Lakoff 1973), or 'minimize cost to others' (Leech 1983). (10c), then, can be seen as felicitous for the very same reason: by pretending not to be sure whether she is allowed to enter the room or not, the speaker expresses her will not to inconvenience the addressee. Interestingly, but not unexpectedly, (10b) sounds quite rude: here the speaker is making clear that she knows that she has permission to enter, and is only asking the addressee for confirmation. This, in terms of politeness, is possibly worse than just entering without asking.

Now, let us consider the differences between tag questions, as a class, and default statements and questions. Unlike default statements, tag questions commit the speaker only conditionally, hence, the further commitment of the addressee (not her mere assent) is needed for the increase of CG to take place. Unlike default questions, tag questions are not neutral with respect to the possibilities they raise, or, without resorting to the technical notion 'possibilities', a tag question is biased towards one of its answers (the one which the speaker conditionally commits to). In the terms of Farkas and Roelofsen (2012), the discourse effect of Italian *no?*-questions and *sì?*-questions is parallel to the effect of falling reverse tag questions and same tag questions, respectively[5].

Further confirmation of the intermediate status of tag questions with respect to default statements and default questions comes from three diagnostics employed by Sadock (1974) and Reese and Asher (2007). In English, the expression *after all* can introduce default statements and biased questions (tag questions or other kinds), but cannot introduce a default, neutral question[6]:

(11) It's o.k. if you don't finish writing the paper today…
a. After all, your adviser is out of the country.
b. *After all, is your adviser out of the country?

The injunction *tell me*, on the other hand, is only compatible with questions (biased or not), but it is unacceptable with statements:

(12) a. Tell me, does John own a car?
b. Tell me, doesn't John own a car?
c. *Tell me, John owns a car

A third expression, *by any chance*, lastly, is only felicitous with neutral (i.e., unbiased) questions. In the terms of Farkas and Roelofsen (2012), one could reduce these facts to the claims that follow. *After all* presupposes a commitment on the speaker's part (hence, the incompatibility with default questions). *Tell me* invokes the epistemic authority of the addressee (so it cannot be used with default assertions,

[5] It is worth pointing out that in Reese and Asher (2007) the intermediate status of tag questions is taken to follow, among other things, from a compound illocutive force, i.e., tag questions would be illocutionary assertions and questions at the same time. By contrast, in Farkas and Roelofsen (2012) the intermediate status of tag questions results from the interactions of conditions that operate on various components of the discourse model.
Notice also that I have not given, and will not give, an Italian equivalent to English rising reverse tag questions. Farkas and Roelofsen (2012) maintain that the latter have a weaker bias than their falling intonation counterpart, which is modeled by a further clause to the effect that the speaker is conditionally committing as dependent to the complement of the anchor *p*. This, I assume, is meant to encode the fact that the speaker of a rising tag question is somewhat more open to retract her commitment. However ingenious the formalization might be, there do not seem to be any testable predictions of the additional clause as such, so I will not adopt it for any class of tag questions discussed here.

[6] This example and the ones that follow are slightly adapted from Reese and Asher (2007) and Reese (2007).

whose responsibility must be borne by the speaker). *By any chance* seems to presuppose that the speaker cannot commit (Cf. Reese and Asher 2007).

Italian particle tags pattern with English tag questions (and biased questions more generally) when the diagnostics are applied. *Dopotutto* ('after all') and *dimmi* ('tell me') are both fine with particle tag questions, while *per caso* ('by any chance') is out:

(13) a. Dopotutto, Gianni è un buon attore, no?
after-all Gianni is a good actor no
'After all, Gianni is a good actor, right?'
b. Dopotutto, Gianni è un buon attore, sì?
after-all Gianni is a good actor yes
'After all, Gianni is a good actor, right?'

(14) a. Dimmi, Gianni è un buon attore, no?
tell-me Gianni is a good actor no
'Tell me, Gianni is a good actor, right?'
b. Dimmi, Gianni è un buon attore, sì?
tell-me Gianni is a good actor yes
'Tell me, Gianni is a good actor, right?'

(15) a. *Per caso, Gianni è un buon attore, no?
by chance Gianni is a good actor no
b. *Per caso, Gianni è un buon attore, sì?
by chance Gianni is a good actor yes

To sum up, the interpretive properties of Italian particle tags *no?* and *sì?* are closely analogous to English falling reversing tags and same tags, respectively. As far as polarity is concerned, the two languages differ sharply in that falling reversing tags have alternating polarities, while *no?* is invariant. It is worth pointing out, on the other hand, that the restriction imposed by *sì?* on the polarity of its anchor (namely, that it must be positive) is paralleled by the fact that only positive anchors are allowed in same tag questions in English (Cf. Farkas and Roelofsen 2012).

2.2 Syntactic structure

Efforts towards a syntactic analysis of Italian particle tags should point out both the similarities and the differences with respect to English tags. As mentioned above, it has been argued (Sailor 2009, 2011) that English tags should be thought of as nothing but a run-of-the-mill case of VP ellipsis in a full sentence coordinated with the anchor by asyndeton. Most of the 'mismatch' tests devised by Sailor cannot apply to Italian for the obvious reason that no verbal material can appear in the tags. More radically, it seems to be the case that no material whatsoever can be extracted from the (purported) elliptical sentence. Other syntactic diagnostics, though, can give hints about the structure of particle tag questions. One can look at (seemingly) right dislocated material and ask whether it is c-commanded by material in the anchor. If so, one can conclude that the material in question is structurally low, and the particle tags must be c-commanded as well:

(16) [$_{XP}$ ANCHOR [$_{YP}$ *no?* [$_{ZP}$ 'RIGHT PERIPHERY']]]

The structure could then be seen as monoclausal, with the tags occupying, one can assume, some functional projection in the IP field. When looking at relevant examples, though, the c-command relation does not seem to hold. Compare the following:

(17) Ognuno$_i$ li vorrebbe vedere felici, i propri$_i$ figli.
everyone them want to-see happy the own children
'Everyone wants to see them happy, their own children.'

(18) a. *Ognuno$_i$ li vorrebbe vedere felici, no, i propri$_i$ figli?
everyone them want to-see happy no the own children
b. *Ognuno$_i$ li vorrebbe vedere felici, sì, i propri$_i$ figli?
everyone them want to-see happy yes the own children

In (17), one can see that a CLRD object can include a possessive bound by the subject of the anchor. Under standard assumptions, c-command must then hold between the two. No such co-indexing is possible in (18), where a particle tag intervenes. In fact, across the tag CLRD does not seem to be available at all:

(19) *Magda li vorrebbe vedere felici, no, i bambini?
Magda them want to-see happy no the children
Lit. 'Magda wants to see them happy, the children.'

The closest one can get to the relevant example is (20), where punctuation is meant to encode a completely different prosodic structure:

(20) Magda li vorrebbe vedere felici, no? I bambini, (intendo).
Magda them want to-see happy no the children I-mean
'Magda wants to see them happy. The children, I mean.'

As hinted by the bracketed aside *intendo* ('I mean'), the element after the tag seems to qualify, if anything, as an afterthought. This is confirmed by the fact that, as expected of afterthoughts as opposed to CLRD elements (Vallduví 1992, Bocci 2013), multiple elements are only admissible in a fixed order:

(21) a. Gliel'hai regalato, il libro, a Maria?
to-her-it-have given the book to Maria
Lit. 'Did you give it to her, to book, to Maria?'
b. Gliel'hai regalato, a Maria, il libro?
to-her-it-have given to Maria the book
Lit. 'Did you give it to her, to Maria, to book?'
(22) a. Gliel'hai regalato, no? Il libro a Maria (intendo.)
to-her-it-have given no the book to Maria I-mean
b. ?*Gliel'hai regalato, no? A Maria il libro (intendo.)

to-her-it-have given no to Maria the book I-mean

In (21), one can see that two CLRD objects can occur in either order, but in (22) we see that the material following question tags must occur in the order DO > IO.

It seems reasonable to conclude that material included in the anchor does not c-command the tags[7]. Very roughly, then, the syntactic structure of particle tag questions must conform to the following schema:

(23) [$_{XP}$ [$_{YP}$ ANCHOR] *no?*]

If one consider, for comparison, the theories on English tags mentioned in section 1, it is clear that a monoclausal analysis cannot be adopted. Tags are external to the anchor sentence: this, in itself, would explain the unavailability of CLRD, which is known to be subject to the Right Roof Constraint (Cecchetto 1999).

Further syntactic details are less easy to pin down, though. What kind of relation should be taken to hold between the anchor and the tag? In the light of Sailor's analysis of English and of many recent analyses of responding particles (Kramer and Rawlins 2012, Holmberg 2013 a.o.), one could reasonably try to extend a clausal ellipsis analysis to question tags. The schema in (24) should then be modified as follows:

(24) [$_{XP}$ [$_{YP}$ ANCHOR] [*no?* [~~ANCHOR~~]]]

Notice, though, that the tag *no?* is not available in that position if the putative lower copy of the anchor is pronounced:

(25) *no?, è buono?
no is good
(26) #È buono, no?, è buono?
is good no is good

Also, as mentioned above, it seems that no material can intervene between the anchor and the tag (with the exception of CLRD elements) and, *a fortiori*, no material can be extracted from the putative ellipsis site. In the light of the inconclusive evidence, I will not adopt a deletion analysis for particle tags, while acknowledging that it should not be excluded either.

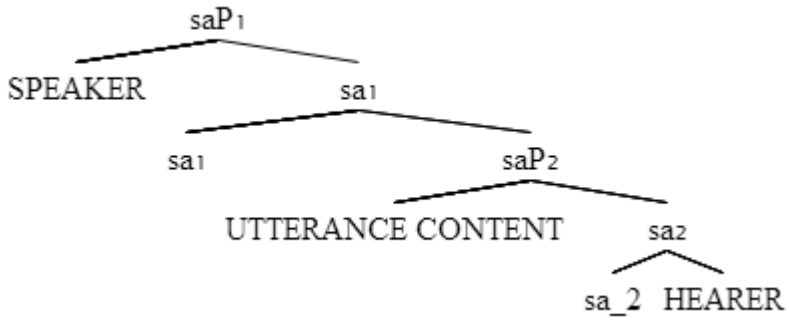
In the remainder of this section, I will sketch an analysis that takes tags to be functional elements located in a structurally high, discourse related structure. Their interpretation, I surmise, is one of elements that take a sentential argument complete with assertive force, and change it into a biased question. In a loosely formulated

[7] This, by the way, is also the conclusion reached by Sailor (2009) for English tags, which prompts the author to posit a coordination account.

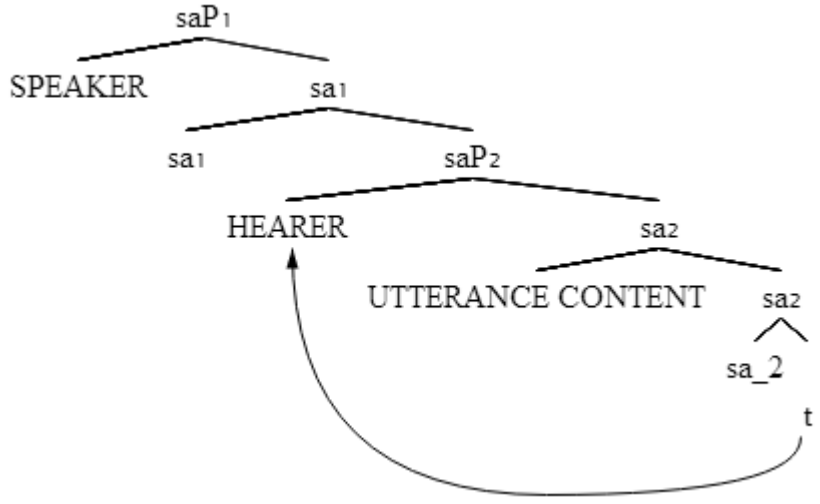
semantics, the interpretation of tag particles would be as follows: ⟦*no?*⟧, ⟦*sì?*⟧ are functions from speech acts to speech acts which are defined if the argument has assertive force, undefined otherwise. For an argument of the type ASRT[ForceP_1], assuming ⟦ForceP_1⟧ = *p*, they output a QUEST[ForceP_1] which, besides the discourse effects of default questions, calls for the addition of *p* to $DC_X^{c,s}$ or $DC_X^{c,d}$, respectively.

As it is, the assumption that arguments must be full assertive speech acts rather than mere sentential objects (ForcePs) seems unnecessary, but I think it is worth making in order to account for the fact that anchors, besides having the syntax of root declaratives, also count as (however weakened) assertions. Also, the fact can be further analyzed in terms of the cartographic approaches to illocutionary force initiated by Speas and Tenny (2003). The operators ASRT and QUEST above could be thought of as shorthand for the syntactic configurations envisaged by these authors for assertions and questions:

(27) DECLARATIVE



(28) INTERROGATIVE



In the original proposal by Speas and Tenny (2003), a shell of two speech act related functional projections takes two abstract arguments encoding the speaker and the

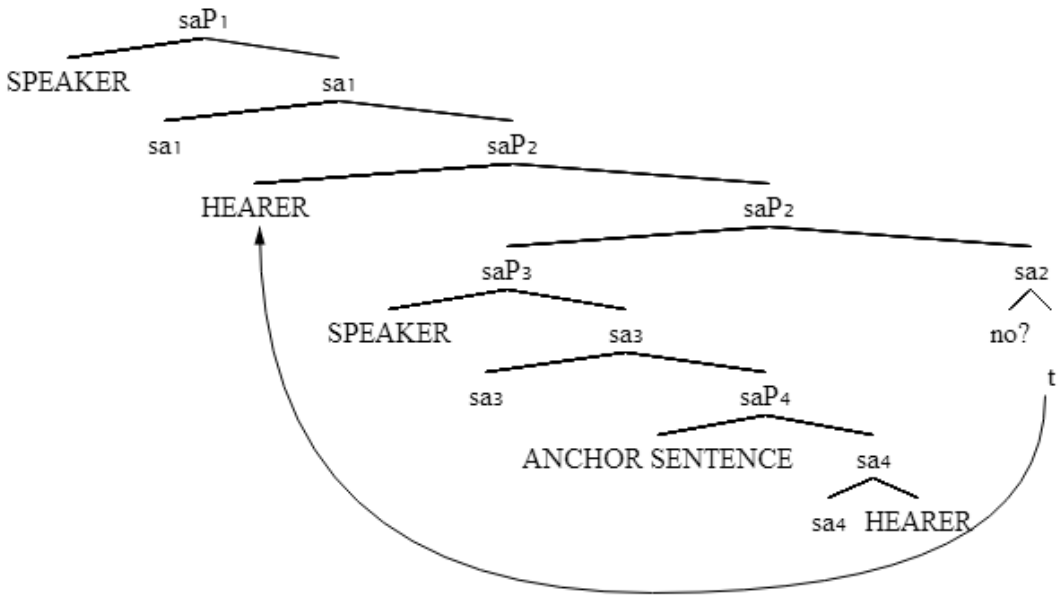
addressee of the utterance. The utterance itself is a third argument[8]. The authors assume that the closest argument c-commanding the utterance content represents the discourse participant who is responsible for the evaluation of the content itself. In a root declarative, the speaker herself takes responsibility for the content (she commits to it, in terms familiar to us by now). In a question, it is assumed that, as a consequence of a strong feature to check in a spec-head configuration, the hearer argument moves in a position from which it c-commands the utterance content. As a result, the hearer becomes responsible for the evaluation of the content. In our terms, an assertion commits the speaker to *p*, and a polar question asks the addressee to commit to *p* or its complement $\neg p$.

One could devise a syntactic implementation of particle tags along these lines. Suppose that speech act fields as in (27) and (28) can, under some circumstances, embed into one another[9]. More precisely, suppose that particle tags occupy position sa_2, i.e., they head the speech act projection responsible for hearer-related features. Remember, from our sketch of the semantics of the tags, that the tags denote a function that takes a declarative sentence (complete with assertive force) as its argument. In a structure *à la* Speas and Tenny (2003), the argument could be merged in the utterance content position. Only, the sentential structure merged there would be topped by another iteration of the speech act shell (which is meant to encode illocutionary force).

Now, even though a proper syntax-semantics translation would be needed, the choice of assertions as arguments (as opposed to mere proposition without illocutionary force) makes more sense: in Speas and Tenny's perspective, it is intuitive that the embedded speech act structure should encode commitment on the speaker's part, which adds to the question force encoded in the root sap shell. In the general case, I surmise, this would not be allowed, since the result would be pragmatically infelicitous (the speaker is at the same time committing to a proposition and asking for the addressee to decide the issue in her place). The tag, though, could be intuitively seen as a device that change the categorical (actual) commitment encoded in the embedded sap shell into a conditional commitment, which is compatible with the pragmatics of questions. The structure of tag questions, then, could be sketched as follows:

(29) PARTICLE TAG QUESTIONS

[8] The utterance content is presumably denoted by the ordinary syntactic structure of a sentence, which in the schemata given above would have to be merged in the specifier of sa_2. Notice, though, that this is only a plausible conjecture: the authors themselves do not make the point clear. For a different structure, in which the ordinary syntactic structure is merged in a complement as opposed to a specifier position, see the revision by Haegeman and Hill (2013), also adopted by Miyagawa (2012).
[9] Cf. the assumption of a multi-layered Speech Act field in Haegeman and Hill (2013).



Here, a sap structure of the root declarative type is embedded as a specifier of a sa head which happens to be lexicalized as *no?*. The root sap shell is of the interrogative type.

3. Disjunctive tags

The second class of Italian tag questions I will call disjunctive tag questions, because they consist in a declarative followed by the disjunctive coordinator *o* ('or') and a polarity particle. The first fact that distinguishes disjunctive tag questions from the previous class is that they are not invariant. The polarity of the tags must be alternative to the polarity of the anchor. Disjunctive tag questions, in turn, divide into two subclasses, which are discussed in the next two subsections[10].

3.1 Nuclear disjunctive tags

Nuclear disjunctive tag questions (NDTQ) have falling intonation on the anchor, an intonational break and rising intonation on the disjunctive tag. As mentioned above, disjunctive tags must have opposite polarity with respect to their anchors. As a consequence, the tag to a negative nuclear tag questions is expected to be *o sì?*. Negative tag *o no?*, while not entirely out, is comparatively degraded:

(30) a. Magda viene a cena, o no?
Magda comes to dinner or no
Lit. 'Magda is coming to dinner, or no?'
b. Magda non viene a cena, o sì?
Magda not comes to dinner or yes
Lit. 'Magda is not coming to dinner, or yes?'

[10] The terminology from Ladd (1981) is used for convenience and in order to point out some *prima facie* similarities with English tag questions. No serious attempt at prosodic analysis will be done here.

c. ??Magda non viene a cena, o no?
Magda not comes to dinner or no

The discourse properties of NDTQ seem to be close to the *no?*-type. As can be seen in (32), NDTQs are unacceptable in a scenario in which the speaker has low epistemic authority on the matter:

(31) [Both the speaker and the addressee are eating ice-cream.]
a. È buono, o no?
is-it good or no
b. Non è cattivo, o sì?
not is-it bad or yes

(32) [The addressee is eating ice-cream, the speaker is not.]
a. #È buono, o no?
is-it good or no
b. #Non è cattivo, o sì?
not is-it bad or yes

Unsurprisingly, NDTQs also pattern with particle tag questions with respect to the Sadock diagnostics. Consider (33):

(33) a. Dimmi, Magda viene a cena, o no?
tell-me Magda comes to dinner or no
Lit. 'Tell me, Magda is coming to dinner, or no?'
b. Dopotutto, Magda viene a cena, o no?
after-all Magda comes to dinner or no
Lit. 'After all, Magda is coming to dinner, or no?'
c. *Per caso, Magda viene a cena, o no?
by chance Magda comes to dinner or no

The discourse effect of NDTQ shall then be formalized as above:

(34) Add *p* to $DC_X^{c,s}$.

Let us turns to the syntax of NDTQs. For the lack of better insight, I tentatively propose the somewhat minimal analysis that follows. The null hypothesis is that the anchor of a NDTQ should be an ordinary declarative. Suppose that the tag is an ordinary question, whose content happen to be the opposite polar counterpart of the content of the anchor, subjected to ellipsis. *O* (whose nature is touched upon below) coordinates the two:

(35) [*o*P [$_{sa1P}$ SPEAKER [sa_1 [$_{sa2P}$ UTTERANCE CONTENT [sa_2 HEARER]]]] [*o* [$_{sa3P}$ SPEAKER [sa_3 [$_{sa4P}$ $HEARER_i$ [$_{sa4P}$ UTTERANCE CONTENT [sa_4 t_i]]]]]]]

Doing without the sap shells for clarity, ellipsis would affect the second disjoint as follows:

(36) [*o*P [$_{sa1P}$ … [$_{ForceP}$ *Magda viene a cena*] …] [*o* [$_{sa3P}$ … [$_{ForceP}$ *no* [~~Magda non viene a cena~~] […]]]]]

The analysis suggested here is close in spirit to the one proposed for English tags by Sailor (2009, 2011). Regardless of the implementation in the terms of Speas and Tenny (2003), the core of the analysis is in the fact that a NDTQ could be regarded as the coordination (here, a disjunction of sorts) of an assertion that *p* and a question whether *p* that undergoes ellipsis.

As for the presence of *o*, Krifka (2011) argues that, in the general case, speech acts can be conjoined but not disjoined. NDTQs could be as close as one can get to an exception. The *o*, however, is obviously not a boolean operator at any level. Rather, it weakens a commitment that *p* expressed by the assertion of the anchor by inviting the addressee to confirm that *p* or, alternatively, to take responsibility for the claim that ¬*p*. It is worth emphasizing that the net effect is not the retraction of the commitment just expressed, because the commitment to *p* is not undone. Compare the following:

(37) a. Gianni è tornato a casa, o no?
Gianni is gone to home or no
Lit. 'Gianni went home, or no?'
b. Gianni è tornato a casa, no aspetta un attimo, è tornato o no?
Gianni is gone to home no wait a second is gone or no
Lit. 'Gianni went home, no wait a second, did he go or no?'

It is intuitive that *no aspetta un attimo* ('no, wait a second') undoes or at least suspends the commitment to the claim that Gianni went home, while the disjunctive tag in (37a) does not. It is clear, then, that the relevant kind of disjunction deserves further investigation.

3.2 Postnuclear disjunctive tags

Postnuclear disjunctive tag questions have a rising intonation on the anchor, with a peak on the last tonic syllable, and a second rise on the particle. The intonational break is perceptually less prominent:

(38) Magda viene a cena o no?
Magda comes to dinner or no
'Magda is coming to dinner or not?'

The judgements are subtle, but it seems to be the case that only positive anchors are allowed in PDTQs. A negative anchor, as in (39), induces the realization as a NDTQ (see above):

(39) ??Magda non viene a cena o sì?

Magda not comes to dinner or yes

The discourse effect of PDTQs is not straightforward to assess. In our stock contexts, PDTQs diverge from NDTQs:

(40) [Both the speaker and the addressee are eating ice-cream.]
a. È buono o no?
is-it good or no

(41) [The addressee is eating ice-cream, the speaker is not.]
a. È buono o no?
is-it good or no

If one resorts to Sadock's diagnostics, it is striking that PDTQs disallow *dopotutto* but admit *dimmi*, a sign that PDTQs is closer to default questions than to biased questions (i.e., that they do not commit the speaker):

(42) a. #Dopotutto, è buono o no?
after-all is good or no
'After all, is it good or not?'
b. Dimmi, è buono o no?
tell-me is good or no
'Tell me, is it good or not?'

This argues in favour of an analysis of PDTQs as default polar questions or, perhaps better, as alternative questions on polarity (Farkas and Roelofsen's mixed polar alternative questions), given that they highlight both positive and negative polarity.

One fact that deserves an explanation is why PNDTQs, allegedly neutral interrogatives, do not admit the modifier *per caso* ('by any chance'), assumed by Sadock (1984) to be a diagnostic for unbiased interrogatives:

(43) *Per caso, Gianni è venuto alla festa o no?
by chance Gianni is come to-the party or no

This might *prima facie* be taken as evidence for the biased nature of NDTQs, but the conclusion would be premature. The reason for the incompatibility, I surmise, is orthogonal to biases, and relates to highlighting in Farkas and Roelofsen's terms. *Per caso* seems to require that its (unbiased) interrogative host also highlights one and no more than one possibility, that is, that it does not make explicit two or more alternatives:

(44) a. Per caso, Gianni è venuto alla festa?
by chance Gianni is come to-the party
'By chance, did Gianni come to the party?'
b. *Per caso, chi è venuto alla festa?

by chance who is come to-the party
c. *Per caso, preferisci tè o caffè?
by chance prefer2SG tea or coffee

In this respect, NDTQs pattern with other non-polar alternative questions, whose peculiarity, Farkas and Roelofsen say, is to highlight both alternatives.

If one were to analyze the syntax of PNDTQs in terms of the abstract discourse related structure borrowed from Speas and Tenny (2003), the following analysis can be suggested:

(45) [$_{sa1P}$ SPEAKER [sa_1 [$_{sa2P}$ HEARER$_i$ [$_{sa1P}$ [$_{DisjP}$ [ForceP *Magda viene a cena*] [*o* [$_{ForceP}$ *no* [~~*Magda non viene a cena*~~]]]] [sa_2 t_i]]]]]

PNDTQs are neutral questions, so only one sap shell is called for, with the question configuration. The disjunction can be taken to be at the ForceP level: the utterance argument is a disjunction of two ForcePs. The particle, again, can be assumed to be the remnant of an ellipsis process[11].

NDTQs and PNDTQs involve two altogether different kinds of disjunction. That the disjunction in NDTQs relates to discourse and, loosely speaking, operates on speech acts while the disjunction in PNDTQs does not, is made clear by the following pattern:

(46) a. Mario è venuto alla festa, o no? Non ne sono del tutto sicuro.
Mario is come to-the party or no not of-it am of-all sure
'Mario came to the party, didn't he? I am not completely sure.'
b. Mario è venuto alla festa, o era Gianni? Non ne sono del tutto sicuro.
Mario is come to-the party or was Gianni not of-it am of-all sure
'Mario came to the party, or was that Gianni? I am not completely sure.'

(47) #Mario è venuto o no? Non sono del tutto sicuro.
Mario is come to-the party or no not of-it am of-all sure

As discussed above, NDTQs express a conditional commitment to the propositions denoted by their anchors, and their disjunction amounts to a kind of conditional suspension of the assertive speech act expressed, by assumption, by the anchor itself. The continuation *non ne sono del tutto sicuro* is meant to make explicit the tentativeness of the speaker's commitment (while at the same time being compatible with a weak, i.e., conditional commitment to the proposition expressed by the

[11] A crucial property, which would have to be encoded in the structure somehow, is that PNDTQs are *alternative* questions on polarity, rather than polar question whose content is expressed by disjunction (Krifka 2001, Farkas and Roelofsen 2012). The ordinary alternative question *Would you like tea or coffee?* cannot be answered *yes* or *no*, but if it were taken to be a polar question it should possible to do that: *yes* would amount to *I would like one or the other*, and *no* would amount to *I would like neither*. Analogously, a PNDTQ should always be answered *sì*, given that the disjunction of a proposition and its complement is a tautology.

anchor). The fact that such continuation does not felicitously combine with PNDTQs can be taken as evidence that PNDTQs do not express commitment at all (at least, it needs not to). Things being so, it is reasonable to propose that they be analyzed as unbiased (alternative) questions.

There is one further type of disjunctive tag that, in the light of its similarities to PNDTQs, I will tentatively discuss here. The construction is exemplified in (48):

(48) Magda viene a cena sì o no?
Magda comes to dinner yes or no
Lit. 'Magda is coming for dinner yes or no?'

Here the anchor is followed by the disjunction of polarity particles *sì* and *no*, in this order. One could dub the construction Yes-No Tag Question (YNTQ). Coming to its discourse properties, YNTQs pattern with PNDTQs in being felicitous in a conversation such that the speaker has low epistemic authority on the matter:

(49) [Both the speaker and the addressee are eating ice-cream.]
a. È buono sì o no?
is-it good yes or no

(50) [The addressee is eating ice-cream, the speaker is not.]
a. È buono sì o no?
is-it good yes or no

Sadock's test confirms that the construction does not, as such, express commitment to either the positive or the negative possibility:

(51) a. Dimmi, Magda viene stasera sì o no?
tell-me Magda comes tonight yes or no
Lit. 'Tell me, Magda is coming tonight yes or no?'
b. #Dopotutto, Magda viene stasera sì o no?
after-all Magda comes tonight yes or no

I take YNTQs to be like PNDTQs: unbiased alternative polar questions. Intuitively, it must be added, they sound somewhat more ultimatory: they would be especially felicitous, e.g., when the addressee has already been asked to answer the question, to no avail:

(52) a. Hai fame?
'Are you hungry?'
b. Berrei volentieri qualcosa.
'I would like a drink.'
c. Ma hai fame sì o no?
Lit. 'But you are hungry yes or no?'

This property, I surmise, might be related to the higher degree of explicitness of YNTQs as opposed to PNDTQs: in the latter, both alternatives (both polarities) are expressed, but positive polarity is expressed only implicitly by the anchor itself. In YNTQs, on the other hand, the anchor is followed by particles that express and highlight both alternatives. As for the syntax of YNTQs, for the lack of space I do not venture into analyses.

4. Summary and conclusion

In Section 1 I briefly summarized some prominent syntactic analyses of English tag questions and a recent discourse-based theory of their interpretation (Farkas and Roelofsen 2012). Section 2 introduced two varieties of Italian invariant tag questions, which involve polarity particles *sì* and *no*. Their interpretation is modeled by adapting the categories from Farkas and Roelofsen (2012), and some tests are applied in order to draw some conclusions about their syntax. Tentatively, the theory of speech acts devised by Speas and Tenny (2012) is invoked in order to implement their interpretive properties syntactically. Section 3 discussed two further Italian tag questions. The latter, which like English tag questions display alternating polarity, involve the disjunctive coordinator *o* and, again, polarity particles. Depending on their prosody, two classes can be distinguished with remarkably distinct interpretations. The distinction, by the way, clearly reveals strong similarities to two different kinds of English tags (Cf. Farkas and Roelofsen 2012).

In conclusion, this preliminary investigation suggests that Italian and English tags differ in their syntactic implementation, most likely because of the unavailability of VP ellipsis in Italian. In the lack of such productive device, the need to express questioning of an assertion just made by the speaker herself is satisfied by means otherwise made available by the syntax of the language (clause ellipsis licensed by a responding particle) or by changing the particle itself into a marker of tentativeness or confirmation request. Tag questions, which in many ways are candidates for what classically was taken to be the periphery of grammar, still reveal interesting regularities across languages.

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Bilingualism and Specific Language Impairment: Similarities and Differences

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The aim of this study was to investigate the performance of Early L2 (EL2) children in those areas which are known to be particularly challenging for Italian SLI children, such as the production of direct object clitic pronouns and the repetition of nonwords, which are considered two of the most sensitive clinical markers for SLI in Italian.
An experimental protocol was administered to 120 preschool Italian EL2 children and a control group of 40 age-matched monolingual Italian children.
Results show that, similarly to SLI children, EL2 learners underperform in comparison to their monolingual peers in the production of clitic pronouns, even though they display a different error pattern: the most frequent error displayed by our EL2 children is producing an incorrect clitic, committing agreement errors, whereas SLI preschool children typically omit the pronoun.
For what concerns nonword repetition no significant differences have been found between the two groups.
To conclude, our research revealed that EL2 children present a linguistic profile which is qualitatively and quantitatively different from that typically shown by SLI children both in clitic production and in nonword repetition, suggesting the possibility to discriminate properly between the two populations.

"Adriana has been a teacher, a colleague
and a source of inspiration in many different ways"

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti.
C. Contemori and L. Dal Pozzo (eds.) Siena, CISCL Press.

1. Introduction

Raising bilingual children is an opportunity that a growing number of parents is taking, both due to the migration fluxes that contribute to create a multilingual and multicultural society, and to the awareness of the benefits of knowing more than one language.
Modern society, and in particular the educational system, must be able to cope with this relatively new situation, supporting bilingual children in their education.
Actually, one of the major difficulty reported by teachers and educators concerns the identification of language impairments in bilinguals and Early Second Language Learners (EL2). It is known, in fact, that both children and adult bilinguals often perform more poorly in comparison to their monolingual peers in specific language domains. They generally have a smaller vocabulary in both languages than comparable monolingual speakers and perform more poorly in standardized receptive vocabulary tests (Oller et al. 2007, Bialystok et al. 2010); moreover, their lexical access seems also to be slower and less accurate in comparison to that shown by monolinguals (Gollan and Kroll, 2001, Bialystok 2008). Additional deficits have been reported in the domain of morphosyntax, especially in those tasks which require high processing costs to be accomplished (Serratrice et al. 2004, Sorace et al. 2009, Sorace 2011).
Lexical and morphosyntactic difficulties are generally taken as signals for the presence of a Specific Language Impairment (SLI) in monolingual children, a neurodevelopmental disorder affecting approximately 7% of the population and characterized by language abilities below age expectations, despite cognitive abilities and absence of physical and neurological deficits (Leonard, 1998; Rice 2004).
Knowing that even unimpaired bilinguals can present these lexical and morphosyntactic difficulties renders it particularly complex to recognize the presence of language impairments in EL2 children: it is difficult, in fact, to understand if the linguistic anomalies observed in bilingual children are due to the presence of a language impairment or if they are more simply the consequence of a still immature linguistic competence.
To complicate the situation, there are not diagnostic tools expressly designed for the identification of SLI in bilinguals and the normative data concerning the trajectory of early L2 acquisition are very scarce (Bedore and Pena 2008). The obvious consequences are the over-diagnosing and the under-diagnosing of the impairment.
A recent and very promising way in the identification of the disorder even in bilinguals is the study on clinical markers for SLI. Clinical markers are linguistic structures which are particularly problematic for SLI children and which permit to distinguish, with high levels of sensitivity and specificity, children with SLI from typically developing children.
Studies conducted on Italian have revealed that areas of special weaknesses for monolingual children suffering from SLI are the production of direct object clitic pronouns and the repetition of nonword (Casalini et al. 2007; Dispaldro et al. 2011; Leonard et al. 2013). Both measures are considered clinical markers for SLI in Italian, yielding good specificity and sensitivity both at the age of 5 years (Bortolini et al. 2002, 2006) and at the age of 7 years (Arosio et al. 2014).
Analyzing how bilingual/EL2 children perform with respect to the clinical markers of SLI can provide interesting data for the development of an assessment framework that can differentiate between these populations.

The aim of our research was to investigate how EL2 children cope with clitic production and nonword repetition in order to find similarities and differences with the typical performance shown by Italian SLI children.

Direct-Object Clitic Pronouns Production

1.1.1. DO clitics in Italian

Together with strong pronouns and weak pronouns, clitics represent one of the three classes of pronouns occurring among languages (Cardinaletti and Starke 1999). Italian clitic pronouns comprise Direct-Object (DO) clitics and Indirect-Object (IO) clitics. In this brief discussion we will concentrate on DO clitics, which are the object of our study.

The production of DO clitics requires a relatively sophisticated competence in Italian, since it involves different linguistic levels. From a phonological point of view clitics differ from other pronouns since they are phonetically weak and they cannot carry stress; moreover, they cannot occur in isolation, nor be coordinated, modified or contrastively stressed.

At the syntactic level, they are maximal projection XPs and their placement in the sentence depends on the finiteness of the verb: they occupy the preverbal position with finite verbs, as in (1), and the postverbal position with infinite verbs, as in (2).

(1) Il nonno la bacia
The grandfather DO-CLIT$_{3sgFem}$ kisses
'The grandfather kisses her'

(2) Il nonno vuole baciarla
The grandfather wants to kiss_DO-CLIT$_{3sgFem}$
'The grandfather wants to kiss her'

From the morphological point of view, DO clitics are marked for gender and number, yielding four different forms: *lo* (masculine singular), *la* (feminine singular), *li* (masculine plural) and *le* (feminine plural). With compound tenses, like the Italian *Passato Prossimo*, the past participle must agree for both number and gender, as shown in (3).

(3) Il nonno la ha baciata
The grandfather DO-CLIT$_{3sgFem}$ has kissed$_{3sgFem}$
'The grandfather has kissed her'

Pragmatically, DO clitics are used to refer to a very salient antecedent, which has already been introduced in the discourse (Ariel 1994). Importantly, only DO clitics are produced felicitously to refer to highly salient antecedents, as represented in the following exchange:

(4) Cosa fa il nonno alla bambina?
'What does the granfather do to the girl?'
(5) La bacia.
pro DO-CLIT$_{3sgFem}$ kisses
'He kisses her'
(6) *Bacia.

pro kisses
'*He kisses'

(7) ?Bacia lei.
pro kisses her
'He kisses her'

(8) ?Bacia la bambina.
pro kisses the girl
'He kisses the girl'

Note that only the sentence in (5) is an appropriate answer to the question in (4); in (6) the clitic is omitted, giving rise to an ungrammatical sentence. In sentences (7) and (8) the strong pronoun and the nominal complement are respectively used instead of the clitic, generating infelicitous answers. Both strong pronouns and nominal phrases, in fact, occupy a lower position in the Accessibility Marking Scale in comparison to clitics, and would therefore identify a less salient antecedent in the discourse.
To sum up, the production of clitic pronouns in Italian involves the integration of phonological, morphological, syntactic and pragmatic information, requiring then quite sophisticated linguistic competence.

1.1.2. DO clitics acquisition in monolingual children with and without SLI
Studies focusing on the acquisition of DO clitics in Italian reveal that typically developing monolingual children generally start to produce DO clitics around the age of two years. Normally they do not display placement errors, using clitics in an adult-like fashion without replacing them with tonic pronouns (Guasti 1993, 1994; Schaeffer 2000; Caprin and Guasti 2009; Moscati and Tedeschi 2009). Nonetheless, they can produce agreement errors, uttering incorrect clitics, up to age 3-4 (Tedeschi 2006).
Moreover, they can show an optional use of clitic pronouns, variably omitting them, normally up to age 4, with constant improvements as they grow up.
The production of clitic pronouns is much more difficult for SLI children, who manifest a strong and persistent tendency to omit them, producing sentences which lack the internal argument and are therefore ungrammatical in Italian.
Bortolini and colleagues (Bortolini et al. 2002, 2006) found that preschool SLI children (aged between 3;7 and 5;5) show a remarkably lower performance in clitic elicitation tasks in comparison to age-matched controls and even to younger unimpaired controls, producing a remarkably lower percentage of correct clitics. Interestingly, the most common error displayed by SLI children is clitic omission. These results demonstrate that clitic production is a reliable clinical marker for SLI in Italian, with high levels of specificity and sensitivity.
Difficulties in clitic production persist also in older SLI children: a recent study conducted by Arosio and colleagues (Arosio et al. 2014) confirmed that clitic production is a good clinical marker also for 7 year-old SLI, who still underperform in comparison to three groups of control children matched respectively for chronological age, vocabulary age and grammatical age. However, older SLI children show a very low rate of omission of the clitic and their most common error is the production of a nominal complement, which is not felicitous in Italian.
Summarizing, clitic production is a good clinical marker of SLI for Italian children, who consistently avoid the production of the clitic, omitting it at preschool age and replacing it with a nominal complement as they grow older.

Nonword repetition

In nonword repetition tasks subjects are asked to repeat meaningless but pronounceable words modeled after their native language. This kind of test involves short-term memory and in particular the mechanisms responsible for the storage and the rehearsal of verbal information.
A number of studies have demonstrated that phonological memory is strongly involved in language acquisition (Gathercole and Baddeley 1990; Michas and Henry 1994; Adams and Gathercole 1995, 2000). Furthermore, it is sensitive to a wide variety of language disorders, such as dyslexia (Vender 2011, Snowling 1981, Roodenrys and Stokes 2001) and SLI. Nonword repetition skills have been found to be so compromised in SLI subjects that they have been identified as a clinical marker of the disorder across different languages (Bishop et al. 1996, Conti-Ramsden 2003; see also Coady and Evans 2008 for an extensive review). For what concerns Italian, Bortolini and colleagues (2006) found that SLI children are significantly more impaired than their peers in nonword repetition arguing that nonword repetition is a reliable clinical marker also for Italian, yielding high sensitivity and specificity values.

2. Experimental Protocol

Participants

The experimental protocol was administered to 120 Early L2 (EL2) preschool children who were acquiring Italian as their L2. They were divided in four distinct groups according to their L1: 40 Albanian-speaking speaking L1 children (ALB; mean age 59 months, sd= 8.43), 40 Arabic-speaking speaking L1 children (ARA; mean age 57 months, sd=6,14) and 40 Romanian-speaking speaking L1 children (RUME; mean age 58 months, sd = 7,42). Their performance was compared to that shown by a control group composed by 40 monolingual Italian children matched for chronological age and sex (MON; mean age 58 months, sd = 6.36).
All children have been recruited from public kindergarten in the area of Trento (Italy). In order to guarantee a homogeneous measure of their nonverbal cognitive ability, all participants were tested in the standardized Raven's Coloured Progressive Matrices test (Raven et al. 1998); 4 children (1 Arabic-speaking, 2 Romanian-speaking, 1 Monolingual) were excluded since they scored 1.5 SD below the mean score for their age. Detailed information about EL2 children's exposure to Italian were collected administering a version of the questionnaire UBiLEC (Unsworth 2011, Unsworth et al. 2012) that we adapted to Italian. The questionnaire, filled in by parents, provides a detailed description about children's exposure to Italian, the age of first exposure to the L2 and the amount and quality of exposure, considering both the traditional and the cumulative load of exposure[1].
All EL2 children were exposed to their L1 from birth and had at least one year of exposure to Italian; no statistically significant differences were found concerning their

[1] *Traditional load* refers to the total length of exposure a child has had over time and it is generally calculated as her chronological age minus their age at first exposure to the L2. *Cumulative load* is a more precise measure considering other variables to determine the actual exposure to both languages, such as (i) how much parents or siblings speak – and have spoken so far - each language to the child, (ii) whether she attended to daycare or school, (iii) which language is mainly used during holidays, (iv) if she watches TV and in which language.

age at first exposure to Italian. However, differences have been found regarding the quantity of exposure and the cumulative length of exposure, suggesting that, even though children of the three groups were exposed to Italian at the same age, Arabic-speaking children had been less exposed to Italian in comparison to their Albanian-speaking and Romanian-speaking peers.
More precise information about the participants' linguistic competence in Italian were collected administering a receptive standardized vocabulary test (PPVT-R, Peabody Picture Vocabulary Test – Revised, Stella et al. 2000) and a comprehension test (a subset of the test COMPRENDO, Cecchetto et al. 2012). PPVT-R is a picture-selection task in which the child is asked to point to a picture out of an array of four corresponding to a word uttered by the experimenter. COMPRENDO is a picture-selection task in which the child has to select a picture from an array of four that matched to a sentence uttered from the experimenter.
Results of the PPVT-R showed that all three groups of EL2 underperform in comparison to their monolingual peers, confirming that the vocabulary of bilingual children is generally scarcer than that of monolinguals. Interestingly, data indicate that our Arabic-speaking children's vocabulary is poorer in comparison to that of Albanian-speaking and Romanian-speaking children.
COMPRENDO provided similar results, showing that both Albanian- and Romanian-speaking children performed as well as monolingual children, whereas the comprehension skills displayed by the Arabian-speaking children were significantly scarcer.
As suggested by correlation analyses conducted on these data, the poorer performance shown by the Arabian-speaking children is likely due to the lower exposure to Italian they received in comparison to their Albanian- and Romanian-speaking peers.

Experiment 1: The production of DO clitic pronounsMaterials and Procedure

In this experiment we tested monolingual and EL2 children's production of DO clitic pronouns, administering an elicitation task. During the task, the subject was shown some pictures displayed on a computer screen and told a short story that always involved two or three characters performing one action. Descriptions were digitally recorded by a feminine Italian native speaker and played through loudspeakers connected to a PC. When the first picture appeared, the characters of the story were introduced and the child was told that one character wanted to perform some action to the other/s. In the second picture, portraying the character performing that action, the child was asked to answer a question eliciting the DO clitic pronoun about what the character did.
An example of the task is reported below:

(9) Experimenter: "In questa storia ci sono un nonno e una bambina. La bambina vuole baciare il nonno".
'In this story there are a grandfather and a girl. The girl wants to kiss the grandfather'.

(10) Experimenter: "Guarda adesso cosa succede. Cosa fa la bambina al nonno?"
'Look at what is happening now. What does the girl do to the grandfather?'

(11) Target answer: " Lo bacia"

pro him-MASC-SG kisses
'she kisses him'

The protocol comprised 12 sentences containing a third person DO clitic, 3 for each of the four Italian DO clitics. The task was preceded by a familiarization section consisting of five training items in which the subject was invited, if necessary, to answer the questions producing the clitic pronoun. The experimental items were intertwined with four fillers. All verbs used were conjugated in the present tense and were obligatory transitive. Each child was individually tested in a quiet room; the experimental session lasted 20-30 minutes. Each session was registered and all materials were transcribed and reexamined by independent researchers.

2.2.2. Results and discussion

Results show clearly that monolingual children are more skilled than EL2 children in the production of clitic pronouns, uttering more target sentences.

All groups of subjects produce a low percentage of *NPs* and *Omissions*: considering both indexes, the performance of EL2 children is statistically indistinguishable from that shown by monolinguals.

The most common error shown by both Albanian- and Romanian-speaking children is producing incorrect clitics, insomuch that, considering their total production of clitics, both incorrect and correct forms, their performance is similar to that displayed by monolinguals.

Even though incorrect clitics are very frequent also in Arabic-speaking children, their most common error is the production of irrelevant sentences, which distinguishes significantly their performance from those shown by the other groups of children.

A possible explanation for this discrepancy could be searched in the characteristics of the L1 of the subjects, which may have an influence on their acquisition of the properties of Italian clitics. Albanian, Arabic and Romanian have all a clitic pronominal system, even though differences can be found for what concerns both their inflection and, in particular, their placement. For what concerns inflection, they are inflected for person, number and gender in Arabic and Romanian, as in Italian, and just for person and number in Albanian. The most significant differences amongst the four languages concerns their placement: clitics generally precede the verb in Albanian and Romanian, as in Italian, whereas they are always enclitic in Arabic. Accordingly, if Arabic-speaking children's greater difficulties with clitic production had really been affected by a negative transfer, we should have expected a higher rate of placement errors, which instead have not been committed at all.

It appears instead more plausible to explain Arabic-speaking children's poorer performance referring to their lower linguistic competence in Italian and to the lower exposure to Italian they received in comparison to Albanian- and Romanian-speaking children. Consistently, significant correlations have been found between the rate of target structures and irrelevant sentences produced by the subjects and their linguistic competences, indicating that children who have a better competence in Italian are more skilled in the production of clitic pronouns, whereas children with a lower competence have more difficulties coping with the task, resulting, in our study, in a higher production of irrelevant sentences. Moreover, correlations have been found between the amount of exposure and the production of both target clitics and irrelevant sentences, showing that children with a higher exposure tend to produce more target clitics in comparison to less-exposed children who tend instead to utter irrelevant sentences.

It is plausible to assume, then, that our Arabic-speaking children are just a step behind in their acquisition of Italian, due to the lower exposure to Italian they had over time, and that for this reason they experience more difficulties with a linguistically complex and demanding task like the production of DO clitics.
Summarizing, then, clitic production appears to be a challenging task for EL2 children, as it is for SLI subjects. However, analyzing the typology of errors committed by our children it is possible to discriminate their performance from that typically showed by SLI children.
As reviewed above, research has demonstrated that Italian SLI children perform poorly in this kind of task, producing a lower number of target structures in comparison to their unimpaired peers. Specifically, preschool SLI children manifest a strong tendency to omit the pronoun, avoiding to use the clitic in the majority of the cases. Omission rates are instead exceptionally low in our study and similar to that shown by unimpaired monolinguals.
Conversely, a very common error shown by EL2 subjects is the production of an incorrect clitic. Thus, it seems that our EL2 children are perfectly aware of the fact that clitics have to be produced in Italian, as in their mother languages, and that their difficulties are mainly limited to the correct inflection of the pronouns. Given the correlations found between amount of exposure to Italian and performance in the clitic task, their difficulties will likely disappear as their competence in Italian increases.
These considerations lead us to argue that SLI children and EL2 children present different profiles: in preschool years, clitic production is difficult for both populations, but analyzing the typology of errors committed it is be possible to discriminate them.

Experiment 2: The repetition of nonwords

2.2.3. Methods
In Experiment 2 we tested monolingual and EL2 children's nonword repetition skills, administering a nonword repetition test (NWR, Cornoldi, Miato, Molin and Poli, 2009). In this task, the subject was asked to listen carefully to a nonword pronounced by the experimenter and then to repeat it. The NWR test included 25 stimulus of increasing length and complexity, ranging from one to four syllables.
Each test session was preceded by a familiarization session with two training items.
The subject's score corresponded to the total number of syllables correctly repeated, for a maximum of 60 syllables.
Each child was individually tested in a quiet room; the experimental session lasted 5-10 minutes. Each session was registered and all materials were transcribed and reexamined by independent researchers.

2.2.4. Results and Discussion
Results of the task reveal that EL2 children, independently from their L1, perform as accurately as their monolingual peers in tasks tapping nonword repetition. No differences have been found amongst the performances of the four groups that participated in the study.
Given that scores at nonword repetition tasks provide a pure measure of the subject's phonological memory, the monolingual-like performance shown by our EL2 children permits to argue that they do not suffer from phonological impairments.

This is particularly interesting compared to the difficulty exhibited in nonword repetition by Italian SLI children, whose phonological memory appears instead to be severely compromised. The fact that our EL2 subjects do not exhibit problems in nonword repetition suggests then that also this task can be employed to distinguish between the two populations.

3. Conclusions

The main goal of our research was to examine EL2 children's performance with two clinical markers for SLI, namely the production of direct object clitics and the repetition of nonwords, in order to find similarities and differences that permit to distinguish properly between the two populations. The results we obtained are very interesting at this respect, since they suggest that EL2 children have a linguistic profile which is qualitatively and quantitatively different from that typically show by SLI children, both in clitic production and in nonword repetition. Specifically, even though the production of clitic pronouns is problematic for EL2 as it is for SLI children, it has been found that the typologies of errors committed by the two groups are very different: preschool SLI children, in fact, consistently omit the clitic pronoun in this kind of task, uttering ungrammatical sentences, whereas EL2 subjects tend to produce the wrong clitic, committing agreement errors. It appears, then, that EL2 children do know that the clitic has to be used in this kind of sentences, and that they simply have troubles inflecting it correctly.

For what concerns the second clinical marker of SLI we examined, the repetition of nonwords, we found that EL2 children do not exhibit difficulties and that their performance is similar to that shown by monolinguals unimpaired children. Since the score obtained at a nonword repetition task is a measure of the subject's phonological memory, we can infer that our EL2 children do not display phonological deficits nor verbal short-term memory problems. Again, their profile is clearly distinct from that of SLI children, whose phonological competences are instead severely compromised and whose performance at nonword repetition is typically remarkably poor.

To summarize, our research shows that, although SLI and EL2 children's language characteristics do present some similarities and overlaps, it is possible to discriminate between the two populations observing their performance with the clinical markers of SLI, clitic production and nonword repetition.

EL2 profile is, indeed, different with both markers: they do not display difficulties with the repetition of nonwords, and they do not omit pronouns in clitic production, as their SLI peers instead consistently do.

These results provide interesting hints for future research, showing a promising way to identify precociously the presence of a Specific Language Impairment in EL2/bilingual children: we can expect, in fact, that an EL2/bilingual preschool child who actually suffers from SLI will present a remarkably low performance in nonword repetition tasks and high omission rates in clitic production tasks. It would be then very interesting to verify this prediction, comparing the performance of monolingual unimpaired children, monolingual SLI children, EL2/bilingual unimpaired children and EL2/bilingual children who have already received a diagnosis of SLI with both clinical markers.

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Variable verb placement in embedded clauses: comparing English and Norwegian children and adults*

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This paper reports on two priming studies focusing on embedded word order in English and Norwegian, more specifically on subject-auxiliary inversion (SAI) in embedded questions in English and verb-adverb order (V2) in *that*-clauses in Norwegian. While the adult languages typically disprefer SAI or V2 in embedded contexts, spontaneous data show that these word orders are produced to a certain extent in specific contexts. Research on child language has shown that children go through a stage where these word orders are relatively frequent. A priming experiment was carried out in both languages, eliciting data from both adults and children. As priming is assumed not to affect ungrammatical structures, we expected there to be priming in the child data, indicating that these word orders are part of the child grammar, but potentially not in the adult data. The results show a clear and reliable priming effect in the English child data, but no priming in the Norwegian experiments.

Dear Adriana – We wish you all the best on the occasion of this milestone in your life!

1. Introduction

This paper reports on a priming study investigating embedded word order in English and Norwegian, in both children and adults. More specifically, the project focuses on verb placement in relation to the subject in embedded *wh*-questions in English and the position of the verb in relation to an adverb or negation in *that*-clauses in Norwegian. Previous research has shown that young children make mistakes in this domain: English-speaking children sometimes produce the word order V-S; i.e. subject-auxiliary inversion (also affecting the copula *be*), while Norwegian-speaking

* This project has been made possible by a grant from the University of Edinburgh that has covered travel for the Norwegian co-authors (May 2011) as well as research assistance in Scotland. The English experiments were carried out by Dr. Janet McLean. The Norwegian experiments were carried out by Dr. Anita Røreng (the adult participants) and the fourth author of this paper (the children).

Inquiries into Linguistic Theory and Language Acquisition. Papers offered to Adriana Belletti. C. Contemori and L. Dal Pozzo (eds.). Siena, CISCL Press.

children use the non-target-consistent V-Adv/Neg word order for an extended period. Examples (from Westergaard 2009a, b) are provided in (1)-(2). In both cases these orders are fully grammatical in root clauses in the adult language, but either ungrammatical or dispreferred in these embedded contexts.

(1) I don't know [what **are they**]. (Adam, 2 ; 11.28)

(2) det er ho mamma som **har** **også** tegna. (Ina.26, age 3;2.05)
it is DET mommie who have.PRES also draw.PART
'It's mommie who has also drawn.'

These phenomena in English and Norwegian have received some attention in the literature (e.g. Radford 1992, Guasti 2002, Bentzen 2003, Westergaard & Bentzen 2007, Westergaard 2009b), and main clause word order has also been attested in embedded contexts in other child languages, e.g. Swiss German (Schönenberger 2002) and Swedish (Waldmann 2008, 2014). Nevertheless, the reasons for these errors are not well understood. To our knowledge, the current pilot study is the first priming study investigating embedded word order. The ultimate goal is to establish (a) whether the distribution of these "embedded root phenomena" is lexically or pragmatically conditioned in either or both the adult and the child grammars, (b) whether the differences between child and adult production are due to performance limitations or non-target grammatical representations in the child grammar, and (c) whether the developmental patterns and causes are the same or different in the two languages. Although the results are not completely straightforward, this study has allowed us to make some progress in this direction.

This short paper is organized as follows: In the next section we provide some background on these phenomena and state the aims of the study. We then describe the methodology and participants of the English study and provide the results. Section 4 provides the same for the Norwegian study. Section 5 is a brief discussion and conclusion.

2. Background

As mentioned above, English-speaking children occasionally produce (non-target-consistent) Subject-Auxiliary inversion (SAI) in embedded questions at an early stage. Although we describe this as non-target consistent, it has to be recognized that these structures may also occur in the adult language; relatively freely in some dialects and only very rarely in others. According to McCloskey (2006), SAI is most likely when the embedding context is not "resolutive", i.e. when it does not entail that the answer to the question is known to the referent of the matrix subject. This means that (3a) is better than (3b) and (4a) is better than (4b).

(3) a. I wonder where are my socks.
b. I know where are my socks.

(4) a. I don't remember where are my socks.
b. I remember where are my socks.

McCloskey (2006) also claims that embedded SAI is most favoured when the matrix subject is first or second person. Finally, it is also more likely with a non-auxiliary use of the copula than with any other verb, including *be* used as an auxiliary. This has also been found to be the case in English child language (Westergaard 2009b).

Norwegian is an asymmetric V2 language, which means that it is similar to English in that it typically displays verb movement in main but not in embedded clauses; unlike English however, V2 in Norwegian is not restricted to interrogatives. As has been discussed in much literature on Scandinavian languages, V2 is also optionally available in certain embedded contexts, both as subject-verb inversion and verb movement across negation, the latter shown in (5a, b) (cf. among others Holmberg & Platzack 1995, Vikner 1995, Heycock 2006, Heycock et al 2012, Julien 2007, Wiklund, Bentzen, Hrafnbjargarson & Hróarsdóttir 2009).

(5) a. Han sa at hun **ikke fikk / fikk ikke** komme på festen.
he said that she not could / could not come on party.the
'He said that she was not allowed to come to the party.'

b. Hun fant ut at hun **ikke hadde / hadde ikke** nok penger.
she found out that she not had / had not enough money
'She discovered that she didn't have enough money.'

In a recent corpus survey using the Nordic Dialect Corpus (see Johannessen, Priestley, Hagen, Åfarli & Vangsnes 2009), Bentzen (2013) shows that the word orders Adv/Neg-V and V-Adv/Neg are equally frequent in negated *that*-complement clauses in spoken Norwegian. Thus, in certain embedded contexts, the word order V-Adv/Neg is perfectly acceptable also in adult Norwegian. Bentzen (2013) shows that these are contexts where embedded inversion is also generally accepted, such as *that*-complements of assertive predicates (e.g. *say, believe*) and semi-factive predicates (e.g. *discover, find out*) and certain adverbial clauses (*because*-clauses, consequence clauses, etc.). However, in other embedded contexts V-Adv/Neg (and also inversion) is not possible in the adult language, such as *that*-complements embedded under non-assertive/non-factive predicates (e.g. *doubt, be impossible*) as well as factive predicates (e.g. *regret, it's strange*), embedded *wh*-questions, relative clauses, and certain other adverbial clauses. Norwegian-speaking children have been found to produce V-Adv/Neg in embedded contexts where this is either disallowed or dispreferred in the adult language for quite an extended period, often until age 4-5. That is, children seem to allow V-Adv/Neg in all types of embedded contexts at a certain age (for discussion see Bentzen 2003, Westergaard & Bentzen 2007, Westergaard 2009b).

Given the variation often found in the child data, it is not clear whether the non-target-consistent production is due to the child's linguistic system being syntactically different from the adults', or whether these word orders are caused by problems with pragmatics, processing or other issues. In the study reported here, we aimed to test

a) whether SAI in embedded questions can be primed in children and in adults in English, and
b) whether V-Adv/Neg in embedded *that*-complements can be primed in children and in adults in Norwegian.

On the assumption that ungrammatical structures cannot be primed (Loebell & Bock 2003; Savage, Lieven, Theakston & Tomasello 2006; , the results of this experiment would provide evidence as to whether word orders that are ungrammatical in the adult language are in fact part of the child grammar. If this is the case, we would expect priming of the word orders in question to be observable in children but not in adults. Furthermore, if priming is found to have an effect also in the experiments on adults, this would indicate that the unusual word orders are not completely ungrammatical even for adults, but simply strongly dispreferred. Thus, we might expect to find more priming in the Norwegian adult data than in English, as V-

Adv/Neg word order in embedded *that*-clauses seems to be more frequently attested in spontaneous adult data than SAI in embedded questions in English.

3. The English Study

3.1 Participants and Methodology

There were sixteen child participants (eight females, eight males) aged 3;09 to 4;06 (mean age 4;03). The children were recruited from nursery schools in Edinburgh and Falkland. In addition, a control group of 16 adult participants (13 females, three males) from the University of Edinburgh's student population took part. Standard ethics procedures were followed concerning parental and institutional consent.

Data were collected through a syntactic priming elicited production procedure (Pickering & Branigan 1998), which has been extensively tested in previous research: the Snap card game. We prepared two sets of 32 cards with colored illustrations depicting an object or person. Each set included 24 experimental items and eight filler items. One set of cards was termed the Experimenter's Description Set and the other the Child's Description Set. In the course of the game, the experimenter and the child will take turns in describing a card in their set. An experimental item was defined as an experimental card from the Experimenter's Description Set (the prime card) plus an experimental card from the Child's Description Set (the target card). There were two different pairings. For the target card depicting a teddy who had forgotten where his umbrella was, the two prime conditions were the experimenter's descriptions:

(6) a. He can't remember where **his sweets are**. (non-SAI)
b. He can't remember where **are his sweets**. (SAI)

In all the test conditions the object depicted on the experimenter's card was different from the one on the target card, so that the pairings were not a `Snap. In addition, half the prime cards depicted a single object which was described with a singular auxiliary verb, while the target card showed more than one object which required a plural auxiliary verb. In the other half of the trials, this manipulation was the other way round. This was done in order to avoid the child simply repeating the same verb that was said by the experimenter; i.e. to make sure that if there was priming, it was the syntactic structure that would be primed, not the actual lexical items.

For the eight filler cards the object did match, so the child was expected to say that these cards were a 'Snap'. In addition, these cards were described using a different sentence structure, e.g. as in (7):

(7) He can't remember what goes in the sink.

Two scripts were prepared, each containing a description for each of the prime cards. In each script, 12 of the cards had non-SAI word order and the remaining 12 had SAI. From the scripts we constructed four randomized lists, each containing 24 experimental items and 8 fillers.

In addition to the priming experiment, we also administered to the child participants the British Picture Vocabulary Scale (BPVS), a standardized measure of receptive vocabulary (Dunn, Dunn, Whetton, & Pintilie, 1982) to ensure that children were comparable in terms of verbal ability.

3.2 Procedure and scoring

Each participant was tested individually. Both the children and the adults were told a short story about the "Forgetful teddy". In the story, they heard about a teddy who had lost lots of objects in his house. Twenty-four objects were named in the story, corresponding to the target card objects.

After the story, all participants were told that they were going to play a game of 'Snap' and had to decide when two cards matched. The experimenter showed them three pairs of practice cards to explain what a 'Snap' would look like. The first two pairs were similar to the experimental cards and the experimenter described one card using a non-SAI structure, and the other using an SAI structure. On the final pair, the cards were a match. On each practice trial, the child was prompted in how to describe the card and also encouraged to look carefully at the picture to see if they matched. If the child understood the task, the experimenter continued with the rest of the experiment. The order of the test items (pairs of experimenter-child cards) was randomized for each subject. The experimenter and the Child had a set of stacked cards in front of them. The experimenter explained that for each card they had to look at the picture and describe it before placing the card on the table so that both could see the picture. Each pair was treated as an individual trial and the Experimenter always went first. Thus the experimenter picked up the first card, turned it over and described it before placing it on the table, and then the Child did the same. The Child decided whether they matched or not.

The experimenter also presented each child with the BPVS. The child listened to a spoken stimulus and had to point to the corresponding picture from a choice of four. The order of the Snap game and the BPVS was counter-balanced across the children. Each experimental session was digitally recorded and subsequently transcribed.

Each utterance in the Snap game was coded for sentence structure. We coded an utterance as a non-SAI structure if the object was described before the auxiliary or copula verb, e.g. *He can't remember where **his umbrella is***. We coded an utterance as an SAI structure if the auxiliary verb was before the object, e.g. *He can't remember where **is his umbrella***. Partial utterances such as *where his umbrella is* were coded as if the participant had produced a full sentence. If the auxiliary verb was missing or if the participant described the wrong object, the responses were classified as Others. In this category we also placed other utterances that could not be defined using the regular coding.

3.3 Results

We computed the relevant proportions as follows. We divided the number of non-SAI target selections following non-SAI primes by the total number of non-SAI primes (i.e. all non-SAI primes, whether followed by non-SAI or SAI target selections). Similarly, we divided the number of non-SAI target selections following SAI primes by the total number of SAI primes. These proportions were calculated for each participant and for each item. ANOVAs were performed on these data, with separate analyses treating participants (F1) and items (F2) as random effects.

The participants produced descriptions which could be coded using the above scoring method on 690 trials (90%). Of these, 350 (50.7%) were non-SAI trials and 340 (49.3%) were SAI trials. In these 690 trials, the participants produced 666 (96.5%) non-SAI target descriptions and 24 (3.5%) SAI target descriptions. Table 1 shows the proportion of non-SAI and SAI structures that were produced in each of the prime conditions.

Table 1: Number of non-SAI and SAI target descriptions produced after each prime condition.

Group	Prime condition	non-SAI	SAI

Children	non-SAI	168	0
	SAI	138	21
Adults	non-SAI	182	0
	SAI	178	3

There was a strong and reliable priming effect. A 2 (Group) x 2 (Prime) mixed ANOVA revealed a main effect of Group ($F1(1,30) = 5.51$, $p<.05$, partial $\eta2 = .15$; $F2(1,46) = 25.5$, $p< .001$, partial $\eta2 = .36$), with adults producing more non-SAI structures than children. There was also a main effect of Prime ($F1(1,15) = 9.10$, $p<.01$, partial $\eta2 = .23$; $F2(1,46) = 42.5$, $p< .001$, partial $\eta2 = .48$); i.e. more non-SAI targets were produced after non-SAI primes than after SAI primes.

However, the priming effect differed between the Groups, in that there was a reliable interaction between Group and Prime ($F1(1,30) = 5.51$, $p<.05$, partial $\eta2 = .15$; $F2(1,46) = 25.5$, $p< .001$, partial $\eta2 = .36$). Inspection of Table 1 shows that there was a larger priming effect in the group of children than in the group of adults. Simple main effects revealed reliable priming for only the children ($F1(1,30) = 14.4$, $p<.001$, partial $\eta2 = .32$; $F2(1,46) = 66.9$, $p<.001$, partial $\eta2 = .59$); for the adults there was no priming effect ($F1(1,30) = .22$, n.s.; $F2(1,46) = 1.08$, n.s.)

Participants' responses were fit using a mixed logit model (see Jaeger, 2008) that predicts the logit-transformed likelihood of a non-SAI. Due to empty cells (there were no SAI target responses after non-SAI primes), the data was transformed using a weighted empirical logit (see Barr, 2008). The full factorial model (including Prime and Group as factors) was fit and is summarized in Table 2. The non-SAI responses were influenced by Prime; there were more non-SAI targets following non-SAI primes. No other factors were significant.

Table 2: Model coefficients and probabilities for non-SAI target responses models.

Target response	Predictor	Coefficient	Std. Error	t-value	p-value*
non-SAI	Intercept	3.22	0.18	17.5	<.001
	Prime: SAI	-0.39	0.19	-2.08	<.05
	Group: Children	-0.01	0.24	-0.42	=.68
	PrimeXGroup: SAIxChildren	-0.08	0.50	-1.64	=.11

* p-values were estimated using pvals function in R.

4. The Norwegian study

4.1 Participants and Methodology

The participants in the study were 12 children and eight adults. The children (four boys, eight girls), aged 4;2.20-5;11.11, all live in Tromsø in North Norway, and are acquiring the local dialect of Norwegian spoken there. They were recruited from various kindergartens in Tromsø. The adults were all students at the University of Tromsø. Both genders were represented (two males, six females) and all adult subjects were in their early twenties.

The experiment was an elicited production task in two parts, conducted on separate occasions. Both parts involved a set of cards displaying pictures of a teddy bear in various contexts. The cards display two conditions. In the first condition, the cards showed that Teddy could or could not find things he was looking for (the 'find' condition). In the second condition, the cards showed that Teddy was or was not allowed to play with various toys (the 'be allowed to' condition). There were

altogether 32 items and four trials in the tasks. The items were divided into two conditions, with 16 items in each condition. In each of the two conditions, 12 of the 16 item were negative contexts (where Teddy didn't find something, or where he wasn't allowed to play with something), and these (altogether) 24 items were the test items, showing verb placement with respect to negation. The remaining four items in each of the two conditions were positive contexts, and these (altogether) eight items constituted fillers. In addition there were four trials, one positive and one negative for each condition.

The first part of the experiment was aimed at testing which word order the participants would use spontaneously, without priming, in embedded complements of semi-factive predicates. The participants were asked to describe what the cards displayed, and during the trial session, they were specifically instructed to start their descriptions by saying 'This card shows that…'. This was done to ensure that they would produce a semi-factive *that*-clause. Demonstrations of descriptions of the negative cards were provided by the experimenter using the word orders Neg-V and V-Neg one time each during the trial session. During the actual test session, the children were prompted about what the card was showing, if needed. This prompt was provided without the experimenter producing embedded clauses. Examples of the conditions are illustrated in (8)-(9):

(8) **Condition 1: the 'find' condition:**

a. Dette kortet viser at han finner bananen. (positive)
this card.DEF shows that he finds banana.DEF
'This card shows that he finds the banana.'

b. Dette kortet viser at han **ikke finner / finner ikke** koppen. (negative)
this card.DEF shows that he not finds / finds not cup.DEF
'This card shows that he doesn't find the cup.'

(9) **Condition 2: the 'be allowed to' condition:**

a. Dette kortet viser at han får leke med ballongen. (positive)
this card.DEF shows that he gets play with balloon.DEF
'This card shows that he is allowed to play with the balloon.'

b. Dette kortet viser at han **ikke får / får ikke** leke med hatten. (negative)
this card.DEF shows that he not gets / gets not play with hat.DEF
'This card shows that he isn't allowed to play with the hat.'

The second part of the experiment investigated the effect of word order priming. As in the English experiment, the participants and the investigator engaged in the specially designed card game 'Snap'. In this game, the players each have a deck of 32 cards with pictures, the same cards as those used in part one. The procedure of the game was as follows: The investigator would pick up one of her cards, and without showing it to the other player, describe what it showed. Then the other player would do the same, and after that, both players would put their card on the table with the picture up. If the cards were different, the game would continue. If they were identical, this was a 'Snap' condition, and the first player to place their hands on both cards and say 'Snap!' would get the pair of cards. The aim of the game was to gain as many cards as possible. The design was such that all the eight positive (filler) items would constitute 'Snap' situations. The 24 negative contexts were sorted in such a way that whenever the investigator had described a card in the 'find' condition, the participant's card would be one from the 'be allowed to' condition, and vice versa. This was done to avoid the participant simply repeating the crucial part of the investigator's description. The investigator used word order Neg-V in 6 items in each condition, and word order V-Neg in 6 items in each condition (altogether 12 items of each word order).

4.2 Results

In part 1 of the experiment, the 12 children generally used the word order Neg-V spontaneously when describing the pictures without any priming. There were occasional examples of V-Neg word order attested, altogether 17 out of a total of 282 relevant examples (6%). In the group of adults, the proportion of V-Neg is in fact higher, with 27 examples of this word order out of a total of 234 relevant examples (11.5%). However, 24 of these are produced by only one participant, who used V-Neg in absolutely all cases. This means that the percentage of V-Neg is quite low for the remaining seven adults, only 1.4% (3/210)

The results from part 2 of the experiment are provided in Table 3. As we see, both children and adults still prefer Neg-V word order, despite the fact that the investigator used V-Neg half of the time. Again there are occasional examples of V-Neg in the child data, but this does not seem to be caused by the word order chosen by the investigator. In fact there are more examples of V-Neg after a Neg-V prime than after a V-Neg prime, 7/143 (4.9%) vs. 4/143 (2.8%). In the adult data, one participant again produced exclusively V-Neg, being responsible for all the 24 examples with this word order in the data. The seven other adults produced only Neg-V, regardless of the priming condition. Unlike in the English data (cf. Table 1), we must conclude that there was no effect of priming in the Norwegian experiments.

Table 3: Number of Neg-V and V-Neg target descriptions produced after each prime condition.

Group	Prime condition	Neg-V	V-Neg
Children	Neg-V	136	7
	V-Neg	139	4
Adults	Neg-V	83	12
	V-Neg	84	12

5. Discussion and general conclusion

The results of this pilot study show that SAI in embedded questions can be primed in monolingual English children, despite its extremely low frequency in the language. Priming is known to boost structures that are part of speakers' knowledge even if they are dispreferred; the results therefore lend support to the view that SAI in child English may be due to non-target grammatical representations and not (only) to performance limitations. The fact that a few examples of priming were also found among the adult controls also suggests that SAI in embedded questions might have, even in the adult language, a different status from completely ungrammatical structures. This would also be consistent with the fact that this structure is found in several varieties of English, in some colloquial styles, and is also amply attested in non-native speakers of English from different native language backgrounds (Pozzan 2011, Pozzan & Quirk, in press).

However, the results from the Norwegian study show absolutely no priming effect, neither in the child group nor in the adults. This is quite surprising, especially given the findings from spontaneous speech in the Nordic Dialect Corpus that the "dispreferred" V-Neg word order is in fact attested to the same extent as the word order Neg-V (Bentzen 2013). For this reason we had expected that there would be more priming in Norwegian than in English.

The results from English, where priming was observed in the child data, support the hypothesis that SAI in embedded contexts is part of the child grammar, rather than the result of problems with pragmatics or processing. Correspondingly,

the lack of any priming effect in the English-speaking adults is consistent with the possibility that for the majority of adult speakers in this study, embedded SAI is in fact ungrammatical. The lack of priming in either Norwegian group, on the other hand, is unexpected for the reason discussed above. Given the evidence that the V-Neg word order is relatively common in embedded contexts in spoken Norwegian, we are reluctant to conclude from the absence of priming effects here that this order is actually ungrammatical for both adults and children. In order to explore other possible explanations for the results obtained in this study, we must consider an adjustment of the methodology and also try out experimental material involving predicates other than *vise* 'show'. We may then be able to better address the extent to which the status of embedded SAI in English and embedded V-Neg order in Norwegian differs in adult and child language. This must be left to further research.

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