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Building up Complex Temporal Constructions*

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1. Introduction: lexical, functional and complex prepositions

In recent years there has been increased interest on the internal structure of some prepositional ‘particles’, in particular those ‘particles’ that express spatial relations. Earlier studies¹ used to distinguish between functional prepositions, as *a* ‘to’, *de* ‘of’, *en*

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¹. Traditional grammarians characterized the particles according to different criteria than those used to describe lexical categories such as nouns, verbs and adjectives. The classification of ‘particles’ (from the Latin diminutive PARTICULA(M)) was established on the basis of the optionality of its complement. According to this criterion, prepositions are transitive and adverbs are intransitive. A further classification was proposed according to the categorial status of the complement: prepositions introduce a DP complement, whereas conjunctions take a sentential complement. These criteria, however, which establish that a ‘particle’ has to be classified not inherently but in a relative way, namely according to the syntactic configurations in which it occurs, lead sometimes to paradoxical results. In fact, for instance, *después*(Sp.)/*dopo*(It.) ‘after’ should be analysed as an adverb when used ‘intransitively’, (i.a); as a preposition, when a DP complement appears, (i.b), and as a conjunction, when a sentential complement

‘in’, *por* ‘for’, ... in Spanish, or *a, di, da, in, per*, ... in Italian, and lexical prepositions, as *debajo* ‘under’, *encima* ‘above’, *arriba* ‘above’, ... in Spanish, or *sopra, sotto*, ... in Italian. Both in Italian and Spanish the former ones are generally unstressed, semantically “light” and obligatorily require a complement; on the other hand, the second ones have a stressed syllable, are semantically “heavy” and can display an intransitive structure, as (1) and (2) show:²

- (1) a. Se escondió bajo *(la cama). *Spanish*
 ‘He hid under *(the bed)’
 b. Se escondió debajo (de la cama).
 ‘He hid *de*under (the bed)’

realizes, (i.e), despite the fact that this ‘particle’ display the same semantic interpretation in all these syntactic configurations:

- (i) a. Llegó *después* (*Spanish*) / Arrivò *dopo* (*Italian*) (Adverb)
 ‘He arrived after’
 b. Llegó *después* de la comida (*Spanish*) / Arrivò *dopo* pranzo (*Italian*) (Preposition)
 ‘He arrived after lunch’
 c. Llegó *después* de que comiéramos (*Spanish*) / Arrivò *dopo* che avevamo pranzato (*Italian*) (Conjunction)
 ‘He arrived after we had lunch’

The criteria just mentioned have been challenged by several linguists belonging to different theoretical frameworks, such as Jespersen (1924), Jackendoff (1973), Ruwet (1982), among many others.

². Campos (1991) argues that in Spanish locative particles allow preposition stranding. Nevertheless, some of the examples he provides are very marginal for native speakers. In Italian, as noted by Cinque (2008, p.2), quoting Rizzi (1988)), some complex locative constructions admit preposition stranding, as in: *A chi eri seduto sopra?* ‘Who were you sitting on?’. We will not deal with this property because temporal particles never admit preposition stranding either in Spanish or in Italian, as the following examples show:

- (i) a. *De qué/quién llegaron *antes/ después*? *Spanish*
 b. *Di che cosa/chi arrivarono *prima?* - *(Di) che cosa/chi arrivarono *dopo?* *Italian*
 Lit. ‘Of what/whom (they) arrived before/after?’

- (2) a. Si è nascosto in *(camera). *Italian*
 ‘He hid at (his bedroom)’
 b. Si è nascosto sotto (il letto).
 ‘He hid under (the bed)’

In this paper we will focus on the syntactic behavior and the interpretive properties of the ‘particles’ *antes/ después* (Spanish) and *prima/ dopo* (Italian) “before/ after” which introduce complex temporal constructions.

In general, these ‘particles’ display similar properties to their spatial counterparts.³ Nevertheless *antes/prima* “before” and *después/dopo* “after” differ from *encima/sopra* ‘above’, *debajo/sotto* ‘under’, etc. because of the syntactic and interpretive nature of their complements, their behavior as lexical comparatives and the obligatory correlations that the constructions they head must establish with the temporal structure of the sentence in which they appear.

In what follow we will investigate these peculiar properties with the aim to offer an analysis for the internal structure of complex temporal constructions. Our analysis adopts the general cartographic hypothesis (cf. Cinque, 1994, 1999) in mapping different functional projections, each of them associated with distinct grammatical categories –features and/or heads– and extends to the complex temporal constructions the basic idea developed in Svenonius (2006, 2007) and in Cinque (2008) for prepositional phrases expressing spatial relations.

In this way, we propose that all the constructions in (3) and (4):

- (3) a. Llegó (dos días) antes/después. *Spanish*
 ‘S/he arrived (two days) before/after’
 b. Llegó (dos días) antes/después del atentado.
 ‘S/he arrived (two days) before/after the terrorist attack’

³. As many authors pointed out, there should exist a certain methonymical relationship between the notions of time and the notion of space. It is probably for this reason that *antes/prima* and *después/dopo* may also express spatial relations, as (i) shows:

- (i) a. Dos calles después del semáforo, hay que girar a la izquierda. *Spanish*
 b. Due vie dopo il semaforo, devi girare a sinistra. *Italian*
 Lit. ‘Two streets after the traffic-lights it is necessary/you must to turn right’

- c. Llegó (dos días) antes/después (de) que ocurriera el atentado/ de ocurrir el atentado.

‘S/he arrived (two days) before/after the terrorist attack took_{Subj.Past} place/ the terrorist attack take_{Inf.} Place

- (4) a. Arrivò (due giorni) prima/dopo.

Italian

‘S/he arrived (two days) before/after’

- b. Arrivò (due giorni) prima dell’attentato/dopo l’attentato.

‘S/he arrived (two days) before of the terrorist attack’/after the terrorist attack’

- c. Arrivò (due giorni) prima che avesse luogo l’attentato/dopo che ebbe luogo l’attentato.⁴

‘S/he arrived (two days) before the terrorist attack took_{Subj.Past} place/ after the terrorist attack took_{Ind.Past} place’

where, as we can observe, temporal ‘particles’ are used ‘intransitively’, (3a) and (4a), or can take either nominal complements, (3b) and (4b), or sentential complements, (3c) and (4c), –i.e. they may occur apparently in different syntactic configurations– are the spell-out of different portions of the same syntactic configuration, as we will argue in the following sections.

2. The main properties of complex temporal particles

Despite the different theoretical frameworks adopted, some authors, such as Alarcos (1973), Marácz (1984), Plann (1986), Larson (1985), Bartra and Suñer (1992) and Bresnan (1994), agree on the fact that these particles are very close to nominal expressions. The arguments they provide in order to justify this hypothesis are briefly summarized below:

⁴. In Italian, unlike Spanish, (3c), a lexical subject cannot appear in simple infinitive clauses. This asymmetry is due to parametric differences between the two languages which do not affect our topic, as the following example shows:

- (i) L’attentato fu sventato due giorni prima di aver luogo.

Lit. ‘[The terrorist attack]_i was foiled two days before of Ø_i take_{Inf.} place.’

a) In Spanish and Italian, complex temporal (and spatial) prepositions are allowed in syntactic contexts where a DP complement is expected (see Alarcos (1973) and Plann (1986)), unlike “real” adverbials or simple prepositions. In this respect, compare the data in (5) and (6) below:

- (5) a. Las costumbres de *antes*/ Desde *después* de la guerra/ La clase de *antes*/
 Guárdalo para *después* *Spanish*
 b. Le abitudini di *prima*/ Da *dopo* la guerra/ La lezione di *prima*/ Conservalo per
dopo *Italian*
Lit. ‘The traditions of *before*’/ ‘From *after* the war’ / ‘The lecture of *before*’ /
 ‘Keep it for *after*’
- (6) a. *Las costumbres de *anteriormente/recientemente*/ *Desde *posteriormente*/ *La
 clase de *anteriormente*/ *Guárdalo para *posteriormente* *Spanish*
 b. *Le abitudini di *anteriormente/recentemente*/ *Da *posteriormente* (del)la
 guerra/ *La lezione di *anteriormente*/ *Conservalo per *posteriormente*
Italian
Lit. ‘*The traditions of recently’/ ‘*From recently the war’/ ‘*The lecture of
 subsequently’/ ‘*Keep it for subsequently’

b) Functional temporal prepositions may assign Case directly to their complement, (7), while temporal complex prepositions cannot; they must be followed by a functional preposition in order to do so, (8):

- (7) a. *a las ocho*⁵ *Spanish*
alle otto *Italian*
Lit. ‘At the eight’
 b. *en enero* *Spanish*
a/in gennaio *Italian*
 ‘on January’

⁵. In section 4, adopting Kayne’s (2005a) and (2005b) hypothesis about silent heads, we will tentatively propose a more complex internal structure for cases such as those in (7a).

- (8) a. *antes* *(*de*) las ocho Spanish
 prima *(*del*)le otto Italian
 Lit. ‘before *(of) the eight’
 b. *después* *(*de*) la cena Spanish
 Lit. ‘after *(of) the dinner’

As the examples in (8) illustrate, in Spanish the functional preposition is *de*, the same particle which is used to express genitive case in nominal constructions. Marácz (1984), Plann (1986) and Bresnan (1994) argued that complex prepositions are some kind of defective nominals because they introduce genitive complements.⁶

Across Romance languages, however, there is a microparametrical variation with respect to the realization or omission of this functional preposition. In standard Spanish, for instance, it always appears whenever a complement occurs, (8).

The same situation holds for Portuguese:

- (9) a. *antes/depois* **do** atentado/ **de** mim Portuguese
 b. *antes/depois* **de** ocorrer o atentado
 c. *antes/depois* **de** que ocorresse o atentado

In Catalan the same preposition, *de*, always appears except for inflected sentences:

- (10) a. *abans/després* **de** l’atemptat/ **de** mi Catalan
 b. *abans/després* **de** passar l’atemptat
 c. *abans/després* (***de**) que passés l’atemptat

⁶. The distinction between two types of prepositions was noticed long time ago by Antonio de Nebrija (1492, cap. XV), the first Spanish grammarian. According to him, in Spanish there are prepositions that require genitive, such as *cerca* ‘near/close’; *antes* ‘before’; *delante* ‘in front of’; *dentro* ‘inside’ (locative)/‘in’ (temporal), etc., and prepositions that introduce accusative complements, such as *contra* ‘against’; *hasta*, ‘until’ (temporal)/‘to’ (locative); *entre* ‘between/among’ (locative), etc. Nebrija also pointed out that some of the prepositions of the first group might also be used without the genitive marker. This alternation goes on holding in contemporary Spanish (and Catalan) and nowadays a large microparametric variation within dialects and registers can be found: *encima de la mesa*/ col. *encima la mesa* (Spanish) ‘on the table’; *darrera de la casa*/ (*dar*)*rera la casa* (Catalan) ‘behind the house’. We refer the reader to Bartra and Suñer (1992) for more details about this topic.

French and Italian, on the other hand, display a more complex paradigm. In French the preposition *de* only appears in simple infinitival sentences preceded by *avant*:

- (11) a. avant/après l'attentat/moi. *French*
 b. avant ***(de)** manger/ après **(*d')** avoir mangé.
 c. avant/après que l'attentat eut lieu

In Italian, with *prima* the preposition *di* always shows up, except for tensed sentences:

- (12) a. prima **dell'**attentato / **di** me *Italian*
 b. prima **di** mangiare/aver mangiato
 c. prima **(*di)** che l'attentato abbia/avesse avuto luogo

On the other hand, *dopo* never admits the preposition *di* with exception of free personal pronouns:

- (13) a. dopo l'attentato / **di** me⁷ *Italian*
 b. dopo aver mangiato
 c. dopo che l'attentato ha avuto luogo

Finally, Romanian behaves like Italian: *de* appears after *inainte* 'before', (14), and never can follow *dupa* 'after', (15), but, unlike Italian, *de* can never precede a free personal pronoun, (14):⁸

⁷. Rizzi (1988:523) notes that in Italian the preposition *di* does not obligatorily follow *dopo* in the case in which the complement is a free personal pronoun, (i.a), and that the same preposition can never appear when the free personal pronoun is modified, (i.b):

- (i) a. Dopo (di) lui non c'è nessuno. 'After (of) him there is nobody'
 b. Gianni viene dopo (*di) noi tutti. 'G. comes after (*of) us all'

We agree with Rizzi's judgements, but we also think that the optionality of *di* with free personal pronouns (cf. (13a) and (i.a)) is restricted to some particular cases.

⁸. In Romanian, unlike the other Romance languages, the sentence introduced by *dupa* 'after' cannot appear in infinitive:

- (14) a. înainte **de** atentat/ (***de**) mine Romanian
 b. înainte **de** a se intampla atentatul
 c. înainte (***de**) sa se intample atentatul

- (15) a. dupa atentat/mine Romanian
 b. dupa ce s-a intamplat atentatul

The two following synoptical diagrams illustrate what happens in the Romance languages just mentioned regarding the presence (✓) vs. absence (*) of the functional preposition following the two temporal particles whose behavior we are studying:

(16)

<i>Before</i>	DP	Personal Pronoun	Tensed sentence	Infinitival sentence
Spanish	✓	✓	✓	✓
Catalan	✓	✓	*	✓
Portuguese	✓	✓	✓	✓
French	*	*	*	✓
Italian	✓	✓	*	✓
Romanian	✓	*	*	✓

(17)

<i>After</i>	DP	Personal Pronoun	Inflected sentence	Infinitival sentence
Spanish	✓	✓	✓	✓
Catalan	✓	✓	*	✓
Portuguese	✓	✓	✓	✓
French	*	*	*	*
Italian	*	✓	*	*
Romanian	*	*	*	---

Despite these variations, in this paper we propose that in complex temporal constructions headed by *antes/prima* and *después/dopo* the preposition *de/di* is always

(i) *A sosit (cu dua zile) dupa ce a se intampla (atentatul).

‘(S/he) arrived (two days) after (the terroristic attack) take_{inf} place’

projected even though in some cases it is phonologically unrealized.⁹ We also propose that this preposition –pronounced or unpronounced– is a Case marker that dominates the eventive nominal expression and that expresses the complement-relationship between this expression and a silent TIME that selects it, as we will discuss in section 3.3.¹⁰

c) as Plann (1986) pointed out for locative particles, a related question to this last property is that in Spanish this ‘particles’ can combine with postposed possessives, *detrás mío* ‘Lit. behind mine’, *delante tuyo* ‘Lit. in front of yours’, etc.¹¹ These constructions are not allowed by prescriptive grammar, but they are extremely frequent in colloquial speech, and in Catalan they belong to the standard language, *darrera meu*, *davant teu*.¹²

d) Larson (1985) pointed out another interesting property of this construction. While complex prepositions can be modified by certain adverbs with a focalizing function,

⁹. See the crosslinguistic data provided by Cinque (2008) and the references mentioned there for locative complex prepositions.

¹⁰. In this paper we will not deal with why this preposition can be either unpronounced or phonologically realized. Romance languages may differ in the way of assigning Case to sentential or nominal complements and perhaps the categorial origin of the particle in each language plays a crucial role in this choice.

¹¹. See Terzi (2008: §3) for an explanation of these data with locative particles. Postposed possessives with temporal particles are much more restricted, but we can find some examples in very colloquial speech:

(i) a. Leo Dan, que cantó antes mío...

Lit. ‘Leo Dan, who sung before mine_{Masc. Sing.}

b. Habló con Madelman y Unai (...) que pinchan después mío. (Google: 08-06-2008)

Lit. ‘S/he talked to Madelman and Unai (...) that play after mine_{Masc. Sing.}

¹². Furthermore, in Spanish the possessive can display gender agreement with an antecedent or a human referent related to the speech act: *detrás mía*_{Fem.Sing.}. This possibility, however, belongs to a very colloquial register.

such as *exactamente*, *justo* o *mismo* ‘exactly’, (18); other adverbs, such as *–mente* adverbs, cannot, (19):

- (18) a. *exactamente/justo* antes/después del atentado *Spanish*
 esattamente/giusto/proprio prima di/dopo l’attentato *Italian*
 ‘exactly after/ before the terrorist attack’
 b. antes/ después *mismo* del atentado¹³ *Spanish*
 Lit. ‘before/ after exactly of the terrorist attack’
- (19) a. **exactamente/??justo* recientemente *Spanish*
 **esattamente/??giusto/ proprio* recentemente *Italian*
 ‘exactly recently’
 b. **recientemente mismo*
 Lit. ‘recently exactly’

e) Larson (1985) also shows that temporal and locative complex prepositions differ from other particles because they can appear in subject position of pseudo-clefts.

- (20) a. Lo vi *antes/ después/ recientemente*. *Spanish*
 ‘I saw him before/ after/ recently’
 b. *Antes/ después/ *recientemente* fue cuando lo vi.
 ‘Before/ after/ *recently’ was when I saw him’

According to Bosque (1990:200), this last property does not necessarily imply that *antes*, *después* and other particles that share similar properties are nominal categories, but it implies that they do designate specific individual entities (“individuals” in the logical sense). This is the reason why they can appear in identificative constructions such as those in (21):

- (21) a. [Una hora después de la cena] es un buen momento para fumarse un cigarro. *Spanish*

¹³. In Italian a similar construction, with the focalizing adverb between *after* and the *of-complement* is not possible, given that such adverbs must always appear in the higher position, (18a). We will come back to them in section 4.

- [Un'ora dopo la cena] è un buon momento per fumarsi un sigaro. *Italian*
 'One hour after dinner is a good moment for smoking a cigar'
- b. [Ø Después de la cena] es un buen momento para fumarse un cigarro. *Spanish*
 [Ø Dopo la cena] è un buon momento per fumarsi un sigaro. *Italian*
 'After the dinner is a good moment for smoking a cigar'
- c. [Una hora después Ø] es un buen momento para fumarse un cigarro. *Spanish*
 [Un'ora dopo Ø] è un buon momento per fumarsi un sigaro. *Italian*
 'One hour after is a good moment for smoking a cigar'
- d. [Ø Después Ø] es un buen momento para fumarse un cigarro. *Spanish*
 [Ø Dopo Ø] è un buon momento per fumarsi un sigaro. *Italian*
 'After is a good moment for smoking a cigar'

According to these data, Bosque proposes to designate these particles as 'identificative adverbs' because *places*, *moments* or *instants* can be analysed as *individuals*; in other words, they can denote definite entities that are equivalent to physical objects or to more abstract notions that have been reified, but they are not referential expressions.

Den Dikken (2003) and Svenonius (2004), among others, argue that locative prepositions are lexical elements displaying a functional architecture as verbs and nouns do. In spite of the fact that they disagree in formal details, both authors propose, on the one hand, that the lexical value of locative particles is obtained by an unpronounced nominal PLACE modified by the locative particle¹⁴ and, on the other, that the functional architecture is motivated by means of a locative abstract preposition that selects an abstract noun PLACE as its complement.

We will propose that temporal expressions headed by *antes/prima* o *después/dopo* display a similar but more complex structure. The nominal properties mentioned above naturally derive from the presence of an unpronounced noun TIME. We will also propose that the syntactic configuration is selected by an abstract preposition AT that contributes to provide the temporal expression with the designation of a punctual position in the temporal axis.

In the following section, we will argue how the different portions of this functional and lexical structure are built up in order to account for the syntactic and discourse properties of our complex temporal constructions.

¹⁴. For a similar proposal, see also Bresnan (1994), Kayne (2005a, 2005b) and Terzi (2008).

3. The computational process

3.1. The basic calculation

In the examples (3) and (4) the temporal constructions refer to an unambiguous point in time. Nevertheless, this temporal point is not expressed directly, and it has to be calculated by the hearer through a computational process.

For the sake of simplicity, let's consider the following examples. Suppose that we are referring to the Madrid's terrorist attack, which took place on Thursday, 11 march 2004. This information has to be known by both the speaker and the hearer; so they both can unambiguously fix this point on the temporal axis, and in (3b) and (4b) this temporal point (*time*) is inferred from the time in which took place the event denoted by the nominal expression *el atentado/ l'attentato* 'the terrorist attack', which we will call the *base* from now on. The quantified nominal expression *dos días/due giorni* 'two days' expresses an amount of temporal units that corresponds to the temporal interval which separates the base from the resulting point in time. Therefore, the quantified nominal expression performs the function of expressing a temporal difference that must be linked with the temporal value of the base; it's for this reason that we dub it *differential*. Finally, *antes/prima* 'before' and *después/dopo* 'after' provides the orientation along the temporal axis, backwards or forwards respectively. The result of this computational process, namely the final temporal point, corresponds then to a variable whose value is the result of an algebraic operation of subtraction (*antes/prima* 'before') or addition (*después/dopo* 'after') of temporal points along the temporal axis, giving, in this way, Tuesday, march 9th 2004, or Saturday, march 13th 2004, respectively:

(22) a. Dos días *después* del atentado

'The temporal interval (*dos días*) that I add to the *time* of the terroristic attack (Thursday 03-11-2004) gives as a result Saturday 03-13-2004'

or

'The *time* of the terroristic attack (Thursday 03-11-2004) + the temporal interval (*dos días*) = Saturday 03-13-2004'

b. Dos días *antes* del atentado

'The temporal interval (*dos días*) that I subtract to the *time* of the terroristic attack (Thursday 03-11-2004) gives as a result Saturday 03-09-2004'

or

'The *time* of the terroristic attack (Thursday 03-11-2004) - the temporal interval (*dos días*) = Tuesday 03-09-2004'

(23) a. La obra *empezó/terminó* a las diez/ media hora antes/después de lo previsto/
*dos horas. *Spanish*
L'opera *iniziò/terminò* alle dieci/ mezz'ora prima/dopo del previsto/ *due ore.
Italian
'The dramatic work began/ended at ten o'clock/ half an hour before/after than
expected/ *two hours'

b. La obra *duró* dos horas/ *a las diez/ *media hora antes/después de lo previsto.
Spanish
L'opera *durò* due ore/ *alle dieci/ *mezz'ora prima/dopo del previsto/.
Italian
'The dramatic work lasted two hours/ *at ten o'clock/ *half an hour
before/after than expected'

The reference point (*r*) of these temporal expressions (*l* (point of localization)) can either coincide with the reference point *R* of the temporal structure of the verb, as happens when the temporal expressions are introduced by *antes/prima*, (24a), or cannot, when they are introduced by *después/dopo*, (24b):¹⁵

- ¹⁵. See García Fernández (2000: 294).

- b. Lo había encontrado diez días después de Pascua. *Spanish*
 Lo avevo incontrato dieci giorni dopo Pasqua. *Italian*
 -----E-----R-----S-----
r l
 ‘I had met him ten days after Easter’

From a semantic perspective, the properties that characterize *antes/prima* are more complex than those of *después/dopo*. In fact, according to García Fernández (2000), while *antes/prima* ‘before’ with temporal interpretation can introduce factual, non-factual and counterfactual predicates, as (25) shows:

- (25) a. Apagó la calefacción antes de salir. *factual*
 Spense il riscaldamento prima di uscire.
 ‘He turned off the heating before going out’
 b. Dejó la reunión antes de que hubiera discusiones. *non-factual*
 Lasciò la riunione prima che ci fossero discussioni.
 ‘He leaved the meeting before there were quarrels’
 c. Dejó la reunión antes de insultar a nadie. *counterfactual*
 Lasciò la riunione prima di insultare qualcuno.
Lit: ‘He leaved the meeting before insulting no one (Sp.)/someone (It.)’

después/dopo ‘after’ may only introduce factual predicates: the event expressed by its complement behaves like an ‘ended up’ event:

- (26) *Dejó la reunión después de insultar a nadie. *Spanish*
 *Lasciò la riunione dopo non insultare nessuno.¹⁶ *Italian*
Lit: ‘He leaved the meeting after insulting no one/someone’

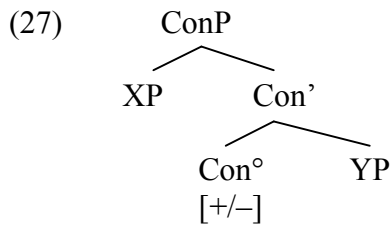
¹⁶. In the Spanish example of (26) the presence of the infinitive in simple form combined with *nadie* ‘no one’ forces the counterfactual interpretation of the construction. In Italian, on the other hand, given that the infinitive in simple form cannot be used in such constructions, the same interpretation is obtained by the sole presence of the infinitive in simple form. Compare the Italian construction in (26) with (i), where the obligatory infinitive in past form gives rise to the factual interpretation:

- (i) Lasciò la riunione dopo non aver insultato nessuno.
Lit: ‘He leaved the meeting after not having insulted no one’

Despite these differences in interpretation, to which we suggest that it is possible to ascribe some of the variations in syntactic behavior between *antes/prima* and *después/dopo*, we propose that both of them establish the same basic relation with both their base and their differential.

In order to syntactically formalize this basic relation, i.e. the algebraic operation that links the base (*el atentado/l'attentato*, in (22)) with the differential (*dos días/due giorni*, in (22)) we extend to our analysis what Kayne (1994:12) proposed to account for the coordinating constructions. The author suggests for phrases such as *John and Mary*, *three and eight*, etc., an antisymmetric representation, assuming that the nuclear element *and*, in Conj° of ConjP , behaves like an additive operator.¹⁷

Therefore, we propose that the starting point of the computational process subsumed by our complex temporal constructions (cf. (22)) can be represented in the following way:



As (27) shows, a diadic connective operator, call it *Con*, enters syntax in Con° projecting a Con(nective) Phrase. *Con*, provided with either the additive feature (+) or the subtractive feature (–), relates the constituent *YP* with the constituent *XP* in an antisymmetric fashion.

¹⁷. The same basic hypothesis has been adopted by Brucart (2008:6) for constructions such as (i) with the additive *más* ‘more’ in Spanish:

- (i) a. *Tus libros más los míos* formarán una gran biblioteca. (más as a symmetric additive)
 Brucart (2008, (3))
Lit. ‘Your books more the mines will constitute a big library’
- b. *La reparación duró una semana más de las dos previstas.* (más as an antisymmetric additive)
Lit. ‘The repairing lasted one week more of the_{Fem.Plu.} two expected’
- c. *Lee más libros que novelas.* (más as a comparative)
Lit. ‘(He) reads more books than novels’

In building up the internal structure of our temporal constructions, we propose that both *después/dopo* ‘after’ and *antes/prima* ‘before’ perform also the function of diadic operators, with an additive value, in the first case, and a subtractive value, in the second case.¹⁸ Evidence for this hypothesis is provided by the synonymity of the following pairs in Spanish:

- (28) a. Llegó dos días *más pronto* del atentado =
Lit. (s)he arrived two days more soon of the terroristic attack’
 Llegó dos días *antes* del atentado
 b. Llegó dos días *más tarde* del atentado =
Lit. ‘(s)he arrived two days more late of the terroristic attack’
 Llegó dos días *después* del atentado

These cases allow us to suggest that *antes/prima* and *después/dopo* should be analysed as lexical comparatives,¹⁹ and therefore endowed with the subtractive feature and the additive feature respectively. We also propose that the subtractive feature and the additive feature are interpretable in *antes/prima* and *después/dopo*.

In this way, from a configurational point of view, *antes/prima* and *después/dopo* enter syntax in the nuclear position Con°, triggering the subtractive or additive value of the projection ConP.²⁰

Furthemore, still concerning the structure in (27), we propose that XP and YP coincide with the positions in which the base and the differential enter syntax, as arguments of Con°. This hypothesis allows us to account for the fact that both of them must share a

¹⁸. The computational operation involving the additive operator and that involving the subtractive operator should be considered the same, even though, from the algebraic point of view, the addition and the subtraction can show different properties.

¹⁹. The hypothesis of *antes/prima* and *después/dopo* as lexical comparatives has been proposed by several authors. See Meyer-Lübke (1974) among others.

²⁰. An alternative hypothesis is to suggest that an abstract subtractive/additive operator, OP_{./+} enters syntax in the nuclear position Con°, and that this operator later incorporates to *antes/prima* or *después/dopo* that enter syntax in an immediately higher functional head (see section 4). Nevertheless, in this paper we will not investigate this alternative proposal.

(29) a. Se fue una hora antes de √ la medianoche. Spanish
 √ su llegada.
 * Navidad.

Se ne andò un'ora prima di √ mezzanotte. Italian
 √ il suo arrivo.
 * Natale.

Lit. '(He) left one hour before √ the midnight/√ his arrival/ *Christmas

b. Se fue dos días después de √ Navidad. Spanish
 √ su llegada.
 * la medianoche.

Se ne andò due giorni dopo √ Natale. Italian
 √ il suo arrivo.²²
 * la mezzanotte.

Lit. '(He) left two days after √ Christmas/√ his arrival/ *the midnight

In addition, differently from what happens in constructions with a coordinating conjunction, we propose that the two arguments XP and YP in (27) do not establish a symmetric relationship; in fact, these two terms of Con° cannot be commutable (*six and/plus five = five and/plus six*). These two arguments, instead, establish an asymmetric relationship, which has to be ascribed to some other information provided by *antes/prima* and *después/dopo*, i.e. a vectorial information, as we will argue in section 4. Evidence for this asymmetric relationship is also provided by the insertion, along the numeration, of a phonologically realized or unpronounced genitive Case

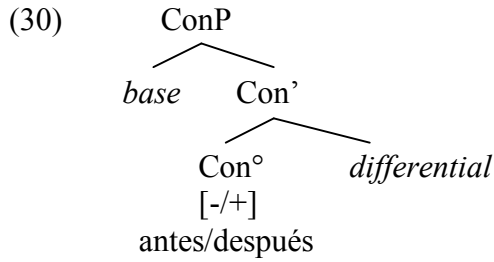
²¹. We refer the reader to the *Unit mismatch constraint* proposed by Giorgi and Pianesi (2003: 108) for a formalisation of this property.

²² The eventive nominals *su llegada/il suo arrivo* ‘his arrival’ can combine with both types of differentials –*una hora/un’ora* and *dos días/due giorni*– because they can refer to different time spans.

marker introducing a spelt-out portion of one of the two arguments (cf. section 2, (8)-(17)).

A further question relating to the structure in (27) is: which positions respectively do the base and the differential occupy in this structural configuration?

Concerning this, we propose that the base enter syntax in the SpecConP, while the differential in the complement position, as (30) shows:²³



This proposal, which considers the base as the external argument of the additive/subtractive *Con*, is suitable with the role of less prominent argument that the base takes from the point of view of the informative assembly of the construction itself (cf. Zubizarreta's (1998:71) *Nuclear Stress Rule Revised*). In addition, these positions for the base and the differential are also empirically motivated, as we will see in section 3.2 and 3.3.

3.2. Properties of the differential

The differential, which is an unavoidable term for the algebraic calculation subsumed by our complex temporal structure (cf. (22)), provides the temporal interval that the hearer has to add or subtract from the temporal value of the base. This term syntactically corresponds to a QP that denotes a measure, and its nucleus, Q, can be phonologically realized or unpronounced.²⁴ So, we can have the following cases:

²³. See Brucart (2008) for a similar proposal in his analysis of the comparative *más* 'more'.

²⁴. Other properties that can be measured, such as temperature, volume and length, among others, may be expressed by means of a measure QP. In these cases, the measure unit has to be semantically coherent with the relevant magnitude. In fact, there are measure units for longitudinal, surface or volume dimensions –*meter*, *square meter* and *cubic meter*, respectively–, for weight –*kilo*, *pound*, etc.–, for

- a) Q° can hosts a cardinal or an existential quantifier selecting a noun that denotes a portion of time –*un día/un giorno* ‘one day’; *varios meses/diversi mesi* ‘several months’; *pocos años/pochi anni* ‘few years’; *cinco minutes/cinque minuti* ‘five minutes’).
- b) The quantifier can also appear alone –*mucho antes/molto prima* ‘more before’; *poco después/poco dopo* ‘a few after’; *bastante antes/abbastanza prima* ‘enough before’; *demasiado después/troppo dopo* ‘too much after’). For these cases, we propose that the temporal unit corresponds to phonologically unrealized noun denoting a portion of time, i.e. a vague contiguous set of points in time, which is the complement of the quantifier itself: [QP mucho/molto [DP/NP [N *Portion of time*]]].²⁵
- c) The differential can also be phonologically unexpressed, (31). In these cases, its interpretation is equivalent to an undetermined segment of time.

- (31) a. [QP *Segment of time*] antes/ después del atentado Spanish
 b. [QP *Segment of time*] prima dell’attentato/ dopo l’attentato Italian
 ‘[QP *Segment of time*] before/ after the terrorist attack’
 = an undetermined segment of time before/ after the terrorist attack’

- d) The differential may also show up as a bare plural denoting a portion of time. A singular noun with the same denotation is always excluded, as the contrast in (32) show:

- (32) a. años después/ *año después Spanish
 anni dopo/ *anno dopo Italian
 ‘years after/ *year after’
 b. días antes/ *día antes Spanish
 giorni prima/*giorno prima²⁶ Italian
 ‘days before/ *day before’

pressure –*atmosphere*– and for other properties through which an object can be measured (cf. Rizzi (1988), Bosque (1997) and Sánchez López (1999) and (2006)).

²⁵. For a similar proposal in the domain of verb phrases, see Bosque and Masullo (1996).

²⁶. The noun *tiempo/tempo* ‘time’ appears in singular form when it perform the function of the differential :

- (i) a. tiempo antes / *tiempos antes tiempo después / *tiempos después Spanish
 b. tempo prima / *tempi prima tempo dopo / *tempi dopo Italian
 ‘time before/after/ *times before/after’

For cases like these, we suggest that the bare plural appears in the domain of a silent quantifier, [_{QP} Ø [_{DP} *e* [*años/anni*]]], which provides the bare plural itself with the quantitative/cardinal interpretation it needs in our constructions. In fact, as some authors argued, (cf. Longobardi (1990) and Laka (1996), among others), bare plurals do not display a quantitative/cardinal interpretation.

e) Finally, the differential may appear as a lexicalized quantitative expression such as: *una eternidad/un'eternità* 'one eternity', *un siglo/un secolo* 'one century' in their metaphorical or figurative use.

The relevant contexts where a measure QP may appear are described by Bosque (1997) and Sánchez López (2006). The authors argue that they are selected by certain prepositions or verbs. Nevertheless, they also can appear as specifiers of comparative adjectives and 'adverbs', such as *antes/prima* and *después/dopo*. If our hypothesis concerning the intrinsic value of *antes/prima* and *después/dopo* (cf. (27)) is on the right track –namely that they are provided with interpretable subtractive/ additive features–, we expect, according to Bosque (1997) and Sánchez López (2006), that there is only one structural position that can host measure QPs. They have to be selected as internal arguments by a nucleus such as P, V and Con. As we will see later, the differences between P and V, on the one hand, and Con, on the other, are due to the functional structure associated to comparative elements. Only when The QP is selected by Con can move to a higher position for the reasons we will suggest in section 4.

3.2.1. Measure QPs selected by prepositions

Some lexical prepositions, such as *durante/per* 'during/for', *dentro de/tra* 'in', etc., select a measure QP:

We propose that this property depends on the fact that the intrinsic interpretive value of *tiempo/tempo* 'time' subsumes an indefinite number of each of the nouns denoting a portion of time; *tiempo/tempo* 'time' can be composed of an indefinite number of moments, minutes, days, weeks, years, etc. Notice, furthermore, that in our temporal constructions its presence as differential prevents the phonologically realization of the base:

- | | | | | |
|---------|------------------------------|-----------|----------------------------------|-----------|
| (ii) a. | *Tiempo antes del atentado | (Spanish) | *Tempo prima dell'attentato | (Italian) |
| b. | Años/Días antes del atentado | (Spanish) | Anni/giorni prima dell'attentato | (Italian) |

- (33) a. No se hablaron durante años Spanish
 Non si sono parlati per anni Italian
 ‘They didn’t talk to each others for years’
- b. Llovió durante cuarenta días y cuarenta noches Spanish
 È piovuto per quaranta giorni e quaranta notti Italian
 ‘It rained during forty days and forty nights’
- (34) a. Se espera un cambio de tiempo dentro de dos días Spanish
 Ci si aspetta un cambiamento del tempo tra due giorni Italian
 ‘A change of weather is expected in two days’
- b. Llegará dentro de una semana Spanish
 Arriverà tra una settimana Italian
 ‘He will arrive in one week’

The interpretation of measure QPs depends on the lexical value of the preposition. In (33) the temporal preposition *durante/per* ‘during/ for’ selects a measure QP that expresses a span of time. In these cases, no computational process is involved because the speaker provides the hearer with the exact amount of units of time that the process denoted by the predicate will last or will take place. On the other hand, in (34) the PP *dentro de dos días/tra due giorni* ‘in two days’ indicates a quantity of contiguous points in time that must be summed up to the temporal point coinciding with the Speech Time of the sentence.²⁷ The temporal point coinciding with the Speech Time corresponds to the point in time from which the vector starts and that the preposition *dentro de/tra*²⁸ ‘in’ orientates to the future.²⁹ Therefore, in cases like these, *dentro de*

²⁷. See Smith’s (1981) and Hinrichs (1986) classification where this temporal preposition is analysed as ‘deictic’.

²⁸. We don’t consider the locative interpretation that *dentro de/tra* can also have because it is irrelevant for our argumentation.

²⁹. The temporal mismatch shown in (i) can be easily explained by the orientation to the future that *dentro de/tra* inherently possesses:

- | | | | | |
|-----|--------------------------|--------------------|------------|----------------|
| (i) | <i>*Llegó</i> | <i>dentro de</i> | dos días | <i>Spanish</i> |
| | <i>*Arrivò</i> | <i>tra</i> | due giorni | <i>Italian</i> |
| | PAST TENSE | FUTURE ORIENTATION | | |
| | ‘He arrived in two days’ | | | |

dos días/tra due giorni is similar, from an interpretive point of view, to *dos días después*:

- (35) Hoy es jueves día 11. Llegará dentro de dos días. Es decir, el sábado día 13 (11 + 2 días = sábado 13)
 Oggi è giovedì 11. Arriverà tra due giorni. Vale a dire, sabato 13 (11+2 giorni=sabato 13)
 ‘Today is Thursday, 11th. (He) will come in two days. Namely, Saturday 13th (11+2 days= Saturday 13th)’

Functional prepositions such as *en* (Spanish)/*in* (Italian) ‘for/ in’, among others, may introduce measure QPs that denote spans (36a) or points (36b) in the temporal axis:

- | | |
|---|----------------|
| (36) a. No hizo nada en dos días | <i>Spanish</i> |
| ?In due giorni non ha fatto nulla | <i>Italian</i> |
| ‘S/he has done anything during/ for two days’ | |
| b. Estará aquí en dos días | <i>Spanish</i> |
| Sarà qui in due giorni | <i>Italian</i> |
| ‘S/he will be here in two days’ | |

The span or punctual interpretation of the PP is obtained compositionally by the P, the aspectual value of the predicate and the Speech Time. In (36a), the QP *dos días/due giorni* ‘two days’ measures the temporal length of the process denoted by the predicate; whereas in (36b) the QP has a punctual interpretation that corresponds to the final point in the temporal axis. This unambiguous point in time has to be calculated by adding *dos días/due giorni* to the temporal point coinciding with the Speech Time, which represents the starting point in the temporal axis.

Correlative constructions that include two prepositions, such those in (37), are very close to temporal constructions headed by *antes* or *después*.³⁰ One of the two

³⁰. Other correlative constructions such (i) include two prepositions. The first one indicates the starting point in the temporal axis; while the second one, the final point:

- | | |
|---|----------------|
| (i) a. Estará con nosotros de Navidad a Año Nuevo/*siete días | <i>Spanish</i> |
| b. Starà con noi da Natale ad/fino all’Anno Nuovo/*sette giorni | <i>Italian</i> |
| ‘He will be with us from Christmas to New Year (*seven days) | |

prepositions introduces a measure QP *dos días/due giorni*; while the second one precedes the base *el atentado/l'attentato*:

- | | | |
|------|---|---------|
| (37) | A dos días del atentado | Spanish |
| | A due giorni dall'attentato | Italian |
| | <i>Lit.</i> 'At two days from the terrorist attack' | |

In Spanish, (37) is parallel, from an interpretive point of view, to 'two days before the terrorist attack'. It refers to a precise temporal point that has to be calculated by a subtractive operation. The corresponding Italian construction in (37) is, on the other hand, ambiguous: it can mean either 'two days before the terrorist attack' or 'two days after the terrorist attack', depending on the context.^{31,32}

The whole construction conveys a span interpretation and no measure QP is allowed, because it has to be inferred by calculating the amount of temporal units included between the starting point in time and the final point in time.

³¹ In this respect, compare the following Italian sentences:

- (i) a. A due giorni dall'arrivo del presidente non si sa ancora in quale hotel scenderà.
'Two days before the president's arrival, no one knows yet at which hotel he will stay'
- b. A due giorni dal disastro non si conosce ancora il numero delle vittime.
'Two days after the disaster, the total amount of victims is still unknown'

³² Data taken from CREA (*Corpus de Referencia del Español Actual*) show that a 25 per cent of Spanish native speakers interpret (37) as "two days after the terrorist attack". The only explanation we can suggest for this is that the preposition *a* has for these speakers a weak vectorial content that leaves open the direction in which the temporal axis is orientated, as we propose for the corresponding Italian construction (cf. section 4). In Spanish, the expression *a los dos días del atentado* with a definite article preceding the QP *dos días*, has only one possible reading, namely 'two days after the terrorist attack'. In this case, the only computational operation available is the addition. We haven't found any parallel examples in other Romance languages. The way in which the segment *two days* is interpreted as a differential besides the presence of a definite article, still remains unexplained.

3.2.2. Measure QPs selected by verbs

Measure QPs may also be selected by some verbs such as *durar/durare* ‘to last’, *prolongarse/prolungarsi* ‘to continue/persist’, *alargarse/allungarsi* ‘to lengthen’, *dilatarse/dilatarsi* ‘to lengthen’, *extenderse/estendersi* ‘to extend’, *adelantarse/anticipar(si)* ‘to put forward’, *prorrogarse/prorogarsi* ‘to extend’, and *atrasarse/ritardare* ‘to delay’, among others. This QP can sometimes be omitted: *El concierto duró/Il concerto durò* ‘the concert lasted’. According to its interpretation, that we can paraphrase as: ‘the concert lasted an undetermined (long) segment of time’. We propose that in cases like these a QP selected by the verb enters syntax but it does not realize phonologically. Some atelic verbs denoting activities may also be combined with a QP that measures the length in time (i.e. the duration in time) of the activity itself: *dormir pocas horas/dormire poche ore* ‘to sleep few hours’, *vivir cien años/vivere cent’anni* ‘to live one hundred years’, *caminar cinco días seguidos /camminare cinque giorni di seguito* ‘to walk five days straight’, *estudiar cinco años/ studiare cinque anni* ‘to study for five years’, *esperar diez minutos/aspettare dieci minuti* ‘to wait ten minutes’, etc. In all these cases the measure QP is interpreted as a span of time and, therefore, no computational operation is required. In contrast, the Spanish impersonal verb *hacer* conveying a temporal meaning, (38) requires a calculation in order to deduce the corresponding precise point in time to which the construction refers:

- (38) Hacer dos días/ tres horas/ poco/ mucho
 Lit.: Does two days/ three hours/ few/ a lot
 ‘two days/ three hours/ a few time/ a lot of time ago’

The precise point in the temporal axis is calculated subtracting the differential *two days* from the point indicated by the Speech Time, which represents the initial point of the vectorial extension (i.e. the base). The verb *hace* orientates this temporal axis to the past.

3.3.3. Measure QPs selected by *Con*

Both in Spanish and Italian, measure QPs can appear modifying some comparative adjectives and adverbs,³³ as (39) shows:

- | | | |
|---------|--|----------------|
| (39) a. | diez años más joven/ viejo | <i>Spanish</i> |
| | dieci anni più giovane/ vecchio | <i>Italian</i> |
| | <i>Lit.</i> ‘ten years more young/old’ | |

³³ In Spanish, the functional preposition *tras* conveys both locative and temporal meaning (cf. (i)). Notice that the second interpretation is synonymous with our complex temporal particle *después* (cf. (ib)).

- (i) a. La puerta se cerró tras él/ Todos van tras la recompensa
 ‘The door closed behind him/ They are all after the reward’
- b. tras los incidentes de ayer/ tras esta aplastante derrota = después de los incidentes de ayer/ después de esta aplastante derrota
 ‘after yesterday’s incidents/ after this crushing defeat’

However *tras*, unlike *después*, behaves as a functional preposition: it obligatorily requires a complement and does not allow the presence of a Case marker. Furthermore, *tras* cannot co-occur with a differential. All these properties are illustrated in (ii).

- (ii) a. tras *(el atentado)/ después (del atentado)
 ‘after the terrorist attack’
- b. tras *(de) el atentado/ después *(de) el atentado
- c. *dos días tras/ dos días después
 ‘two days after’

The intransitive adverb *atrás* (from: prep *a* + prep *tras*) may also express locative and temporal meanings as its basic form *tras*. *Atrás*, unlike *tras*, may appear with a differential. In its temporal meaning *atrás* is synonymous with our temporal complex construction *antes*.

- | | | |
|----------|-------------------------|--------------------------------|
| (iii) a. | dos calles atrás | <i>Locative interpretation</i> |
| | ‘two streets backwards’ | |
| b. | dos años atrás/ antes | <i>Temporal interpretation</i> |
| | ‘two years ago’ | |

We will go deeper into the similarities between *tras*/ *atrás* and *antes*/ *después* in future researches.

- | | |
|--|----------------|
| b. diez años menos joven/ viejo | <i>Spanish</i> |
| dieci anni meno giovane/ vecchio | <i>Italian</i> |
| <i>Lit.</i> ‘ten years less young/old’ | |
| c. tres horas más tarde/ pronto | <i>Spanish</i> |
| tre ore più tardi | <i>Italian</i> |
| <i>Lit.</i> ‘ten years more late/soon’ | |

In Spanish, measure QPs can also appear modifying lexical comparatives, such as the adjectives *mayor/menor* ‘older’/‘younger’, and, both in Spanish and Italian, the temporal “adverbs” *antes/prima* and *después/dopo*.

- | | |
|---------------------------------------|----------------|
| (40) a. diez años menor/ mayor | <i>Spanish</i> |
| <i>Lit.</i> ‘ten years younger/older’ | |
| b. dos días antes/ después | <i>Spanish</i> |
| due giorni prima/ dopo | <i>Italian</i> |
| ‘two days before/ after’ | |

As we have suggested in section 3.1. (cf. (27)), lexical comparatives are inherently endowed with a feature, *Con* (+/-), that licenses a measure QP as internal argument. It is for this reason, then, that constructions such as (41) are ungrammatical, because pleonastic:

- | | |
|---|----------------|
| (41) a. *diez años más menor/ más mayor ³⁴ | <i>Spanish</i> |
| <i>Lit.</i> ‘ten years more younger/ more older’ | |
| b. *dos días más antes/ más después | <i>Spanish</i> |
| *due giorni più prima/ più dopo | <i>Italian</i> |
| *‘two days more before/ more after’ | |

Measure QPs in comparative contexts differ from QPs selected by prepositions and verbs in three main properties: first of all, they are optional, as the contrasts in (42)

³⁴. In Spanish examples such as those in (41a) can easily be found in CREA database, mainly in oral discourse. We argue that in cases like these the speaker applies the regular rule to obtain comparative adjectives, even though the adjective is inherently comparative. Instead, pleonastic constructions are much more restricted in cases with temporal ‘adverbs’, (41b).

show; furthermore, they can appear preceding *Con°*, (43); and finally, their base is external to the construction in which the selecting category appears.³⁵

- | | | | |
|---------|-----------------------|-----|------------------------------------|
| (42) a. | dentro de *(dos días) | | Spanish |
| | tra *(due giorni) | | Italian |
| | ‘in two days’ | | |
| b. | hace *(dos días) | | Spanish |
| | *(due giorni) fa | | Italian |
| | ‘two days ago’ | | |
| c. | (dos días) después | | Spanish |
| | (due giorni) después | | Italian |
| | ‘(two days) after’ | | |
| | | | |
| (43) a. | dentro de dos días | vs. | *dos días dentro |
| | tra due giorni | vs. | *due giorni tra |
| | ‘in two days’ | | |
| b. | hace dos días | vs. | *dos días hace ³⁶ |
| c. | dos días después | vs. | #después de dos días ³⁷ |

At this point, the following question arise:

Why may the measure QP move higher crossing the nucleus in comparative constructions, whereas it has to be merged in its basic position when the selecting nucleus is a P or a V?

To account for this difference, we will focus on the cases presented in (43a) and (43c). Both the preposition *dentro de/tra* ‘in’ and the temporal particle *después/dopo* ‘after’

³⁵. This last property will be discussed in section 4.

³⁶. In Italian and English, in the corresponding constructions the differential appears preposed: *due giorni fa* and *two days ago*. In Contemporary Spanish, however, the same relative order is still available in semi-frozen constructions such as *un año a* (*Lit.*: ‘one year have _{3pers.sing.} ‘one year ago’). In addition, as Keniston (1937: 426) and Kany (1970: 262-4) noted, some American-Spanish varieties adopted this Old Spanish semi-frozen structure until XVIII century. These data seem to suggest that in some languages the differential may undergo a grammaticalisation process in order to move up to a higher position. We will go into this topic in further research.

³⁷. The contrast between examples in (43b) will be explained later on in the same section.

select the measure QP *dos días/due giorni* ‘two days’ as internal argument, but only the latter is inherently endowed with some features that are able to project a functional architecture upwards.³⁸

In addition, we propose that measurement nouns, such as *día/giorno* ‘day’, *mes/mese*, ‘month’, *año/anno* ‘year’, *minuto/minuto* ‘minute’, etc., which appear as complements of Q in the measure QPs, have some special interpretive properties that allow them to raise upwards in the structure if there is an available position that can host them (cf. sections 3.1. and 4).

Bosque (1997) pointed out that nouns such as *día*, *mes*, and *año* are interpretive ambiguous. They can refer either to an entity, as in cases such as (44), or to a measure unit, as in (45). According to the author, when the noun *día*, for example, is used as a measure unit, (45), it lacks the semantic extension that characterizes common nouns and, therefore, it cannot be modified by restrictive complements or modifiers, in sharp contrast with those contexts in which the same noun is used as an entity, (44).

- | | | |
|---------|---|----------------|
| (44) a. | Juan llegó un día de enero/ lluvioso | <i>Spanish</i> |
| | Gianni arrivò un giorno di gennaio/ piovoso | <i>Italian</i> |
| | <i>Lit.</i> ‘John arrived a day of January/ a rainy day’ | |
| b. | Aplazamos la fiesta para un día de enero/ lluvioso | <i>Spanish</i> |
| | Posticipammo la festa ad un giorno di gennaio/ piovoso | <i>Italian</i> |
| | <i>Lit.</i> ‘We postponed the party to one day of January/ one rainy day’ | |
| (45) a. | Tardó un día (*de enero/ *lluvioso) | <i>Spanish</i> |
| | *Ci mise un giorno (*di gennaio/ *piovoso) | <i>Italian</i> |
| | ‘S/he lasted one day (*of January/ *one rainy day)’ | |
| b. | dentro de un día (*de enero/ *lluvioso) | <i>Spanish</i> |
| | tra un giorno (*di gennaio/ *piovoso) | <i>Italian</i> |
| | ‘in one day (*of January/ *one rainy day)’ | |

This generalization holds also for the differential in our complex temporal constructions. In fact, as (46) and (47) show, restrictive complements or modifiers are

³⁸. The properties of these higher functional categories will be presented in section 4.

allowed only when the QP *dos días/due giorni* appears *antes/prima* and *después/dopo*.^{39,40}

- | | | |
|---------|---|----------------------------------|
| (46) a. | *dos días de lluvia después
*due giorni di pioggia dopo
<i>Lit.</i> ‘*two days of rain after’ | <i>Spanish</i>
<i>Italian</i> |
| b. | *dos días agotadores después
*due giorni estenuanti dopo
<i>Lit.</i> ‘*two days exhausting after’ | <i>Spanish</i>
<i>Italian</i> |
| c. | *dos días fríos después
*due giorni freddi dopo ⁴¹
<i>Lit.</i> ‘*two days cold after’ | <i>Spanish</i>
<i>Italian</i> |

³⁹. However, the noun which forms part of the differential can be modified by preposed evaluative adjectives, as we can observe in (i):

- | | | |
|--------|--|----------------------------------|
| (i) a. | dos inolvidables días antes
??due indimenticabili giorni prima
<i>Lit.</i> ‘two unforgettable days before’ | <i>Spanish</i>
<i>Italian</i> |
| b. | tres agotadoras semanas después
?tre estenuanti settimane dopo
<i>Lit.</i> ‘*three exhausting days after’ | <i>Spanish</i>
<i>Italian</i> |

We suggest that these cases should not be considered counterexamples to our generalization, because they don’t restrict the semantic value of the noun. See Bosque and Picallo (1997) for more details about the behavior and interpretation of evaluative adjectives preceding and following the head N.

⁴⁰. A different proposal for nouns such as *day*, *week*, *year*, etc., is suggested by Cinque (2006). The author, observing what happens in numeral classifier languages, which lack a classifier in these nouns, argues that they are numeral classifiers, and extends this analysis also to the traditional ‘non numeral classifier languages’, as Italian and English.

⁴¹. Relational adjectives, such as *academic*, *festive*, etc., have restrictive value. Nevertheless, they can appear preceding the noun of our differentials:

- | | | |
|--------|---|----------------------------------|
| (i) a. | Un año académico después
Un anno accademico dopo
<i>Lit.</i> ‘a year academic after’ | <i>Spanish</i>
<i>Italian</i> |
| b. | dos días festivos después
?due giorni festivi dopo
<i>Lit.</i> ‘two days holiday after’ | <i>Spanish</i>
<i>Italian</i> |

- | | | |
|---------|---|---------|
| (47) a. | después de dos días de lluvia | Spanish |
| | dopo due giorni di pioggia | Italian |
| | <i>Lit.</i> ‘after two days of rain’ | |
| b. | después de dos días agotadores | Spanish |
| | dopo due giorni estenuanti | Italian |
| | <i>Lit.</i> ‘after two days exhausting’ | |
| c. | después de dos días fríos | Spanish |
| | dopo due giorni freddi | Italian |
| | <i>Lit.</i> ‘after two days cold’ | |

Some speakers consider *después de dos días/dopo due giorni* and *dos días después/due giorni dopo* synonymous. Nevertheless, there is a slight difference between the two constructions we present in (48):

- | | | |
|---------|--|---------|
| (48) a. | Después de dos días, el pescado huele mal. | Spanish |
| | Dopo due giorni, il pesce manda cattivo odore. | Italian |
| | <i>Lit.</i> ‘After of/Ø two days, the fish smells badly’ | |
| b. | Dos días después, el pescado huele mal. | Spanish |
| | Due giorni dopo, il pesce manda cattivo odore. | Italian |
| | <i>Lit.</i> ‘Two days after, the fish smells badly’ | |

As we can observe, in (48a) the speaker refers to a point in time. This point in time is inferred by the base *después de [haber pasado] dos días/dopo [essere passati] due giorni* (cf. (57)-(58)).⁴²

In (48b), on the other hand, the expression *de dos días/dopo due giorni* corresponds to the differential, while the base is unpronounced. It is for this reason that the sentence is odd if uttered out-of-the-blue fashion (cf. section 3.3.).

According to Bosque (1997), we propose that these cases are not counterexamples to our generalization because in these contexts the noun plus the adjective give rise to a new and different unit of measure.

⁴². Notice that in (48a) the point in time, which corresponds to the base, may also be expressed by additional information, (cf. (47)):

- | | | |
|--------|--|---------|
| (i) a. | Después de dos días fuera del congelador, el pescado huele mal. | Spanish |
| | Dopo due giorni fuori dal congelatore, il pesce manda cattivo odore. | Italian |
| | <i>Lit.</i> ‘After two days out of the freezer, the fish smells badly’ | |

Furthermore, in sentences such as (48b) the preposed QP *dos días/due giorni* may co-occur with a postposed QP, as (49) shows:

- (49) *Dos días después de dos días de juerga, aún me dolía la cabeza.* *Spanish*
Due giorni dopo due giorni di festeggiamenti, mi faceva ancora male la testa. *Italian*
Lit. 'Two days after two days of celebrations my head still aches'

In cases like these, the QP, *dos días de juerga/due giorni di festeggiamenti* 'two days of celebration', is interpreted as the base of the computational process. In fact, this QP refers to an entity, and, therefore, it is discourse linked. On the other hand, the QP *dos días/due giorni* 'two days' refers to a measure unit, and, for this reason, it cannot be associated to a concrete temporal segment in the real world.

According to these syntactic and interpretive behaviours, we propose that a QP with measure value can be selected as internal argument by the following categories: P, V and Con; and it can move up if the two following main conditions are fulfilled:

- a) Its nominal complement is endowed with some interpretive features (i.e. it cannot refer to an entity)
- b) there is a higher landing site available in the functional architecture that the selecting category projects.

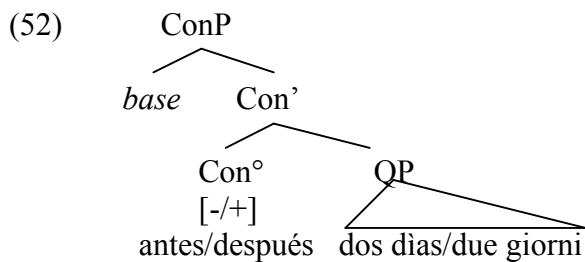
The first condition is satisfied by the measure QP complement of Ps and Vs, but the second one isn't. For this reason it cannot move up.

Furthermore, some diachronic data from Old Italian, (50), and Old Spanish, (51), provide additional evidence that supports our hypothesis, namely that in our temporal constructions the differential enters syntax in the complement position of *antes/prima* and *después/dopo*. In fact, in previous stages of the two Romance languages the differential could also appear following the base:

- (50) a. "Aristarco dice lui essere stato *dopo l' emigrazione ionica cento anni*, regnante Ecestrato,..." [OVI (Opera del Vocabolario Italiano): *Boccaccio, Esposizioni*, 1373-74 [c. IV (i), par. 110 | page 197]]
Lit. '...after the emigration Ionic one hundred years...'
 b. "Ripuosò Giovanni in Gierusalem ed in Giudea *dopo la morte di Cristo XL anni*,..." [OVI (Opera del Vocabolario Italiano): *Legg. sacre Mgl.II.IV.56*, 1373 (fior.) [Legg. di S. Giovanni | page 26]]
Lit. '...after the death of Christ sixty years...'

- (51) a. "...después de çercado quatro meses, entraron la villa"
 [CORDE: Lope García de Salazar, *Istoria de las bienandanzas e fortunas* 1471 – 1476]
Lit. '...after laying siege four months,...'
- b. "...y después de tomada Troya çiento y ochenta años."
 [CORDE: Juan de Mena, *Homero romanizado*, 1442]
Lit. '...and after conquered Troy one hundred and eigthy years.'

In this way, the diagram we proposed in (30) can be represented as (52):



3.3. Properties of the base

As we have presented in section 1, the base of our complex temporal constructions that occupies the specifier position of ConP, (30), can appear phonologically realized either as a sentence or as a nominal expression, as the examples in (3b-c) and (4b-c), repeated below in (53) and (54), show:

- (53) a. Llegó (dos días) antes/después (de) que ocurriera el atentado/
 de ocurrir el atentado. *Spanish*
 ‘S/he arrived (two days) before/after the terrorist attack took_{Subj.Past} place/ the
 terrorist attack take_{Inf.} place
- b. Llegó (dos días) antes/después del atentado.
 ‘S/he arrived (two days) before/after the terrorist attack’
- (54) a. Arrivò (due giorni) prima che avesse luogo l’attentato/dopo che ebbe luogo
 l’attentato. *Italian*
 ‘S/he arrived (two days) before the terrorist attack took_{Subj.Past} place/ after the
 terrorist attack took_{Ind.Past} place’
- b. Arrivò (due giorni) prima dell’attentato/dopo l’attentato.
 ‘S/he arrived (two days) before of the terrorist attack/after the terrorist attack’

On the other hand, when the base is a nominal expression, it may correspond either to nominals that denote an event, as in (53b)-(54b) and (55):

- or to nominals that express a temporal unit or a temporal segment, as (56) shows:

- ⁴³ 'Temporal' nouns such as *Navidad/Natale* 'Christmas' and *enero/gennaio* 'January' do not admit the definite article because they behave like proper names.

Nevertheless, in the domain of nominal expressions there exist cases in which the base is neither a nominal that denotes an event nor a ‘temporal’ nominal:

- | | | |
|---------|--|----------------|
| (57) a. | Le gusta una copa de coñac antes del puro. | <i>Spanish</i> |
| | Gli piace un bicchiere di cognac prima del sigaro. | <i>Italian</i> |
| | ‘He likes a glass of brandy before the cigar’ | |
| b. | Juan entregó el documento después de María. | <i>Spanish</i> |
| | Gianni consegnò il documento dopo Maria. | <i>Italian</i> |
| | ‘John handed in the document after Mary’ | |
| c. | Se cansó de la novela después de las primeras páginas. | <i>Spanish</i> |
| | Si stancò del romanzo dopo le prime pagine. | <i>Italian</i> |
| | ‘He grew weary of the novel after the first pages’ | |

Cases like these should not be considered counterexamples to the requirement we have just proposed. In fact, despite the nominals *el puro/il sigaro*, *Maria* and *las primeras páginas/le prime pagine* designate an object, we can easily infer that also in these cases the bases are able to express an eventive information. According to Bosque’s (1990, 1999:265) proposal,⁴⁴ we suggest that in (57) the respective bases correspond to a more complex structure, namely a sentential structure where the verb and/or the predicate though unpronounced are syntactically and interpretatively present:

- | | | |
|---------|---|----------------|
| (58) a. | ...antes de (fumar) el puro | <i>Spanish</i> |
| | ...prima di (fumare) il sigaro | <i>Italian</i> |
| | <i>Lit.</i> ‘... before of (smoking) the cigar’ | |
| b. | ...después de (entregarlo) María | <i>Spanish</i> |
| | ...dopo (averlo consegnato) Maria | <i>Italian</i> |
| | <i>Lit.</i> ‘...after of (handing in it) Mary’ | |
| c. | ...después de (leer) las primeras páginas | <i>Spanish</i> |
| | ...dopo (aver letto) le prime pagine | <i>Italian</i> |
| | <i>Lit.</i> ‘...after of (reading) the first pages’ | |

⁴⁴. As Bosque (1990) suggests, in cases like (57): “se sobreentiende [...] un verbo que se asocia léxicamente con el sustantivo, y que denota la entrada en acción o en funcionamiento del objeto que se designa, o bien alguna actividad en la que es participante habitual” (p.52).

This possibility is attributable to the fact that the content of the verb and/or the predicate can be recovered through pragmatic or syntactic processes.

The requirement that the base has to denote an event in order to express a temporal point can also account for the fact that, when the base corresponds to a sentence or to a nominal denoting an event, these expressions cannot appear in the domain of a negation. The negation, in fact, preventing the event denoted by the verb or by the nominal from taking place, also prevents the base from corresponding to a point in the temporal axis, as the ungrammaticality of (59) and (60) show:⁴⁵

- | | | |
|---------|---|----------------|
| (59) a. | *Apagó la calefacción antes de no salir. | <i>Spanish</i> |
| | *Spense il riscaldamento prima di non uscire. | <i>Italian</i> |
| | <i>Lit.</i> ‘He turned off the heating before of not to go out’ | |
| b. | *Cerró la puerta después de no llegar. | <i>Spanish</i> |
| | *Chiuse la porta dopo non essere arrivato. | <i>Italian</i> |
| | <i>Lit.</i> ‘He closed the door after of/Ø not arrive/not been arrived’ | |
| (60) a. | *Apagó la calefacción antes de la no salida. | <i>Spanish</i> |
| | *Spense il riscaldamento prima della non uscita. | <i>Italian</i> |
| | <i>Lit.</i> ‘He turned off the heating before of his not going out’ | |
| b. | *Cerró la puerta después de la no llegada. | <i>Spanish</i> |
| | *Chiuse la porta dopo il non arrivo. | <i>Italian</i> |
| | <i>Lit.</i> ‘He closed the door after of/Ø his not arrival’ | |

Nevertheless, there exist cases in which a non-expletive negation can appear in such domains, as the grammaticality of (61) shows:

- | | | |
|---------|---|----------------|
| (61) a. | Antes/después de no ser aceptado en la Universidad | <i>Spanish</i> |
| | Prima di/dopo non essere accettato all’Università | <i>Italian</i> |
| | <i>Lit.</i> ‘Before/after not to be accepted at the University’ | |
| b. | Antes/después de la no caída del gobierno | <i>Spanish</i> |
| | Prima di/dopo la non caduta del governo | <i>Italian</i> |
| | <i>Lit.</i> ‘“Before/after the not fall of the Government’ | |

⁴⁵. For cases like these, see Bertinetto (1982) and García Fernández (2000).

For constructions like these, we suggest that, despite the presence of the negation, the respective bases are able, in any case, to express an event and therefore a point in the temporal axis. Their interpretation, in fact, can be paraphrased as: “a concrete event corresponding to the fact that the event denoted by the predicate/eventive nominal, and that one expected to have been taken place, did not take place”.⁴⁶

In those cases in which the base is represented by a nominal expression, expressing this nominal an event or a ‘temporal’ unit is not the unique requirement that it has to satisfy. In order to indicate or to be associated with a concrete point in the temporal axis, the nominal expression followed by *antes/prima* and, in particular, by *después/dopo* must also receive a ‘specific’ or referential interpretation. This requirement allows the whole complex temporal expression to work as a punctual localization in the temporal axis, as Bertinetto (1982) proposes (cf. section 3.1). Furthermore, the same requirement allows us to account for a series of empirical data such as the following:

a) the eventive nominal expression when preceded by *después/dopo* cannot be modified by the intensional adjective *posible/possibile* ‘possible’.⁴⁷

- (62) a. *Llegó/Ha llegado/Llegaba después del posible atentado. Spanish
 *Arrivò/ E’ arrivato/ Arrivava dopo il possibile attentato. Italian⁴⁸
 Lit. ‘He arrived/ has arrived/arrived_{Imp} after (of) the possible terrorist attack’

⁴⁶. This interpretation can depend on the co-occurrence of different properties: the type of the eventive nominals, the tense of the main verb, etc. that we will not explore in this paper.

⁴⁷. It seems that, among all the intensional adjectives, only *posible/possibile* ‘possible’ is able to cancel the ‘factuality’, and the deictic referentiality, of the eventive nominal expression followed by *después/dopo*, namely the base. In fact, other intensional adjectives, such as *probable/probable* ‘probable’ and *presunto/presunto* ‘alleged’, can appear in the same contexts:

- (i) Llegó después del *probable/presunto* atentado. Spanish
 Arrivò dopo il *probabile/presunto* attentato. Italian
 Lit. ‘He Arrived after (of) the probable/alleged terrorist attack’

As for the grammaticality of (i), we suggest that in both cases the modified nominals are able to indicate a concrete temporal point because *probable atentado/probable attentato* and *presunto atentado/presunto attentato* are interpreted as “the tragic event that probably was a terrorist attack” and “the tragic event that presumably was a terrorist attack” respectively.

⁴⁸. When the the verb is in the future, the adjective *posible/possibile* can modify the eventive nominal expressing the base:

- (i) ?Llegará después del *posible* atentado. Spanish

- b. *Fue a dormir después de la posible llegada de su hija. *Spanish*
 *Se ne andò a dormire dopo il possibile arrivo di sua figlia. *Italian*
Lit. ‘He went to sleep after (of) the possible arrival of his daughter’
- c. *Se cansó de la novela después de las posibles primeras páginas. *Spanish*
 *Si stancò del romanzo dopo le possibili prime pagine.⁴⁹ *Italian*
Lit. ‘He got tired of the novel after the possible first pages’

b) when the main verb appears in past form, the eventive nominal expression preceded by *antes/prima* and *después/dopo* cannot have an existential interpretation:

- (63) a. Llegó/Ha llegado/Llegaba antes/después de una fiesta. *Spanish*
 Arrivò/È arrivato/Arrivava prima di/dopo una festa. *Italian*
Lit. ‘He arrived/ has arrived/arrived_{Impf} before/after (of) a party’
- b. *Llegó/Ha llegado/Llegaba antes/después de una fiesta cualquiera. *Spanish*
 *Arrivò/È arrivato/Arrivava prima di/dopo una festa qualsiasi. *Italian*
Lit. ‘He arrived/ has arrived/arrived_{Impf} before/after (of) a any party’
- c. Llegó/Ha llegado/Llegaba antes/después de una (determinada) fiesta (determinada). *Spanish*
 Arrivò/È arrivato/Arrivava prima di/dopo una (determinata) festa (determinata). *Italian*
Lit. ‘He arrived/ has arrived/arrived_{Impf} before/after (of) a certain party’
- d. Llegó/Ha llegado/Llegaba antes/después de una de las fiestas. *Spanish*
 Arrivò/È arrivato/Arrivava prima di/dopo una delle feste. *Italian*
Lit. ‘He arrived/ has arrived/arrived_{Impf} before/after (of) one of the parties’

Comparing the sentences in (63), we can observe that the indefinite nominal expression *una fiesta/una festa* in (63a) can only receive either a wide scope interpretation, (63c), or a D-Linking interpretation, (63d), as the ungrammaticality of (63b) shows.⁵⁰

??Arriverà dopo il possibile attentato.

Italian

Lit. ‘He Arrived after (of) the possible terrorist attack’

Probably, this possibility depends on the fact that an event oriented to the future does not necessarily need a temporal reference with deictic value.

⁴⁹. With *antes/prima* the sentences in (61a-b) improve, probably due to the lexical and grammatical aspect of the verbs and the counterfactual value that *antes/prima* can have (cf. section 3.1).

c) finally, the eventive nominal expression preceded by *antes/prima* and *después/dopo* can never appear as a bare plural:

- (64) a. Engordó después de *(los) embarazos. *Spanish*
 Si ingrassò dopo *(le) gravidanze. *Italian*
 Lit. ‘She got fat after (of) *(the) pregnancies’
- b. Enmudeció después de *(los) hechos. *Spanish*
 Si ammutolì dopo *(i) fatti. *Italian*
 Lit. ‘He fell silent after (of) *(the) events’
- c. Se durmió después de *(los) anuncios. *Spanish*
 Si addormentò dopo *(i) consigli per gli acquisti. *Italian*
 Lit. ‘He fell asleep after (of) *(the) TV advertisements’

In fact, bare plurals behave like existential nominal expressions (cf. Longobardi (1994) and Brugè and Brugger (1996) among others).⁵¹

As we have seen in section 1 (cf. (3a) and (4a)), *antes/prima* and *después/dopo* do not necessarily require that the base is phonologically expressed:

- (65) Llegó/Ha llegado/Llegará (dos días) antes/después. *Spanish*
 Arrivò/È arrivato/Arriverà (due giorni) prima/dopo. *Italian*
 ‘S/he arrived/Has arrived/Will arrived (two days) before/after’

⁵⁰. Notice that this requirement has not to be met in those cases in which the indefinite nominal is bound by overt adverbial quantifiers such as *siempre/sempr* ‘always’, which provide the whole sentence with a quantificational generic interpretation (cf. Heim (1982) and Diesing (1992), as (i) shows:

- (i) Siempre hay alboroto después de un atentado. *Spanish*
 C’è sempre confusione dopo un attentato. *Italian*
 Lit. ‘Always there is confusion after a terrorist attack’

⁵¹. Cases like *después de meses/años/siglos* (Spanish) or *dopo mesi/anni/secoli* (Italian) *lit.* ‘after (of) months/years/centuries’ should not be considered as counterexamples to the requirement we propose. In fact, as we have suggested in section 3.2., in these constructions the bare plurals, dominated by an empty quantifier, correspond to the differential and not to the base.

In the literature these constructions are known as ‘*anaphoric temporal locutions*’,⁵² given that, in order to be interpreted, they require a temporal/eventive antecedent in the sentence or in the previous discourse with which corefer (cf. García Fernández (2000 cap.11), Pavón (2003:307-309), Giorgi and Pianesi (2003), among others). This property accounts for the fact that, from an interpretive point of view, sentences like (65) are odd if uttered out-of-the-blue, while sentences like (66) and (67) are felicitous because the ‘anaphoric locution’ can build its reference sentence-internally and from the temporal phrase previously introduced in the discourse, respectively:

- (66) a. Juan llegó el 15 de abril y Pablo llegó (dos días) antes/después. *Spanish*
 Gianni arrivò il 15 aprile e Paolo arrivò (due giorni) prima/dopo. *Italian*
 ‘John arrived on April 15rd and Paul arrived (two days) after/before’
- (67) A: Pablo llegó el 15 de abril. Paolo arrivò il 15 aprile.
 ‘Paul arrived on April 15rd’
 B: No. Llegó (dos días) antes/después. No. Arrivò (due giorni) prima/dopo.
 ‘Oh no. He arrived (two days) after/before’

The oddness of (65), compared with the felicity of (66) and (67), suggests that also in cases like (65) the base is necessary, at least from the interpretive point of view: if the context does not provide a suitable antecedent that is able to indicate a concrete point in time, the computational process involved in our complex temporal constructions cannot take place.

In this way, and according to Giorgi and Pianesi’s (2003) analysis,⁵³ among others, we propose that the additive/subtractive Operator always projects the base, i.e. its argument

⁵². ‘*Anaphoric temporal locutions*’ are opposed to ‘*indexical temporal locutions*’, namely to expressions such as *Monday, yesterday, on September 23rd, on/at Christmas*, etc.

⁵³. Giorgi and Pianesi (2003), to which we refer the reader, suggest that in Italian anaphoric locutions such as *il giorno prima/dopo* ‘the day after/before’ are anaphoric phrases that contain a phonetically unpronounced temporal variable, e.g. *il giorno prima/dopo x* ‘the day before/after x’ and, studying the distribution of these expressions both in matrix and in embedded contexts, propose an analysis that formally describe how the variable can take its reference. As for matrix contexts, the authors argue that the temporal variable can corefer with the Reference Time (R) of the temporal structure (cf. Reichenbach (1947)). However, this possibility is ruled by a series of conditions, and, among them, those cases in

in SpecConP (cf. (30)), given that it represents the starting point for the computational process itself, as we have said before; in those cases in which this argument is not phonologically expressed, (65), the value of the unpronounced base is determined by its anaphoric linking with a temporal or an eventive referential referent previously introduced in the relevant context.⁵⁴

So far we have argued that the base must indicate a concrete and definite point in time; this indication allows the computational process required by our temporal constructions to take place. We have also seen that the base may be phonologically expressed as eventive nominals, ‘temporal’ nominals and sentences. As for all these linguistic expressions, however, it seems hard to state that they are inherently endowed with some features that allow them to hold the function the base requires. In fact, as we can see in (68), these expressions can also appear in constructions in which they must not be associated with a point in time, but expressing an argument of the main verb:

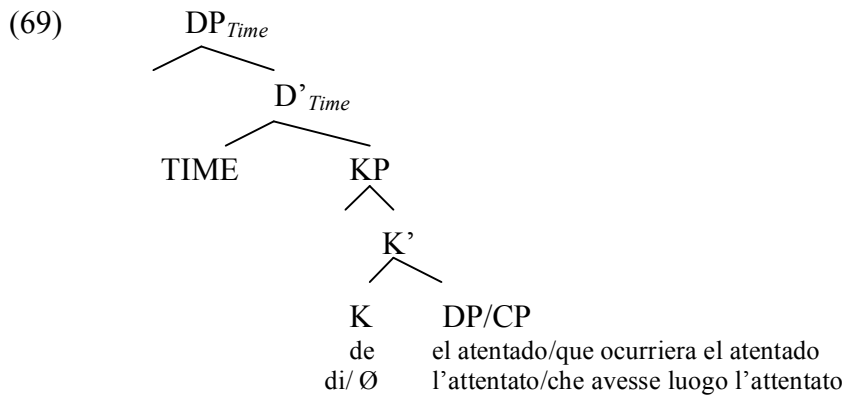
- (68) a. *El atentado* no hizo víctimas. Spanish
 L’attentato non ha fatto vittime. Italian
 Lit. ‘The terrorist attack didn’t make victims’
- b. Todos temían *que ocurriera el atentado*. Spanish
 Tutti temevano *che avesse luogo l’attentato*. Italian
 ‘Everybody feared that the terrorist attack took_{Subj.Past} place’
- c. Muchos odian *la Navidad/el domingo/el 15 de abril*. Spanish
 Molti odiano *il Natale/la domenica/il 15 aprile*. Italian
 Lit. ‘Many people hate the Christmas/the sunday/the april 15rd’

which the Reference Time coincides with the Speech Time (S), given that the temporal variable can never refer to the Speech Time. In this way, they account for the oddness of sentences in present perfect, such as: #*Gianni è partito il giorno prima/dopo* ‘G. left the day before/after’, where S=R. Nevertheless, we can observe that the oddness we can find in sentences in present perfect, is the same that involve sentences in past perfect and in future tense, (65), even though, in both cases, S does not coincides with R, according to Reichenbach’s (1947:297) temporal representation. In this paper we don’t tackle this topic.

⁵⁴. For a formal proposal through which the base is coindexed with a temporal or an eventive referential referent previously introduced in the relevant context, we refer the reader to Higginbotham (1985, 1987) and Zwarts (1992), among others.

These behaviors suggest that these expressions, in order to meet the requirements the base needs, should be part of a more complex syntactic structure that can correspond to the following paraphrasis: *the time of the terrorist attack/the time the terrorist attack took place* (cf. (22)).

We propose, then, extending Kayne's (2005a, 2005b) analysis to our temporal constructions, that those linguistic expressions that display the function of the base are actually complements of a non-pronounced head TIME, as (69) shows:



The DP *el atentado/l'attentato* and the CP *que ocurriera el atentado/che avesse luogo l'attentato* are selected by the head TIME, which is able to refer to a specific temporal point, and are in a possessor relation to it.⁵⁵

We propose that the referential interpretation that the base must express is obtained by inheritance from the referential interpretation of the DP.

The functional preposition *de/di* 'of', on the other hand, represents the lexical manifestation of the possessor relation between the head TIME and the DP/CP. In Romance languages, furthermore, it must, can or cannot appear phonologically realized depending both on the nature of the subtractive or additive operator and on the formal properties of the complement of the head TIME. In section 2 we have seen that in

⁵⁵. The complex internal structure we propose for the base could also justify the fact that in Spanish the base cannot be pronominalized by a clitic pronoun, differently from what may happens in locative contexts. Compare, in this respect, the contrasts between (i) and (ii):

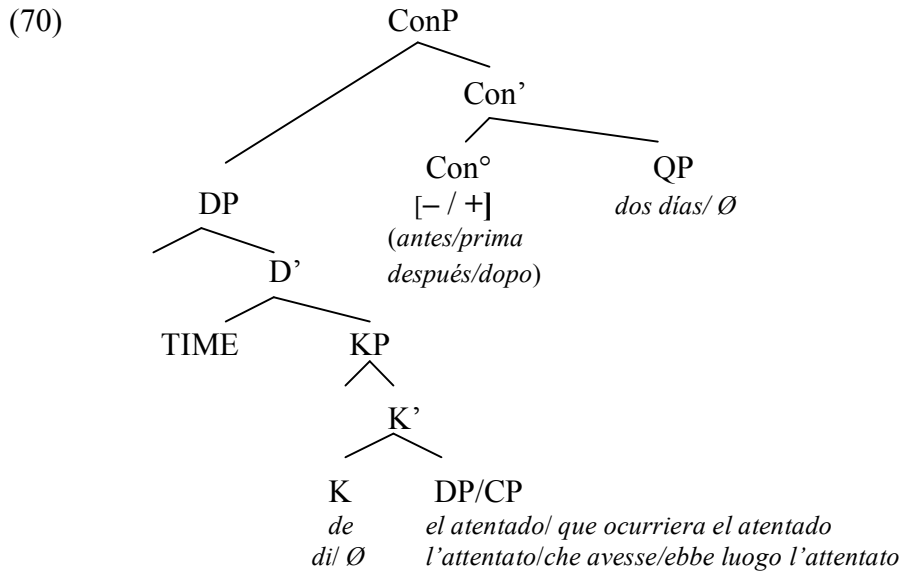
- | | |
|--|---|
| (i) Llegó antes/después de él. | * <i>Le</i> llegó antes/después. |
| <i>Lit.</i> (He) arrived before/after of him | <i>Lit.</i> *Him _{clit} (he) arrived before/after |
| (ii) Corría detrás de él. | <i>Le</i> corría detrás. |
| <i>Lit.</i> (He) run _{Imp} after of him | <i>Lit.</i> Him _{clit} (he) run _{Imp} after |

Spanish the presence of *de* is always obligatory with *antes* ‘before’ and *después* ‘after’. In Italian, on the other hand, only *prima* ‘before’ requires the presence of *di* introducing the complement of TIME; the only case in which *di* cannot appear is when the complement is an inflected sentence; cf. *prima Ø che avesse luogo l’attentato* ‘before the terrorist attack took_{Subj.Past} place’ vs. *prima di aver luogo* ‘before (it) to take place’. This behavior, however, is the same we can observe whenever a sentential complement is selected by a noun: *L’idea che lo farà* ‘the idea that he will do it’ vs. *L’idea di farlo* ‘the idea to do it’. Instead, as for the case with *dopo* ‘after’, we have seen that the complement of TIME cannot be introduced by *di*, except for the case in which the complement itself is a personal pronoun: *dopo di me* ‘after of me’. This piece of empirical evidence allows us to propose the presence of an empty functional preposition in the other cases where the constituent headed by TIME is the subject of the additive operator (cf. section 2 and (69)).⁵⁶ In fact, according to Cinque (1999), when the Case feature is not grammatically marked, it does not follow that it is inoperative either in the construction with *dopo* in Italian or in those languages where it is never phonologically realized.⁵⁷

According to this proposal, and referring to the data in (53) and (54), the diagram in (30) can be explicitly represented as (70):

⁵⁶. We have no interesting proposal to account for the fact that in Italian, when the complex temporal construction is headed by *dopo* ‘after’, the functional preposition *di* can appear only when the base corresponds to a personal pronoun. Therefore, we leave the question open here.

⁵⁷. Also Svenonius (2006:2), in his analysis of prepositional phrases expressing spatial relations, such as (*ten inches*) *under the desk*, proposes, for their internal structure, the projection of a Case head, K, that dominates the DP *the desk* and that can also be empty.



This structural representation shows the agreement between the base and the differential, as far as the temporal information is concerned, and can also account for the semantic coherence that must hold between the two constituents.

Finally, data such those in (65) are accounted for by assuming that the projected complement of the head TIME is phonologically unexpressed but interpretative present.

4. More about the internal structure

4.1. The vectorial extension

As we have suggested in the preceding sections, *antes/prima* and *después/dopo* of our complex temporal constructions, in addition to lexically express a subtractive information and an additive information respectively, also perform the function of mapping from a point in the temporal axis to another point in the same temporal axis; the second concrete temporal point is oriented in time with respect the first one. This function, which is made clear by the property of selecting a DP_{Time} , expressing a concrete temporal point, and a QP, expressing measure in time, suggest us that our categories have vectorial properties, as Svenonius (2006, 2007)⁵⁸ proposes for the prepositional phrases expressing temporal relations.

⁵⁸. Cf. also Zwarts and Winter (2000).

A vector is a quantity that consists of a point of application, a size and a direction. In the temporal constructions with *antes/prima* and *después/dopo* the point of application is represented by the base, which, as we argued in sections 3.1 and 3.3, indicates a concrete and precise point in time; the differential represents the vectorial size; and the direction is provided by both *antes/prima*, backwards in the temporal axis, and *después/dopo*, forwards in the temporal axis.

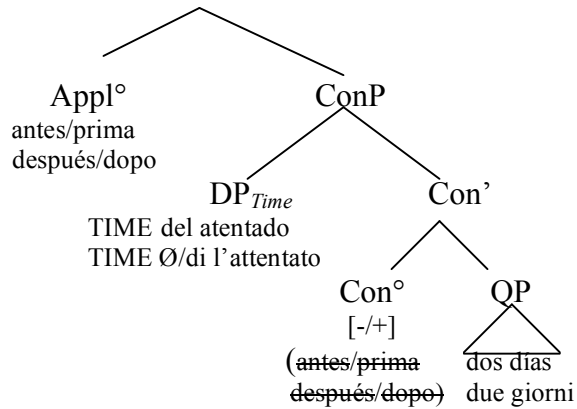
Adopting a cartographic approach (Cinque 2004), and in the spirit of Svenonius (2006, 2007), we propose that the vectorial properties of our constructions imply a richer syntactic structure than (70). In other words, we suggest that *antes/prima* and *después/dopo* should be considered as complex grammatical categories, the morphological reflections of a series of features: the application point of the vectorial extension, its direction and its size, besides the subtractive or additive value we have just commented on.

According to this proposal, the first step in the fine-grained articulation of their internal structure is to identify, along the temporal axis, the application point of the vectorial extension, i.e. the starting point of the computational process. We suggest that the application point is expressed by a feature, that we call *Appl*, whose semantic contribution is to specify the precise point in the temporal axis from where the vector extends. *Appl* enters syntax as an interpretable but unvalued feature, to be assigned some value in the course of the derivation.⁵⁹ What is uninterpretable is the overt morphological reflection of this feature, i.e. *antes/prima* or *después/dopo*. In this way the application point feature, acting as a probe, triggers the syntactic movement of *antes/prima* and *después/dopo* to *Appl*^o, as (71) shows:⁶⁰

⁵⁹. We adopt the general proposal on silent heads suggested by Sigurdsson and Maling (2008).

⁶⁰. As we have suggested in fn.20, an alternative hypothesis is that the abstract subtractive/additive operator, *Con*, moves to *Appl*^o. The resulting incorporation of these two features makes it possible for *antes/prima* or *después/dopo* to enter syntax. We do not discuss the preference of one of the two hypotheses over the other. If we adopt the *Principle of Compositionality* proposed by Kayne (2005a), which states that: “UG imposes a maximum of one interpretable syntactic feature per lexical or functional item” (p.15), we can suggest, as proposed in the previous sections, that the interpretable feature that *antes/prima* and *después/dopo* are endowed with the subtractive feature and the additive feature respectively, for their behavior as lexical comparatives. This justifies their insertion in the structure in *Con*^o, rather than in *Appl*^o.

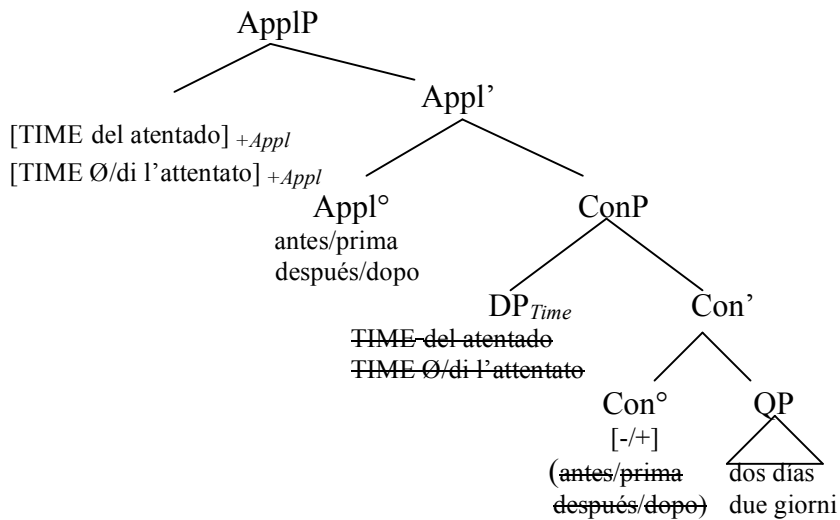
(71)



At this point, the constituent *TIME del atentado/TIME Ø l' attentato*, subject of *Con*, needs to be associated with the *Appl* feature, given that it expresses the precise point in time from where the vector develops its trajectory along the temporal axis.

In order to meet this requirement, we propose that *Appl* enters a matching (Agree) relation with the DP_{Time} , valuing it as $DP_{Time+Appl}$ and attracting it into its vicinity, namely the Specifier position created by the expansion of $Appl^\circ$, as (72) shows:

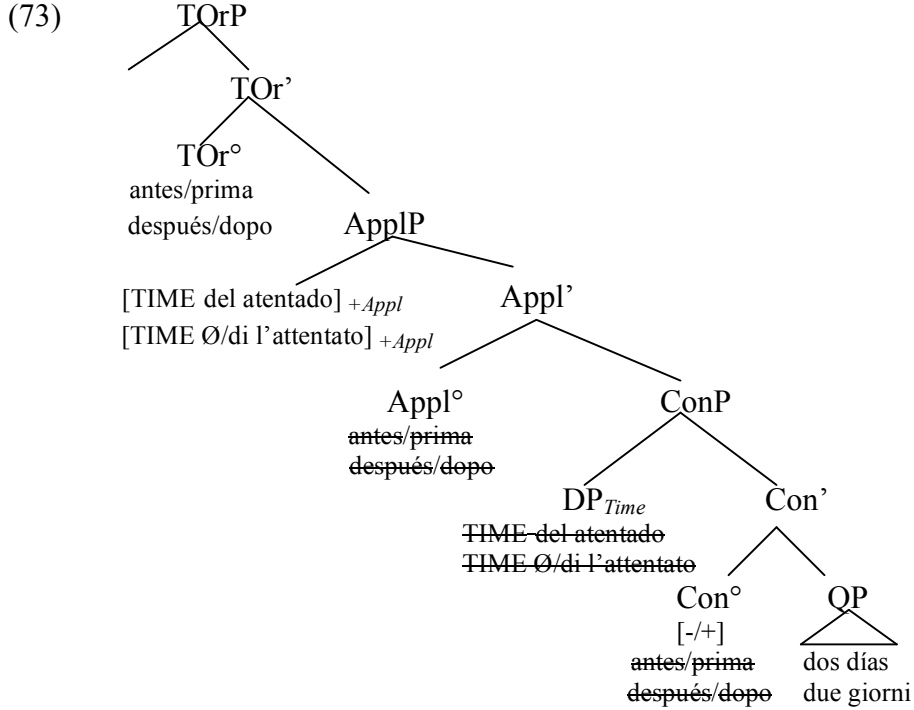
(72)



$DP_{Time+Appl}$ is merged in this structural position.

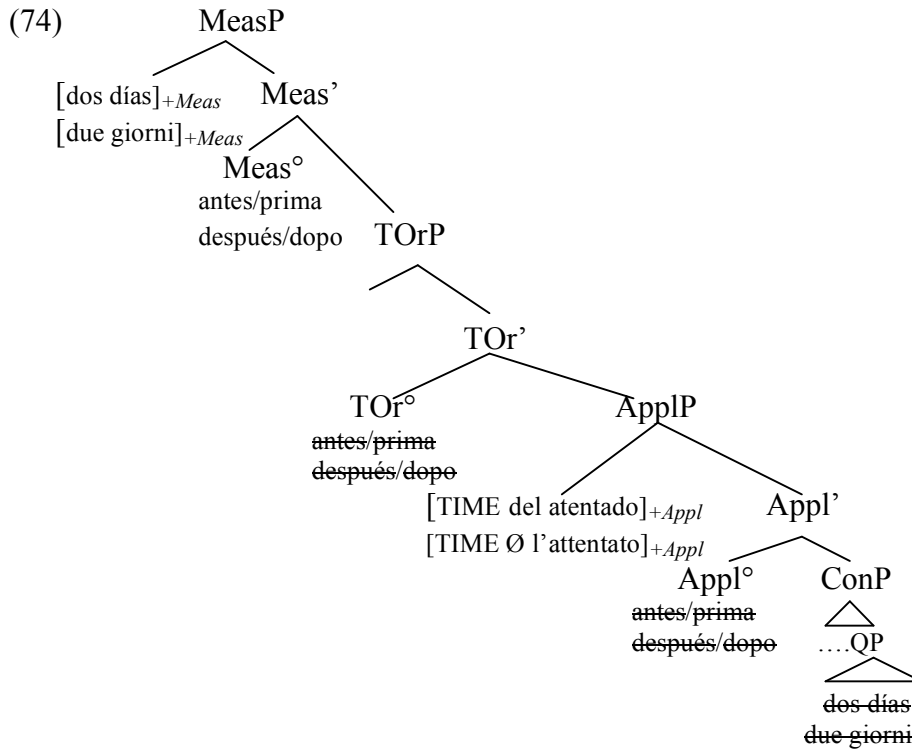
As a second step, another interpretable but unvalued feature enters the computation. We call it Time Orientation, i.e. *TOr*. The semantic contribution of this feature is to indicate the direction of the vectorial extension with respect to the application point in time. As we have argued in section 3.1, the Time Orientation will move either backwards in the temporal axis (*antes/prima*) or forwards in the temporal axis (*después/dopo*), according to the subtractive/additive value that *antes/prima* and *después/dopo* inherently own.

Also *TOr*, like in the preceding step, triggers the syntactic movement of *antes/prima* and *después/dopo* to $\text{TO}r^\circ$, and will expand its phrase, i.e. $\text{TO}r\text{P}$, as (73) shows:



Antes/prima will be the morphological reflection of the vectorial mapping when *TOr* chooses the backwards in time direction; while *después/dopo* will morphologically reflect the vectorial mapping when *TOr* chooses the forward in time direction.

As a last step, a third interpretable but unvalued feature emerges in the computation of our temporal constructions. We will call this feature *Measure*. The *Measure* feature enters syntax in a Meas° position expanding the MeasP projection. Its semantic contribution is to specify, along one or another of the two possible directions, how time, or how many points in time, is/are projected from a precise temporal point in the temporal axis (the application point); in other words, *Measure* helps expressing the size of the vectorial extension up to another point in time. *Measure*, then, acting as a probe, triggers the syntactic movement of *antes/prima* or *después/dopo* to Meas° . Afterwards, the same feature enters a matching (Agree) relation with the QP *dos días/due giorni*, complement of Con . Through such relation, the QP will be attracted to the Specifier position of MeasP and will be valued as $\text{QP}_{+\text{Meas}}$:



The complex temporal constructions we are studying can be modified by the temporal adverb *inmediatamente/immediatamente* “immediately”. This adverb always precedes *antes/prima* or *después/dopo* and allows a compatible differential to phonologically realize.⁶¹ When that occurs, the adverb always follows the differential, as the contrasts in (75) and (76) show:

- | | | |
|---------|--|---------|
| (75) a. | ...algunos segundos <i>inmediatamente</i> antes del accidente... | Spanish |
| | ...alcuni secondi <i>inmediatamente</i> prima dell'incidente... | Italian |
| | <i>Lit.</i> ‘some seconds immediately before the accident’ | |
| b. | * <i>inmediatamente</i> algunos segundos antes del accidente | Spanish |
| | * <i>inmediatamente</i> alcuni secondi prima dell'incidente | Italian |
| c. | *algunos segundos antes <i>inmediatamente</i> del accidente | Spanish |
| | *alcuni secondi prima <i>inmediatamente</i> dell'incidente | Italian |
| (76) a. | ...dos segundos <i>inmediatamente</i> después del arranque... | Spanish |
| | ...due secondi <i>inmediatamente</i> dopo l'accensione... | Italian |
| | <i>Lit.</i> ‘two seconds immediately after the ignition’ | |

⁶¹. With “compatible differential” we intend that the temporal noun of the QP expresses with preference few points or a little segment in time, as, for example, *seconds*, *minutes*, *moments* and *days* do.

- | | |
|--|---------|
| b. * <i>inmediatamente</i> dos segundos después del arranque | Spanish |
| * <i>inmediatamente</i> due secondi dopo l'accensione | Italian |
| c. *dos segundos después <i>inmediatamente</i> del arranque | Spanish |
| *due secondi dopo <i>inmediatamente</i> l'accensione | Italian |

From an interpretive point of view, the adverb *inmediatamente/immediatamente* seems to be strictly related to the initial point of the vectorial extension. For this reason, we tentatively suggest that it is merged in an adjunct position to ApplP in the structure in (74).⁶²

We also propose that this adjunct position to ApplP is the position in which in Spanish is merged the focalizing adverb *mismo* 'just/precisely', which, as the following data show, always appears between *antes/después* and the base:⁶³

- (77) a. *antes mismo* de echarse un par de tragos
 Lit. 'before just/precisely of drink_{Inf} a couple of sips'
- b. *después mismo* de las elecciones
 Lit. 'after just/precisely of the elections'

4.2. The higher unpronounced *TIME*

There are reasons, however, to believe that considering (74) to be the complete structure of the complex temporal constructions with *antes/prima* and *después/dopo* is not sufficient. In fact, as we have discussed in section 2, these constructions, like locative

⁶². Nevertheless, this proposal entails to say that the movement of *antes/prima* and *después/dopo* to Meas° cannot be carried out in Syntax, as the relative order in (75a) and (76a) shows. At the moment, we don't have any interesting suggestion to formally describe why *inmediatamente/immediatamente* prevents the syntactic movement of *antes/prima* and *después/dopo* to Meas°; so we leave the question open here.

⁶³. Notice that the semantic value that *mismo* provides our temporal constructions with is almost equivalent to the semantic value provided by *inmediatamente*. Evidence in favour with our proposal is that they cannot co-occur:

- (i) a. **Inmediatamente* *antes mismo* de echarse un par de tragos
 b. **Inmediatamente* *después mismo* de las elecciones

constructions, are provided with nominal properties. The resemblance of our constructions to nominals leads us to propose that the vectorial structure in (74) should be considered as the modifier of a noun that is non-pronounced. We call it TIME, and we propose that it is selected by a (referential) DP with an unpronounced head D, as (78) shows:⁶⁴

- (78) [DP TIME [MeasP dos días antes/después TIME del atentado]]
 [DP TIME [MeasP due giorni prima /dopo TIME di/Ø l'attentato]]

This unpronounced head TIME denotes the final concrete point in time that corresponds to the vectorial extension, namely the resulting point in time obtained by calculating an application point (in time), a direction (backwards or forwards in time) and a size (in time).

We also propose that the relation that MeasP establishes with the head TIME is a phrasal restrictive modifier relation, namely a relation similar to a reduced restrictive relative clause; in other words, a relation that can be paraphrased as: [*The TIME which corresponds to* [MeasP dos días antes/después TIME del atentado]].⁶⁵

Finally, again according to Cinque (2008) and the references quoted there, we propose that also in complex temporal constructions with *antes/prima* and *después/dopo* the DP headed by TIME is selected by a phonologically unrealized stative preposition AT.

The structure that emerges from our proposal is, then, the following:

- (79) [PPstat AT [DP TIME [MeasP dos días antes/después TIME del atentado]]
 [PPstat AT [DP TIME [MeasP due giorni prima/dopo TIME di/ Ø l'attentato]]]⁶⁶

⁶⁴. For a similar analysis, see Bresnan (1994). See also Cinque (2008), Noonan (2005) and Terzi (2008), among others, who propose a non-pronounced PLACE with the same function for prepositional phrases expressing spatial relations. Cinque (2008:fn.5) also shows that in certain languages, such as Ainu (Japan) and Tairora (Papuan), the head noun PLACE is actually pronounced. In this respect, see the examples and references quoted there.

⁶⁵. We do not adopt Bresnan's (1994) analysis, which states that locative and temporal constructions are complements of a unpronounced nominal, but we extend to our temporal constructions the proposal suggested by Cinque (2008) and others for locative constructions.

⁶⁶. 'Identificative' adverbs (cf. Kovacci, 1999:777-778) such as *justo*, *justamente*, *exactamente* (Spanish)/ *esattamente*, *precisamente* (Italian) 'exactly/precisely' are merged, in the structure in (79) in a position

Both in Contemporary Spanish and in Contemporary Italian this stative preposition never appears pronounced. Nevertheless, both in Old Spanish and Old Italian, we can observe the following data:

(80) *Old Spanish*

- a. En este día, que fué **a** dos días de septiembre, en el comienzo de la noche...
(G. Fernández de Oviedo *Refundición de la Crónica del Halconero*, 1535-1557)
Lit. ‘In this day, which was **at** two days of septembre (= on September the 2th), in the beginning of the night...’
- b. ...luego **a** dos días después que se asentó, el nuestro Maestre, (...) mandó como notable guerrero (...) a don Pedro de Luna,
(Anónimo, *Crónica de Don Álvaro de Luna*)
Lit. ‘...then **at** two days after that he settled, our Master, (...) charged as notable warrior (...) don Pedro de Luna,...’

(81) *Old Italian*

- a. L'avuta **a'** due di dicembre in fino a lunedì **a'** nove dì di dicembre...
(*Doc. Sen.*, 1277-1282)
Lit. ‘He had it **at** 2 of December (= on December the 2th) until monday **at** 9 days of december (= December the 9th)...’
- b. **A** dì XXV d'agosto giunse in Padova il chonte di Gholitia...
(Anonimo [1350], *Gesta Florentinorum* (ed. Santini), p.144)
Lit. ‘**At** days XXV of August (= On August 25) arrived at Padua the earl of Gholitia...’

higher than the position occupied by the unpronounced stative preposition AT, (i). In fact, this type of adverbs always precede a punctual temporal prepositional phrase, (ii):

- (i) a. *Justo/justamente/exactamente* [PP_{stat} AT [DP TIME [MeasP dos días antes/ después TIME del atentado]] *Spanish*
- b. *Esattamente/precisamente* [PP_{stat} AT [DP TIME [MeasP due giorni prima/dopo TIME di/Ø l'attentato]] *Italian*
- (ii) a. *Justo/justamente/exactamente* a las cinco de la tarde *Spanish*
‘Exactly at five in the evening’
*A las cinco *justo/justamente/exactamente* de la tarde
- b. *Esattamente/precisamente* alle cinque di sera *Italian*
‘Exactly at five in the evening’
*Alle cinque *esattamente/precisamente* di sera

What these data suggest is that in previous stages of the two Romance languages a stative preposition, i.e. *a*, was used to precede, or select, a temporal phrase indicating a definite point in the temporal axis:

- (82) a. [PP_{stat} **a** [DP TIME [DP *dos días de septiembre*]] (cf. (80a))
 b. [PP_{stat} **a** [DP TIME [DP *due di dicembre*]]⁶⁷ (cf. (81a))

Furthermore, as the case in (80b) in Spanish clearly shows, the same preposition could also precede the temporal complex constructions we are dealing with:

- (83) [PP_{stat} **a** [DP TIME [MeasP *dos días después* TIME Ø *que se asentó*]] (cf. (80b))

Therefore, we propose that all these data can be considered as diachronic evidence for the structural hypothesis we suggested in (79).⁶⁸

Furthermore, we tentatively propose that in Contemporary Spanish and in Contemporary Italian it is possible to find a residue of this old pronounced stative preposition *a* in those cases in which a punctual temporal phrase is expressed by a numeral referring to hours, as in (84):⁶⁹

- (84) a. **A las cinco de la tarde** *Spanish*
 [PP_{stat} **A** [DP TIME [DP *las cinco de la tarde*]]]
 ‘At five in the evening’
 b. **Alle otto di mattina** *Italian*
 [PP_{stat} **A** [DP TIME [DP *le otto di mattina*]]]
 ‘At eight in the morning’

⁶⁷. We don’t investigate the internal structure of *dos días de septiembre/due di dicembre* because it is beyond the scope of the current work. We only suggest that these phrases, that we call DPs, do not provide vectorial information.

⁶⁸. Nevertheless, we cannot justify the reasons why, both in Spanish and in Italian, the following change: [P_{stat} **a**] > [P_{stat} **AT**] occurred in the course of their respective grammatical evolution.

⁶⁹. See footnote 64 for the position that ‘identificative’ adverbs occupy with respect these temporal constructions.

Finally, according to what we have already pointed out, we also suggest that the preposition *a* which appears in those complex temporal constructions such as *A dos días del atentado/A due giorni dall'attentato* 'At two days from the terrorist attack' (cf. section 3.2) corresponds to the pronounced residual version of the phonologically unrealized AT we find in (79), as the following analysis shows:

- (85) a. [PP_{stat} *A* [DP TIME [MeasP *dos días de* TIME Ø *el atentado*]]
 b. [PP_{stat} *A* [DP TIME [MeasP *due giorni da* TIME Ø *l'attentado*]]

In cases like these, the morphological reflection of the vectorial extension is represented by *de/da* respectively.⁷⁰

5. Conclusion

In this paper we have studied the syntactic behavior and the interpretive properties of the complex temporal constructions with *antes/prima* and *después/dopo* in Spanish and Italian.

We have argued that these complex temporal constructions involve a computational process whose result corresponds to a referential point in the temporal axis. In order to reach this result, we have proposed that *antes/prima* and *después/dopo* are the morphological reflection of a series of features. The first one, which is interpretable in *antes/prima* and *después/dopo* is the subtractive and additive feature respectively (*Con* [-/+]), given that these elements behave like lexical comparatives. For this reason, they select two arguments that we have called *differential* and *base*. The differential is realized as a measure QP and corresponds to the internal argument of *antes/prima* and

⁷⁰. We are aware that this hypothesis needs a deeper investigation. Nevertheless, notice that the preposition *de* of the Spanish version, (85a), does not correspond to the Case marker *de*, though homophonous to it, but expresses a vectorial extension in time, as the preposition *da* in Italian does, (85b). However, the orientation in the temporal axis of the vectorial extension is not specified, i.e. it is unmarked, with respect to the application point. It is for this reason that the constructions in (85) are ambiguous; as argued in section 3.1., their temporal meaning can correspond both to *dos días antes del atentado/due giorni prima dell'attentato* and to *dos días después del atentado/due giorni dopo l'attentato*. Probably this ambiguity depends on the fact that *de/da* are not provided neither with an additive nor with a subtractive information.

después/dopo; while the base is realized as a referential DP_{Time} and corresponds to their external argument. The base- DP_{Time} contains an unpronounced TIME that selects an eventive nominal or a sentence in a possessor relation with this non-pronounced head. Furthermore, *antes/prima* and *después/dopo* are also the morphological reflections of the features Application point (*Appl*), Time oriented (*TOr*) and Measure (*Meas*), given that they have also vectorial properties. These features enter syntax as interpretable but unvalued features building up, in this way, the internal structure of our complex temporal constructions. *Antes/prima* or *después/dopo* move first, to $Appl^{\circ}$, then to TOr° and finally $Meas^{\circ}$ in order to value the unvalued features hosted in these heads. During the numeration, *Appl* enters a matching relation with the DP_{Time} –i.e. the base– which is attracted to SpecApplP to be valued as $DP_{Time+Appl}$. Similarly, *Meas* enters a matching relation with the measure QP –i.e. the differential– which is attracted to SpecMeasP to be valued as QP_{+Meas} . Finally, we have argued that MeasP, which defines the domain of the vectorial extension of *antes/prima* and *después/dopo*, corresponds to a (phrasal) restrictive modifier of an unpronounced head TIME which is selected by a referential DP. This DP, in turn, is dominated by a non-pronounced stative preposition AT.

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The two “possessor raising” constructions of Bulgarian*

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1. Introduction

In this article we present an analysis of a specific phenomenon of Bulgarian syntax, which can be better understood, we will argue, through a comparison with Romance. As it is often the case when one compares different languages certain constructions appear not to correspond neatly. However, before surrendering to the conclusion that no neat correspondence exists across languages one should try and see if one can find it by decomposing the complexity of the data. This is what we shall attempt to do here.

Bulgarian clausal dative clitics can, as in other languages, be interpreted as external possessors of a DP (see (1)a-c), provided they are contained in the same minimal clause containing the DP (see (2)a vs. (2)b), and that they c-command the DP (or its trace) (see (3) vs. (4)) (cf. Guéron 1985,48, 2003,193f):¹

- (1) a. Kučeto **mu** otxapa **prăsta**
dog.the him_{dat} bit finger.the
‘The dog bit his finger’

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¹. The literature on so-called “possessor raising” in various languages is extensive, and we will be able to review it here only partially. Reference to specific studies will be made where they directly bear on points of our analysis.

- b. Te **mu** namerixa **čadāra**
 they him_{dat} found umbrella.the
 ‘They found his umbrella’
- c. Te ne **mu** sāobštixa **imeto**
 they not him_{dat} communicate name.the
 ‘They didn’t communicate his name’
- (2) a. Kaza se [če sa **mu** namerili **čadāra**]
 said refl that are.3pl him_{dat} found umbrella.the
 ‘It was said that they found his umbrella’
- b. Kaza **mu** se [če sa namerili **čadāra**]
 was.said him_{dat} that are.3pl found umbrella.the
 ‘It was said to him that they found the umbrella’/*‘It was said that they found his umbrella’
- (3) a. Kaza, če ne **mu** se vārtjala **glavata** ot vinoto
 said.3sg that not him_{dat} refl spins.evid. head.the from wine.the
 ‘He said his head was not spinning because of the wine’
- b. Kaza, če **glavata**_i ne **mu** se vārtjala t_i ot vinoto
 said.3sg that head.the not him_{dat} refl spins.evid. from wine.the
 ‘He said his head was not spinning because of the wine’
- (4) ***Jumrukāt** ne **mu** udari masata Cf. **Jumrukāt mu** ne udari masata
 fist.the not him_{dat} hit table.the fist.the him_{dat} not hit table.the
 ‘His fist did not hit the table’ ‘His fist did not hit the table’

The examples in (1) have been taken in the literature on Bulgarian to constitute a homogeneous construction, and have been analyzed as involving either movement of the clitic from the DP expressing the possessee (Franks and King 2000,276; Stateva 2002; Moskovsky 2004) or direct base generation of the clitic in the clausal dative clitic position (Schick 2000; Schürcks and Wunderlich 2003, section 4; Tomić to appear). Here we will argue that in fact two distinct constructions should be recognized. The first, identical to what is sometimes referred to as “possessor raising” in Romance, imposes a benefactive/ malefactive reading on the possessor, is limited to inalienably possessed body-parts (with some extensions), and shows properties of a base-generated

construction; the other, which does not have any benefactive/malefactive connotation, nor limitation to inalienably possessed DPs, involves instead movement of the clitic from within the DP that expresses the possessee.²

To see this it may be useful to start from a puzzling contrast between the Romance and the Bulgarian constructions.³

2. A comparative puzzle

The Romance construction corresponding to (1) is subject to a number of well-known restrictions (see (I)a-c):⁴

². With respect to these properties Romanian appears to pattern with Bulgarian rather than with the other Romance languages (see fn.16 below).

³. We will ignore here certain differences among the Romance languages, which are orthogonal to our concerns. For example those pertaining to the obligatory vs. optional character of the dative clitic (see (i)a vs. b; in (i)b, either *gli* or *a Gianni* is possible, but not both), or the possibility vs. impossibility of a full prepositional dative (see (i)a-b vs. c):

- | | |
|---|----------------------------------|
| (i) a. * (Le) sacaron la muela del juicio a Juan
(him _{dat}) pulled the tooth of.the wisdom to Juan
'They pulled out Juan's wisdom tooth' | <i>Spanish</i> (Jaeggli 1980,62) |
| b. < Gli > hanno estratto il dente del giudizio <a Gianni>
him _{dat} have.3pl pulled the tooth of.the wisdom to Gianni
'They pulled out Gianni's wisdom tooth' | <i>Italian</i> |
| c. Ils lui ont arraché les dents de sagesse (*à Patrick)
they him _{dat} have.3pl pulled the teeth of wisdom (to Patrick)
'They pulled out Patrick's wisdom teeth' | <i>French</i> (Authier 1988,168) |

⁴. These restrictions are discussed for French in Kayne (1977, section 2.15) and Vergnaud and Zubizarreta (1992, section 1). They seem to be shared by Spanish (Picalló & Rigau 1999; Sánchez López 2007), and Italian.

(I)a It is limited to inalienable possession,⁵ and admits only predicates that affect their objects and impose a benefactive/malefactive reading on the external possessive dative clitic.⁶

See the contrast between (5) and (6) below:

- (5) a. On **lui** a coupé les cheveux *French* (Kayne 1977,159)
 imp. him_{dat}/her_{dat} has cut the hair
 ‘They cut his/her hair’
 b. El gato **le** arañó la cara *Spanish* (Sánchez López 2007,153)
 the cat him_{dat} scratched the face
 ‘The cat scratched his/her face’

⁵. As noted in the literature (see, for example, Vergnaud and Zubizarreta 1992,597), inalienable possession extends to certain kinship terms and familiar objects (‘daughter’, ‘home’, ‘car’, ‘umbrella’, etc.), though variation exists among languages (and speakers) concerning the membership in the class of extended inalienables. To take one example, Italian ((i)a), but not French ((i)b), can apparently extend inalienable possession to (some) inanimate objects:

- (i) a. Al tavolo, qualcuno **gli** ha segato tutte le gambe
 to.the table someone it_{dat} has sawn all the legs
 b. *La table, quelqu’un **lui** a scié toutes les pattes (Lamiroy 2003,259 citing Leclère 1976)
 the table, someone it_{dat} has sawn all the legs
 ‘The table, someone has sawn off all its legs’

For further discussion, see Lamiroy (2003, sections 2.3 and 3).

⁶. It would be nice if we had a precise notion of ‘affectedness’ allowing us to tell which predicates affect their objects and which don’t. Attribution is not always straightforward (for some discussion, see Kayne 1977,158, and references cited there). Certain predicates appear to affect their objects under some conditions but not others. For example, *voir*, in French, and *vedere* in Italian, ‘see’, appear to be ‘affecting’ with strict inalienables (body-parts) but not with extended inalienables. For French, see Lamiroy (2003,fn5 and related text) and for Italian the contrast in (i):

- (i) a. Le ho visto le gambe
 her_{dat} I.have seen the legs
 ‘I saw her legs’
 b. ??Le ho visto la madre/la macchina
 her_{dat} I.have seen the mother/the car
 ‘I saw her mother/car’

- c. Gli hanno rotto la macchina *Italian*
 him_{dat} have.3pl broken the car
 ‘They broke his car’
- (6) a. *Tu **lui** aimes bien les jambes *French* (Kayne 1977,159)
 you him_{dat} /her_{dat} love.2sg well the legs
 ‘You like his/her legs’
- b. *Le odio el carácter *Spanish*
 him_{dat} hate.1sg the character (Picallo & Rigau 1999,1015)
 ‘I hate his character.’
- c. *Gli ho dimenticato il nome *Italian*
 him_{dat} have.1sg forgotten the name
 ‘I forgot his name’

(I)b Unique inalienable body-parts (and unique extended inalienable DPs), like ‘head’, ‘stomach’, ‘nose’, (‘mother’, ‘home’), etc., are obligatorily singular, whether they have a singular or plural possessor. In the latter case the interpretation of the singular body-part is distributive, implying a plurality of body-parts, one for each possessor (Kayne 1977,161; Vergnaud and Zubizarreta 1992, section 1). See (7)a-(8)a, which contrasts with (7)b-(8)b, containing a possessive inside the DP:

- (7) a. Le médecin **leur** a examiné la gorge/*les gorges
 (Vergnaud and Zubizarreta 1992,597,602)
 the doctor them_{dat} has examined the throat/the throats
 ‘The doctor examined their throats’
- b. Le médecin a examiné **leur** gorge/leur gorges
 (Vergnaud and Zubizarreta 1992,598,602)
 the doctor has examined their throat/their throats
 ‘The doctor examined their throats’
- (8) a. Hanno **loro** lavato la testa/*le teste
 Have.3pl them_{dat} washed the head/the heads
 ‘They washed their heads’
- b. Hanno lavato la loro testa/le loro teste
 they.have washed the their head/the their heads
 ‘They washed their head/heads’

(I)c The NP expressing inalienable possession may only be modified by a restrictive adjective, not by an appositive one ((9)a-(10)a - see Kayne 1977,161; Vergnaud and Zubizarreta 1992,603f). This again contrasts with the case containing a possessive inside the DP (see (9)b-(10)b):⁷

- (9) a. *Tu **lui** as photographié la belle bouche (Kayne 1977,161)
 you him_{dat}/her_{dat} have.2sg photographed the beautiful mouth
 ‘You photographed his/her beautiful mouth’
 b. Tu as photographié **sa** belle bouche (Kayne 1977,161)
 you have.2sg photographed his/her beautiful mouth
 ‘You photographed his/her beautiful mouth’
- (10) a. **Gli** hai fotografato la (<*bella>) bocca (<*bella>)
 him_{dat} have.2sg photographed the (beautiful) mouth
 ‘You photographed his beautiful mouth’
 b. Hai fotografato la **sua** <bella> bocca <bella>
 have.2sg photographed the his <beautiful> mouth <beautiful>
 ‘You photographed his beautiful mouth’

At first sight, Bulgarian does not seem to obey any of these restrictions. First, it allows “possessor raising” also with predicates which do not affect their objects nor impose a benefactive/malefactive reading on the possessive dative. See (11), the equivalents of which are indeed impossible in Romance (but see fn.16 on Romanian):

- (11) a. Az mnogo **mu** xaresvam novata šapka (Stateva 2002,649)
 I very much him_{dat} like.1sg new.the hat
 ‘I love his new hat.’

⁷. As noted by Aoun (reported in Authier 1988,175,fn3) , appositive relatives, as opposed to appositive adjectives, can instead modify the NP expressing inalienable possession:

- (i) Tu **lui** a photographié **la bouche**, la quelle/qui était très belle
 you her/him_{dat} have photographed the mouth, which was very beautiful
 ‘You photographed her/his mouth, which was very beautiful’

In Romance, prenominal adjectives are only appositive, postnominal ones either appositive or restrictive (see Cinque forthcoming for discussion).

- b. Ne **mu** pomnja fizionomijata.
not him_{dat} remember.1sg face.the
'I don't remember his face'
- c. Ne **mu** poznavam prijatelja
not him_{dat} know.1sg friend.the
'I don't know his friend'
- d. Az **mu** polučix pismoto.
I him_{dat} received.1sg letter.the
'I received his letter'
- e. Boris Simeonov **mi** beše pārvijat profesor po ezikoznanie
Boris Simeonov me_{dat} was first.the professor in linguistics
'Boris Simeonov was my first professor of linguistics'

Second, unique inalienable body-parts and unique extended inalienable DPs, like 'head', 'face', 'stomach', 'nose', ('mother', 'home'), etc. can either be singular or plural, again differently from Romance, where, as seen in (7) and (8) above, they must be singular:

- (12) Ako jadete mnogo, šte **si** napālnite **stomaxa/stomasite** i posle šte vi stane lošo.
if eat.2pl a lot will refl._{dat} fill.2pl stomach-the/stomachs-the and then will you_{dat,pl}
gets sick
'If you(pl.) eat a lot, you(pl.) will fill your stomach/stomachs and you will feel sick'

Third, as shown by (13)a,b, the inalienably possessed NP can apparently be modified by an appositive adjective (once again differently from Romance).

- (13) a. Mnogo **ti** mrazja toja loš xarakter.
a lot you_{dat} hate.1sg this bad character
'I hate a lot this bad character of yours'
- b. Ne moga da **i** opiša krasivata kosa. Ne sām poet.
not can.1sg to her_{dat} describe.1sg beautiful.the hair. Not am poet
'I cannot describe her beautiful hair. I am not a poet'

In spite of this evidence, which seems to show that Bulgarian does not have a "possessor raising" construction of the Romance type, we are going to argue that it

As can be seen from the contrast between (6)c above and (14) below, a non affecting verb like *dimenticare* (or *oublier* in French) ‘forget’ can only appear in the *ne(en)*-construction. The fact that the Bulgarian counterpart of (14), given in (15), is also grammatical suggests that (15) should perhaps be treated on a par with the Romance *ne/en* construction rather than with the Romance possessive dative construction. See in fact section 5 for evidence corroborating this conjecture. As we will also see, (15) and the like have all the hallmarks of a movement construction, just like the Romance *ne/en* construction (Belletti & Rizzi 1981, Burzio 1986, chapter 1):

- Even if Bulgarian is occasionally taken to have morphologically neutralized the genitive and dative Cases, so that one could think that the ‘dative’ clitic in those cases that have no correspondent in the Romance “possessor raising” construction is actually a ‘genitive’ clitic (like Romance *en/ne*), we will not push the resemblance that far, partly because of Mirčev’s (1978,189), GSE’s (1993,241), and Pancheva’s (2004) (diachronic) evidence that Bulgarian really has no genitive, but just dative, also for possession.⁸

⁸. This actually needs to be looked into more carefully as the DP-internal ‘dative’ clitic can quite generally correspond to the subject or object of a deverbal noun (agent/theme), or a subjective experience

Once the movement construction is factored out, the remaining cases, i.e. those with an inalienably possessed DP affected by the predicate, and with a benefactive/malefactive interpretation of the external possessive clitic, will be seen to involve no extraction of the possessor, exactly as their Romance counterparts in (5),(7), (8) and (10).

This line of reasoning will thus lead us to posit the existence of two separate constructions involving external possessive clitics in Bulgarian, which have so far been lumped together under the general label of *possessor raising*.

We will label the construction akin to Romance “possessor raising” the “base-generated possessor construction” distinguishing it from the one involving extraction on the basis of certain properties that are present in one but not the other construction.

Before examining these properties, we recall in the next section some of the evidence that shows the Romance “possessor raising” construction to be a misnomer, given that it does not involve raising, but rather base generation, of the dative clitic outside of the DP expressing the possessee.

3. The non movement nature of the Romance “possessor raising” construction

One first piece of evidence against taking the possessive dative clitic in Romance to raise from inside the DP expressing the inalienable body-part is the fact, observed in Kayne (1977,159f), that such extraction would sometimes have to cross a PP node ((16)). Given that PPs, as opposed to simple DPs, normally block extraction (see (17)a/(18)a vs. (17)b/(18)b), it is reasonable to infer from the contrast between (16) and (18)a that the external possessive dative clitic *gli* (as opposed to the external possessive genitive clitic *ne*) cannot have resulted from movement out of the DP expressing the possessee:

- (16) **Gli** hanno urlato [_{PP} **ne**[_{DP} **gli orecchi**]]
 him_{dat} have.3pl shouted in the ears
 ‘They shouted in his ears’

- (17) a. ***Di chi** hanno urlato [_{PP} **ne**[_{DP} **gli orecchi**]]
 of whom have.3pl shouted in the ears?
 ‘Who was it that they shouted in his ears?’

dative, but can never correspond to a (goal) indirect object argument (Franks 2000,62; Franks and King 2000,56 and 276f).

- b. **Di chi** hanno medicato [_{DP} **gli orecchi**]?
 Of whom have.3pl treated the ears?
 ‘Of whom have they treated the ears?’

- (18) a. ***Ne** hanno urlato [_{PP} **ne**[_{DP} **gli orecchi**]]
 him_{gen} have.3pl shouted in the ears
 ‘(intended meaning) They shouted in his ears’
 b. **Ne** hanno medicato [_{DP} **gli orecchi**]
 him_{gen} have.3pl treated the ears
 ‘They treated his ears’

Another difficulty for taking the clausal dative clitic to originate inside the DP expressing the inalienable body-part is that as seen in (7) and (8) above, repeated here as (19) and (20), the putative sources of extraction of the possessor dative clitic ((19)b and (20)b) lack the restriction found in (19)a and (20)a according to which the possessed body-part must be singular even if the possessor clitic is plural:

- (19) a. Le médecin **leur** a examiné **la gorge/*les gorges**
 (Vergnaud and Zubizarreta 1992,597,602)
 the doctor them_{dat} has examined the throat/the throats
 ‘The doctor examined their throats’
 b. Le médecin a examiné **leur gorge/leur gorges**
 (Vergnaud and Zubizarreta 1992,598,602)
 the doctor has examined their throat/their throats
 ‘The doctor examined their throats’
- (20) a. Hanno **loro** lavato **la testa/*le teste**
 have.3pl them_{dat} washed the head/the heads
 ‘They washed their heads’
 b. Hanno lavato **la loro testa/le loro teste**
 have.3pl washed the their head/the their heads
 ‘They washed their head/heads’

This makes a derivation of the external possessive dative clitic in (19)a/(20)a via raising from the DP expressing the possessee rather dubious.

A third difficulty for the raising analysis comes from the fact that in some cases there simply is no plausible source for the dative clitic inside the DP expressing the inalienable body-part. See, for example, (21), from Kayne (1977,160):⁹

- (21) Elle **lui** a mis la main [là où il ne fallait pas]
 she him_{dat} has put the hand there where it neg was-appropriate not
 ‘She put her hand where she shouldn’t have’

⁹. Further difficulties for a movement analysis of “possessor raising” are discussed in Kayne (1977, section 2.15), and Guéron (2005,2.4.2). Given cases like (i), which seem to be characterized by the same type of coreference between the pronoun and the DP expressing the body-part (cf. Vergnaud and Zubizarreta 1992), one would presumably also have to posit movement of the DP internal possessor to a thematic (subject or object) position:

- | | |
|--|---|
| (i) a. Loro hanno alzato la mano
they have.3pl raised the hand
‘They raised their hands’ | b. Lei lo ha colpito sulla testa
she him _{acc} has struck on.the head
‘She struck him on the head’ |
|--|---|

Also, cases like (ii) (cf. Kayne 1977,163) could hardly involve movement of the clitic from both the object DP and the complement PP, or movement from the object DP licensing a parasitic gap inside the PP, given the general inability of clitics to license parasitic gaps (see Chomsky 1982,65 based on an observation of Luigi Rizzi’s, and Burzio 1986,32f):

- (ii) **Gli** ho spostato [**il braccio**] [da sotto **la testa**]
 him_{dat} have.1sg removed the arm from under the head
 ‘I removed his arm from under his head’

Landau (1999), without addressing the evidence mentioned above, claims that “possessor raising” in Romance (and Hebrew) involves movement out of the DP expressing inalienable possession. But his arguments do not seem to us convincing. Even his “most straightforward evidence” for extraction (namely, that its possibility from subcategorized PPs but not from adjunct PPs is indicative of island sensitivity, hence of movement) is less than clear. Quite apart from the general island character of PPs, that contrast could very well depend on a requirement that the dative possessor be a co-argument of the body-part DP/PP within the same minimal clause. See also Guéron’s (2005) critical discussion.

4. The Bulgarian base generated possessor construction akin to the Romance construction

Bulgarian too offers particularly clear evidence that at least some of its possessive datives cannot have raised from inside the DP/PP which contains the possessee. These are the external possessive datives that receive a benefactive/malefactive reading and are interpreted as possessors of an inalienable body-part (or its extensions), like the Romance base-generated possessors discussed in the previous section.

In Bulgarian, differently from Romance, the same possessive dative clitic is free to occur either DP-internally or DP-externally:

- (22) a. Tja **mu** ščupi [DP malkija prăst]
 she him_{dat} broke.3sg little.the finger
 ‘She broke his little finger’
 b. Tja ščupi [DP malkija **mu** prăst]
 she broke.3sg little.the him_{dat} finger
 ‘She broke his little finger’

However, the DP internal variant of (22) must meet a crucial requirement not holding of the DP external variant; namely that the DP containing the possessive clitic must be definite.¹⁰ No possessive dative clitic can appear inside a DP when this is indefinite (Penčev 1998,30; Dimitrova-Vulchanova and Giusti 1999,169; Franks and King 2000,282; Moskovsky 2004,221f). See the contrast between (22)b and (23) below:

- (23) *Tja ščupi [edin **mu** prăst]
 she broke.3s a him_{dat} finger
 ‘She broke a finger of his’

As noted, no definiteness requirement holds of the DP external variant, (22)a, as can be seen from (24) which is the only possible way to render (23):

- (24) Tja **mu** ščupi [edin prăst]
 she him_{dat} broke.3sg a finger
 ‘She broke a finger of his’

¹⁰. In this case, the clitic follows the demonstrative or whichever element is inflected with the definite article (Penčev 1993; Dimitrova-Vulchanova and Giusti 1999,169f; Franks 2000, 59ff, Franks and King 2000,275; Stateva 2002, 660; Schürcks and Wunderlich 2003,121).

This evidence suggests that (22)a and (22)b are not related transformationally and consequently, the external dative clitic in (24) does not have its source inside the DP, but is merged directly in a clausal clitic position and is related to the DP expressing the inalienable body-part via a non movement mechanism.¹¹

Further evidence exists that the possessive dative clitic in the Romance-type base generated possessor construction of Bulgarian cannot have raised from the DP expressing inalienable possession. We have just noted that the DP containing a possessive dative clitic must be overtly marked as definite. However, most kinship terms (*dăšterja* ‘daughter’, *žena* ‘wife’, etc.) seem to provide an exception to this constraint (Franks and King 2000,282; Moskovsky 2004,fn1). They can be followed by a possessive clitic even in the absence of an overt definite article (as a matter of fact, if a possessive clitic is present in the DP, they *cannot* take the definite article).¹² See (25):

- (25) *Te sāsipaxa [dăšterja(*ta) mu]/[žena(*ta) mu]/...*
 they ruined.3pl daughter(.the) him_{dat} /wife(.the) him_{dat} /...
 ‘They ruined his daughter/wife/...’

However, when the possessive clitic is in the DP-external position, the definite article on the kinship term inside the DP is obligatory:¹³

¹¹. Also see Schürcks and Wunderlich (2003,135). Non movement mechanisms proposed in the literature are: (anaphoric) Binding by the possessive dative of the determiner of the DP expressing the body-part (Guéron 1985, Demonte 1988, among others), or of a pro subject of the DP expressing the body-part (Authier 1988, chapter 4), and Predication (Vergnaud and Zubizarreta 1992). For evidence that in Bulgarian “the structural position occupied by the possessive clitic when it shows up preverbally is the one that is otherwise reserved for the Dative clausal clitic”, see Stateva (2002, 652), and Pancheva (2004).

¹². This is true only for the singular. In the plural, as noted by Penčev (1998,31), all forms must be overtly marked for definiteness.

¹³. For some reason other kinship terms (e.g. *majka* ‘mother’, *bašta* ‘father’, etc.) accept the definite article in such structures only rather marginally (*Te mu sāsipaxa majkata*). They are entirely natural however in colloquial expressions like (i):

- (i) *Njama da mi obiždaš majkata*
 Not.have Mod me_{dat} insult.2sg mother.the
 ‘You should not insult my mother’.

- (26) Te **mu** sāsipaxa [dāšterja*(ta)]/[žena*(ta)]/...
 they him_{dat} ruined.3pl daughter(.the) /wife(.the) /...
 ‘They ruined his daughter/wife/...’

This suggests that the clitic in (26) cannot have originated in the position of the clitic in (25), for we would expect the definite article on the kinship term in (26) to be just as impossible as in (25), contrary to fact.

Two more cases exist where the external dative clitic finds no possible source inside the DP, thus supporting a base generation analysis of the Romance-type Bulgarian possessor construction.

The first is represented by idioms. As in Romance (where they also constitute evidence for the non movement nature of the corresponding construction), Bulgarian has idioms with external possessive dative clitics which do not have a variant with a DP-internal clitic. Compare (27)a with (27)b:¹⁴

¹⁴. Analogously, in Romance no variant exists with a possessive adjective internal to the DP, or with extraction of *ne/en*. See the French and Italian examples (i) and (ii) ((i)a-b are from Lamiroy 2003,260f, who notes the same facts also for Spanish and Dutch):

- (i) a. Luc **lui** casse les pieds
 Luc him_{dat}/her_{dat} breaks the feet
 ‘Luc bothers him/her’
 b. Luc casse **ses** pieds
 Luc breaks his/her feet (no idiom interpretation available)
 c. Luc **en** casse les pieds
 Luc him_{gen} breaks the feet (no idiom interpretation available)
- (ii) a. **Gli** hanno rotto le scatole
 him_{dat} they have broken the boxes
 ‘They annoyed him’
 b. Hanno rotto le **sue** scatole
 they have broken his boxes (no idiom interpretation available)
 c. **Ne** hanno rotto le scatole
 him_{gen} they have broken the boxes (no idiom interpretation available)

- (27) a. Ti **mi** xodiš **po nervite**
 you me_{dat} walk.2sg on nerves.the
 lit. ‘You are walking on my nerves’ (‘You are getting on my nerves’)
- b. *Ti xodiš **po [nervite mi]**
 you walk.2sg on nerves.the me_{dat}

The second case relates to the fact seen above with Romance that unique inalienable body-parts must be singular even in the presence of a plural possessor (see (7), (8), repeated here as (28), (29)):

- (28) a. Le médecin **leur** a examiné **la gorge/*les gorges**
 (Vergnaud and Zubizarreta 1992,597,602)
 the doctor them_{dat} has examined the throat/the throats
 ‘The doctor examined their throats’
- b. Le médecin a examiné **leur gorge/leur gorges**
 (Vergnaud and Zubizarreta 1992,598,602)
 the doctor has examined their throat/their throats
 ‘The doctor examined their throats’
- (29) a. Ho **loro** lavato **la testa/*le teste**
 have.1sg them_{dat} washed the head/the heads
 ‘I washed their heads’
- b. Ho lavato **la loro testa/le loro teste**
 have.1sgwashed the their head/the their heads
 ‘I washed their heads’

The same contrast (albeit somewhat weakened) is found in Bulgarian.¹⁵ Compare (30)a, (31)a with (30)b, (31)b:

- (30) a. Toj **im** razbi **sărtseto/??sărtsata**
 he them_{dat} broke.3sg heart.the/hearts.the
 ‘He broke their hearts’

¹⁵. For some reason in Bulgarian, when the possessive clitic is inside the DP, the plural form is less available, although not ungrammatical.

- b. Toj razbi **sărtseto/sărtsata im**
 he broke.3sg heart.the/hearts.the them_{dat}
 ‘He broke their hearts’

- (31) a. Toj edva li ne **im** se izplju **v litseto/*?litsata**
 he almost them_{dat} refl spat.3sg in face.the/*faces.the
 ‘He almost spat in their faces’
 b. Toj edva li ne se izplju **v litseto/ litsata im**
 he almost refl spat.3sg in face.the /faces.the them_{dat}
 ‘He almost spat in their faces’

Again, the clitic in (30)a,(31)a cannot have originated in the position of the clitic in (30)b, (31)b for we would expect contrary to fact the body-part to be able to occur also in the plural.

Given the evidence reviewed so far for the non movement character of the relation between the clausal possessive dative clitic and the DP expressing inalienable possession, it is not surprising that the latter may be found, like in Romance, inside a PP, which is an island for extraction also in Bulgarian (see (34) below):

- (32) a. Toj **mi** se izkrjaska [PP v [DP **uxoto**]]
 he me_{dat} refl shouted.3sg in ear.the
 ‘He shouted in my ear’
 b. Az **ì** se izsmjax [PP v [DP **litseto**]]
 I her_{dat} refl laughed.1sg in face.the
 ‘I laughed in her face’

All of this suggests that the with affecting verbs the clitic is directly base-generated DP externally.

5. The movement nature of Bulgarian possessor raising with non affecting predicates

Let us now turn to the cases in (1)c and (11), which, as noted above, do not share the restrictions holding of the Romance “possessor raising” construction. First, they appear

to involve predicates that do not affect their objects; second, they do not impose a benefactive/malefactive interpretation on the external possessor and third, they do not necessarily take inalienable body-parts as their objects.¹⁶

These cases, in opposition to Romance and to Bulgarian base-generated possessor constructions, show clear signs that movement is involved.

For one thing, they cannot occur with an indefinite DP (compare examples (11)c and d with (33)):

- (33) a. *Ne **mu** poznavam **edin priatelj**
 Not him_{dat} know.1sg one/a friend
 ‘I know a friend of his’
 b. *Az **mu** polučix **edno pismo**
 I him_{dat} received.1sg one/a letter
 ‘I received a letter of his’

¹⁶ To judge from Dumitrescu (1990), Romanian seems to pattern with Bulgarian rather than with the rest of Romance. She reports many Romanian examples, a couple of which are given in (i) below, of the same general type seen in (11), quoting the following telling passage from Baciú (1985,357): “en roumain, le datif possessif est incomparablement plus fréquent que dans les autres langues romanes. Cette fréquence élevée est due à l’absence de toute contrainte d’ordre sémantique, alors que dans les autres langues romanes le datif possessif indique de préférence, sinon uniquement, la possession d’une partie du corps.” For similar observations, see Avram and Coene (2000,2008) and references cited there.

- (i) a. **Îți** cunosc prietenii
 you_{dat} I.know friends.the
 ‘I know your friends’
 b. **Mi-a** primit scrisoarea
 me_{dat} (s)he.has received letter.the
 ‘(S)he received my letter’

We expect Romanian to also show evidence for the two “possessor raising” constructions of Bulgarian (see, for example, (ii), where the DP expressing inalienable possession in Romanian is modified by an appositive adjective, unlike the French and Italian cases in (9) and (10)), but will not pursue this question here:

- (ii) **I-am** primit mâinile (albe) (Manoliu-Manea 1996,727)
 her_{dat}-have.1sg looked hands.the (white)
 ‘I looked at her white hands’

Their ungrammaticality follows directly from the impossibility of the dative clitic to appear inside an indefinite DP (cf. (23)), and from the fact that with non affecting predicates the dative clitic cannot be directly merged externally. (33) contrasts with (24), which has the possessive dative clitic merged outside of the DP (in the clausal position of dative arguments) and is thus unaffected by the indefinite character of the object.

That the ungrammaticality of (33) really derives from the impossibility of movement is confirmed by the observation that wherever movement is blocked possessor raising with non affecting predicates becomes impossible. One such case is provided by the examples in (34) containing non affecting predicates in which the external possessive dative clitic cannot be construed with a possessee embedded in a PP. Under the possessor raising approach adopted for these cases, the gap in (34) follows directly from the island character of the PP, which blocks the raising of the clitic. See (34), to be compared once again with comparable cases like (32) above, which are grammatical precisely because there no movement has taken place:

- (34) a. *Az ì mislja [PP za [DP očite ____]]
 I her_{dat} think.1sg for eyes.the
 ‘I think of her eyes’
- b. *Az ne ti zavisja [PP ot [DP parite ____]]
 I not you_{dat} depend.1sg from money.the
 ‘I don’t depend on your money’
- c. *Na kogo govori [PP sās [DP zetja ____]]
 to whom spoke.2sg with son-in-law.the
 ‘To whose son-in-law did you talk’

6. Further consequences

A direct consequence of the proposed distinction between the two types of possessor constructions in Bulgarian is the possibility of having a DP external possessive clitic when the DP expressing the possessee is pronominalized. See the contrast between (35)a and (35)b:

- (39) a. **Čadarăt_i** ne **mu** beše nameren t_i
 umbrella-the not him_{dat} was.3sg found
 ‘His umbrella was not found’
- b. ***Imeto_i** ne **mu** beše săobšteno na Maria t_i
 name.the not him_{dat} was.3sg communicated to Mary
 ‘His name was not communicated to Mary’
 (cf. [Imeto mu]_i ne beše săobšteno na Maria t_i)

If the possessive clitic in (39)b can only come from inside the DP object expressing the possessee (*imeto*), after which the object moves to preverbal subject position as part of the passivization process, we end up with the configuration in (40), in which the clitic trace is only bound by its antecedent under reconstruction:¹⁷

- (40) [_{DP} imeto t_k]_i ne **mu_k** beše săobšteno na Maria t_i

Let us consider if this fact might be at the basis of the ill-formedness of (40).¹⁸ We know independently that an A-bar moved phrase containing an unbound A-bar trace leads to an unacceptable result. See e.g. (41) from Italian:

- (41) *I Rossi, [regalare t_i ai quali]_k non so cosa_i potrei t_k..
 the Rossis, to give to.the whom.pl not know what could.1sg
 (cf. Non so cosa potrei regalare ai Rossi ‘I don’t know what I could give to the Rossis’)

An A-bar moved phrase containing a trace of A-movement does not lead to a comparable problem, as the grammaticality of (42) shows:

- (42) [venduto t_i ai Rossi]_k (l’appartamento)_i non è stato t_k
 sold to.the Rossis the apartment wasn’t

¹⁷. Under a copy theory of movement (Chomsky 1995, chapter 3), the representation would be (i):

(i) [_{DP} imeto ~~mu_k~~]_i ne mu_k beše săobšteno na Maria[_{DP} ~~imeto~~ ~~mu_k~~]_i

For a recent general discussion of Reconstruction (also under the copy theory of movement), see Sportiche (2003).

¹⁸. If in (39)a no extraction of the clitic takes place, there is no clitic trace to worry about.

In this respect, the trace of a clitic behaves like the trace left by A-movement since it does not lead to unacceptability. See (43). If so, then in (40) we have a case analogous to that in (41) (modulo the A- instead of the A-bar traces).

- (43) [venduto t_i ai Rossi]_k non l_i 'hanno t_k
 sold to the Rossis not it have.3pl

The generalization that emerges is that a configuration resulting from movement of a certain type (A or A-bar) followed by remnant movement of the same type (A or A-bar) leads to unacceptability: a situation possibly related to the fact that Reconstruction of a certain type of movement happens in one solution (cannot feed itself).¹⁹

The ungrammaticality of (39)b is in fact parallel to that of (44) in Italian with *ne*-extraction interacting with the A-movement of the object DP to subject position:²⁰

- (44) *[Il nome t_i]_k non **ne**_i è stato comunicato t_k
 the name not it_{gen} is been communicated
 ‘His name was not communicated’

In (39)a on the other hand, the possessive clitic is base generated outside of the DP object expressing the possessee, as we have argued above, so no issue of simultaneous reconstruction of two A-chains arises here and grammaticality is completely expected.

7. Conclusion

In this paper, we have presented evidence that the traditional “possessor raising” phenomenon of Bulgarian (and, perhaps, that of other Balkan languages as well) should be decomposed into two separate cases. The first, here labeled “the base-generated

¹⁹. The grammatical status of (42) and (43) suggests that Reconstruction of A-bar chains may feed Reconstruction of A-chains.

²⁰. In both cases extraction of the clitic after the DP object has raised to preverbal subject position would involve an illicit downward movement. The possibility of so-called *en-avant* in French remains to be understood in relation to its impossibility in Italian (and Bulgarian).

possessor construction” appears to have the same properties of the Romance “possessor raising” construction, namely:

1. It is limited to inalienable possession (and its extensions);
2. It is limited to predicates which affect their objects and impose a benefactive/malefactive interpretation on the external possessor; and
3. It does not involve movement of the possessive clitic from inside the DP expressing the possessee.

The second case, which we could label “possessor raising” proper is characterized by the opposite properties:

4. It is not limited to inalienable possession;
5. It contains predicates that do not affect their object nor impose a benefactive/malefactive interpretation on the external possessor; and
6. It involves raising of the internal possessive clitic to a clausal Dative position.

Crucially, then, the non-movement option is only available (in Bulgarian, as well as in Romance) whenever a Dative clitic can be directly merged in the clausal Dative position licensed by predicates that affect their objects, and assign to them a Benefactive/Malefactive theta-role, rather than the Possessive one assigned inside the DP (as in the genuine possessor raising case). Since the predicates compatible with the latter construction (such as *know*, *forget*, *describe*, etc.) do not license any Benefactive/Malefactive theta-role, the clausal Dative position will be able to host via raising only clitics that have received a (Possessive, or other) theta-role inside the DP.²¹

Here we leave open the exact mechanism which can be held responsible for the added possessive interpretation that relates the external Benefactive/Malefactive Dative to the DP expressing the inalienable possession in Romance and Bulgarian.

²¹. Richard Kayne (p.c.) made the interesting suggestion that even the Romance-type construction might after all involve movement of the dative clitic doubling an overt (see (37) above) or silent DP inside the DP expressing the possessee from where the clitic is extracted. If that conjecture were to turn out correct, the differences that we have noted here between the two constructions would have to be derived in some other fashion.

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Modal particles in Italian^{*}

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1. Introduction

In the last decades, the linguistic studies on German (and other Germanic languages) have led to the identification of a small class of words, which are generally referred to as *Modalpartikeln* ('modal particles'), *Abtönungspartikeln* ('gradating, shading particles'), etc. Their name varies in the technical literature according to the aspect each author wants to stress. For the present purposes, I will use the term 'modal particles' (henceforth MPs) because, as I pointed out in previous works (cf. Coniglio 2005), I find the name fully legitimated by their syntactic behavior.¹ They constitute a specific class of elements, which are similar to speaker-oriented adverbs, but compared to these they display a higher degree of grammaticalization and other peculiar characteristics clearly distinguishing them from this class of adverbs.

It is difficult to provide a definition describing the features of the whole class which at the same time applies to each word belonging to it. The lexemes of this closed word class fulfill very different functions. Let us think of words such as *ja*, *denn*, *wohl*, etc.²

*. I would like to thank Anna Cardinaletti for her comments on this paper. The responsibility for any errors is entirely mine.

¹. As we will see below, MPs occupy a variable position between Cinque's (1999) mood and modality projections (MoodPs and ModPs).

². Unfortunately, it is difficult to provide the English translation of German MPs. In the present paper, I will not attempt to translate them. However, in order to allow the reader to understand the meaning and

These elements are notoriously confined to the *Mittelfeld* (middle field) of the clause, as in the following examples:³

- (1) Hans ist *wohl* auf See. (Zimmermann 2004b: 543)
Hans is PRT at sea
 “Hans is probably at sea.”
- (2) Was ist *denn* hier passiert? [...] (Thurmair 1989: 166)
what is PRT here happened?
 “What happened here?”

From a syntactic perspective, their restriction to the middle field is the only generally accepted criterion to distinguish these lexemes from adverbs in general. But also see the next section about further characteristics all MPs have in common.

There is a consolidated tradition of studies about German MPs in every linguistic field, i.e. from semantics to pragmatics, from phonology to syntax, and so on. In this paper, I would like to concentrate on the syntactic facets of this topic.

As for Italian, in contrast, the existence of such a group of words as German MPs has never been assumed. It has only been sporadically observed that some Italian lexemes (such as *mai*, *poi* and so on) present peculiar characteristics (phonetic, semantic, syntactic, etc.) distinguishing them from the traditional class of adverbs. See, for

function of each particle, in the appendix below I will provide the translation of Thurmair’s (1989: 200) table summarizing the principal functions of each particle. I refer to Thurmair (1989) for an in-depth examination.

³. Notice that unmarked German main clauses (displaying the finite verb in second position) are traditionally subdivided into three *Felder* (‘fields’), i.e. the *Vorfeld* (‘initial field’), the *Mittelfeld* (‘middle field’) and the *Nachfeld* (‘final field’). This division is legitimated by the presence of discontinuous verbal complexes, splitting up the sentence into three parts, as in the following example:

- (i) [_{VF} Hans] *hat* [_{MF} mehr Glück] *gehabt* [_{NF} als Ingo].
Hans has more luck had than Ingo
 ‘Hans was luckier than Ingo.’

In particular, with *Mittelfeld* we mean that portion of a German clause that in matrix contexts is delimited, to the left, by the finite verb and, to the right, by the uninflected form of the verb, if present at all.

instance, the articles by Burkhardt (1985), Radtke (1985) and Held (1985). Although the number of these words does not reach that of German MPs, some of them are worth exploring. They could reveal the existence of a class of MPs in Italian like the German one.

Consequently, the issue I would like to address in the present paper is the following: are there MPs in Italian? Providing an answer to this question depends on a number of related issues, first of all the criteria we adopt to define the class of MPs. Thus, for example, if we adopted the generally accepted *Mittelfeld*-criterion to define this class, we would face an insurmountable problem in recognizing the existence of particles in those languages (like Italian) that do not have a middle field. Therefore, we have to find out alternative means to detect potential MPs in these languages as well.

The present paper aims at giving an affirmative answer to the question above, by providing some arguments in favour of this hypothesis, mainly based on the syntactic comparison of Italian and German particles. I will therefore try to apply the results of the long tradition of studies on German to the analysis of potential MPs in Italian.

We need to bear in mind that a sufficiently restrictive syntactic theory is required in order to avoid the inclusion of too many elements in this class. Since there are no clear syntactic criteria to define what MPs are, elements that do not belong to this class (such as *figurati*, *eh*, etc.) could be admitted in it as well. Therefore, it is necessary to provide syntactic instruments that allow us to distinguish MPs from discourse elements that, in contrast to the latter, display a parenthetical usage or are not integrated in the clause. As these elements can express the speaker's attitude to the proposition as well, they are often semantically very close to MPs. However, syntactic criteria can help to restrict the field by revealing elements which do not belong to this class.

This paper is organized as follows. In the next section, I will address the main characteristics of German MPs as they are generally described in traditional works on this topic. These properties will turn out to be useful for the identification of potential MPs in Italian, which are presented in section 3. Here, I will compare German and Italian MPs from a purely syntactic point of view, by extending my previous analysis on German (Coniglio 2005, 2006, 2007a,b,c, forthcoming) to Italian. Conclusions and open questions will follow in section 4.

2. Properties of German modal particles

The attempt to outline common characteristics of MPs is no easy task. The whole group comprises about twenty words, which constitute a closed class of different elements. I am thinking of words like *aber*, *auch*, *bloß*, *denn*, *doch*, *eben*, *eigentlich*, *einfach*, *etwa*, *halt*, *ja*, *mal*, *nur*, *ruhig*, *schon*, *sowieso*, *vielleicht*, *wohl* and maybe a few other lexemes.⁴ However, the well-known fact that all these elements present homophones in other word classes makes their analysis more difficult. In what follows, I will present some of the syntactic properties, which characterize MPs as a class and distinguish them from other word classes.⁵

2.1. Traditional observations on the syntax of German modal particles

In general, we can observe that MPs are mainly used in spoken German and usually express the speaker's subjective point of view with respect to what s/he is saying. However, their strongly grammaticalized status often makes their semantic contribution unclear. They have no lexical meaning in a traditional sense (cf. Molnár 2002: 15) and are, therefore, often difficult to translate into other languages. In most cases, their omission does not render the sentence ungrammatical, but only involves a slight change in its meaning:⁶

- (3) Die Preise werden (ja) immer höher.
 the prices are.getting PRT higher and higher

As mentioned above, a well-known characteristic of MPs is their property of occurring in the *Mittelfeld* of the clause. They can occupy the middle field of main clauses, as in the sentence above, as well as that of embedded clauses, as in the following example:

⁴. For instance, *allerdings*, *immerhin*, *jedenfalls*, *ohnehin*, *schließlich* are classified as particles by some authors. Cf. Weydt *et al.* (1983: 159ff).

⁵. The characteristics discussed below are mainly taken from Thurmair (1989: 21ff). Also see Helbig/Buscha (1991: 475ff), Borst (1985: 6), Tamborra (2001: 30) and Dallona (2000: 44f).

⁶ In very few cases, the presence of MPs is nonetheless obligatory. Thurmair (1989: 24f) lists some contexts where the absence of MPs makes a sentence unacceptable.

- (4) Er hat ein schlechtes Gewissen,
he has a bad conscience
 weil er wohl gelogen hat. (Asbach-Schnitker 1977: 48)
because he PRT lied has

Notice that they neither occur in the final field (5) nor in the initial field (6a), not even if topicalized within a bigger constituent (6b):

- (5) * Die Preise werden immer höher (,) *ja*.
 (6) a. * *Ja* werden die Preise immer höher.
 b. * [*Ja* immer höher] werden die Preise.

Actually, the middle field of root and embedded clauses is not the only context where we can find MPs. They can sometimes occur in complex DPs as modifiers of an adjective or of a participial clause:

- (7) In der *wohl* größten urbanen Umgestaltung seit [...] (Métrich *et al.* 2002: 348)
in the PRT biggest urban reshaping since [...]
 (8) Dieser *ja* leider viel zu früh
this PRT unfortunately too early
 verstorbene Komponist [...] (Thurmair 1989: 27)
died composer

We could save the generalization by claiming that, in these contexts, MPs occupy the middle field of reduced clauses, whose predicates are adjectival or participial.

A second apparent exception to their confinement to the clausal middle field is their occurrence in the initial field (*Vorfeld*) of *wh*-interrogative clauses:

- (9) Wer *schon* wird das tun wollen? (Ormeliuss-Sandblom 1997: 85)
who PRT will that do want.to?

However, in these contexts, MPs modify a *wh*-element, thus being embedded in a DP, as in the preceding case, and probably constituting no real exception.

In this paper, I will concentrate on the occurrence of MPs in the clausal middle field, but I have to point out straightaway that their confinement to the middle field is not alone sufficient to define this class, since other lexemes behave in the same way. Other criteria, not only morphosyntactic, but also semantic and pragmatic ones, can help us distinguish particles from similar IP-internal elements. But let us now concentrate on their morphosyntactic characteristics.

First of all, we observe that, although MPs are confined to the middle field, they take scope over the whole proposition (and not over single constituents). They scope even out of the IP, thus displaying strong links to the left clausal periphery. This connection with the CP is testified by two other properties, viz. their dependency on the type of clause they occur in and the illocutionary effects they can have.

As for the first characteristics, we can easily prove that not all particles are compatible with all clausal types. Each of them can only occur in certain types of clauses, i.e. declaratives, imperatives, etc. (cf. Thurmair 1989:49). Thus, for instance, a particle like *denn* can only be found in interrogatives, *wohl* in declaratives and interrogatives and so on. Syntactically, we can explain this fact by claiming that there is a close link between MPs and the left periphery, since clause typing is generally assumed to take place in the CP-layer.

With respect to the second point, i.e. the illocutionary effects generated by MPs, Thurmair (1989: 2) points out that MPs can strengthen or modify the illocutionary force of a sentence. Let us consider some examples to illustrate how they can do this. MPs can strengthen the illocutionary force of a clause, as in the case of stressed *JA* in the following sentence:⁷

- (10) Komm *JA* nicht zu spät heim. (Thurmair 1989: 109)
come PRT not too late home

Here, the particle *JA* performs the function of making the order peremptory.

As to their faculty of modifying the illocutionary force of a clause, consider the following example (from Coniglio forthcoming):

- (11) Wir wollen *doch wohl nicht etwa* annehmen,
we want PRTs (not) assume
 dass die Sonne sich um die Erde dreht.
that the sun (itself) around the earth revolves.

⁷. Capital letters indicate that the particle is stressed.

Let us now take into account more specific morphosyntactic characteristics of German MPs, which you usually find in the technical literature on this topic. As I pointed out in Coniglio (2005: 29ff), where most examples are drawn from, MPs can be neither coordinated (12a)⁸ nor modified (12b).⁹ They cannot stand alone as a reply to a question (12c) nor can they be stressed (12d),¹⁰ nor be replaced by means of a substituting element (12e):¹¹

- Here, I leave out other characteristics that, although being discussed by many authors, are less interesting for our discussion, as for instance the position of MPs with respect to

¹¹. These characteristics are usually assumed as evidence that MPs are head-elements. Nonetheless, I consider them as degenerated maximal projections, as argued in Coniglio (2005, 2006, 2007b). Also see Cardinaletti (2007) for the same conclusions.

other elements in the middle field, such as negation and (full and pronominal) DPs and PPs. In general, we observe that MPs can never be in the scope of negation and that they have to precede rhematic elements, but follow thematic ones (cf. Coniglio 2005: 31ff). In what follows, I will concentrate on other issues, discussed in previous works of mine.

2.2. Further syntactic characteristics

In this section, I will briefly present the results of my previous studies on German MPs. In particular, in 2.2.1., I will sketch a syntactic analysis of their restriction to the middle field. In 2.2.2., I will then provide evidence for linking MPs to the CP-domain.

2.2.1. Modal particles as weak adverbs in the IP-domain

In previous works (Coniglio 2005, 2006, 2007a,b), I offered an analysis of German MPs in terms of weak adverbs occurring in the IP of the clause. In particular, I addressed two main questions. On one hand, I investigated their internal structure by targeting the fundamental issue, whether they should be considered heads or maximal projections. On the other hand, I examined their external syntax and tried to establish how they behave with respect to other lexical elements also occurring in the clausal middle field, adverbs in particular.

Regarding the first issue, the question whether MPs are heads or maximal projections is a long disputed one. If we consider the examples in (12) again, strong evidence suggests that they are heads. However, other considerations lead us to regard MPs as XPs in the specifier position of some functional projections. The main argument is the following (cf. Bayer forthcoming): if MPs were – as is sometimes claimed – heads in the functional structure of the IP, how could we explain the fact that they do not interfere with verb movement? If this is generally assumed to be cyclic, why is it not the case that MPs cliticize to the verb or block its movement?

I argued that MPs should be considered maximal projections in the specifier position of functional projections, as Cinque (1999) claimed with respect to adverbs (see below). Nevertheless, I suggested that, in contrast to Cinque's adverbs, MPs are degenerated elements unable to project a full-fledged structure as in the case of adverbs (also see

Cardinaletti 2007).¹² This would be the consequence of a grammaticalization process, which led them to lose part of their syntactic structure. Such an analysis would account for the characteristics seen in (12), as well as for their adverbial nature.

Let us now consider the external syntax of these elements, i.e. their distribution in the clause, in particular with respect to other constituents occurring in the middle field. As anticipated, here, I will not address the issue of their position with respect to DPs, but I will concentrate on their distribution with respect to adverbs, as they have been classified by Cinque (1999). In Coniglio (2005, 2006, 2007a,b), I proved that the reciprocal positions of MPs and adverbs provide interesting insight into the nature of particles.

Cinque (1999) assumes that adverbs and functional verb morphology are evidence of the underlying functional structure of the IP. In particular, he claims that the clausal IP-domain is constituted by a fixed sequence of functional projections hierarchically ordered, which host verb morphology in their head positions and the different adverbial classes in their specifiers.

The structure of the clausal functional projections given by Cinque for English is the following one, where he also lists an example for the adverbial class hosted in the specifier of each functional projection:¹³

(13) *The universal hierarchy of clausal functional projections* (Cinque 1999: 106)

[*frankly* Mood_{speech act}] [*fortunately* Mood_{evaluative}] [*allegedly* Mood_{evidential}] [*probably* Mod_{epistemic}]
 [*once* T(Past)] [*then* T(Future)] [*perhaps* Mood_{irrealis}] [*necessarily* Mod_{necessity}]
 [*possibly* Mod_{possibility}] [*usually* Asp_{habitual}] [*again* Asp_{repetitive(I)}] [*often* Asp_{frequentative(I)}]
 [*intentionally* Mod_{volition}] [*quickly* Asp_{celerative(I)}] [*already* T(Anterior)] [*no longer* Asp_{terminative}]
 [*still* Asp_{continuative}] [*always* Asp_{perfect(?)}] [*just* Asp_{retrospective}] [*soon* Asp_{proximative}] [*briefly* Asp_{durative}]
 [*characteristically(?)* Asp_{generic/progressive}] [*almost* Asp_{prospective}] [*completely* Asp_{SgCompletive(I)}]
 [*tutto* Asp_{PlCompletive}] [*well* Voice] [*fast/early* Asp_{celerative(II)}] [*again* Asp_{repetitive(II)}]
 [*often* Asp_{frequentative(II)}] [*completely* Asp_{completive(II)}]

¹². By adopting a tripartition of adverbs as the one Cardinaletti/Starke (1999) proposed for pronouns (i.e. clitic, weak and strong), I claimed that MPs are weak adverbs, opposed to strong adverbs, i.e. the ones considered by Cinque (1999). Also see Grosz (2005) and Cardinaletti (2007) for similar conclusions. In the present paper, I will not take into account clitic MPs (i.e. clitic adverbs in the tripartition), which can be found in substandard German or in some German dialects.

¹³. Also see Cinque (2001) for some refinements of this hierarchy.

For reasons of space, I cannot go deeper into Cinque's (1999) theory. Therefore, I refer to his work for further clarifications.

In Coniglio (2005, 2006, 2007a,b), I argued that MPs, in contrast to adverbs, do not occupy a fixed position in the IP. Since they occur in certain positions with respect to adverbs, i.e. they can only be found in between the highest adverbs, I claimed that they occupy very high positions in Cinque's clausal structure.

In particular, I maintained that all particles have to comply with the same pattern. Although they can occupy one or more positions in between Cinque's highest adverbs, they cannot occur after the (higher) class of repetitive adverbs, as illustrated in (14) and exemplified in (15) by means of the particle *ja* in declarative contexts:¹⁴

(14) *Positions accessible to MPs*

(√) > Mood_{speech act} > (√) > Mood_{evaluative} > (√) > Mood_{evidential} > (√) > Mod_{epistemic} >
 (√) > T(Past) > (√) > T(Future) > (√) > Mood_{irrealis} > (√) > Mod_{necessity} >
 (√) > Mod_{possibility} > (√) > Asp_{habitual} > √ > Asp_{repetitive(I)} > * > Asp_{frequentative(I)} > * > ...

(15) Der Attentäter ist ... von der Polizei festgehalten worden.

the assassin is by the police detained been

- | | | |
|---------------------------------------|------------------------------|--------------------|
| a. ... <ja> glücklicherweise <ja> ... | Mood _{evaluative} | <i>fortunately</i> |
| b. ... <ja> damals <ja> ... | T(Past) | <i>then</i> |
| c. ... <ja> normalerweise <ja> ... | Asp _{habitual} | <i>usually</i> |
| d. ... <ja> nochmals * <ja> ... | Asp _{repetitive(I)} | <i>again</i> |

¹⁴. With higher repetitive adverbs, I mean the class of adverbs hosted in the specifier of the projection Asp_{repetitive(I)}. Cinque (1999: 91ff) distinguishes two classes of repetitive adverbs on the basis of examples such as the following (for Italian):

- (i) Gianni ha di nuovo battuto alla porta di nuovo/ancora.

‘G. again knocked on the door again.’

With respect to this example, Cinque (1999: 92) argues that “[t]he leftmost *di nuovo* quantifies over the event (of knocking on the door, perhaps many times), while the rightmost quantifies over the act itself of knocking.” Since MPs have to precede both classes of repetitive adverbs, I will sometimes simplify the facts and say that MPs always precede repetitive adverbs in general, although I mean that they have to occur before the higher class of adverbs and consequently before all adverbial classes following these.

The position between habitual adverbs and repetitive adverbs constitutes a sort of natural boundary between the highest and the lowest clausal projections. In the higher part of the clausal architecture we find syntactic projections linked to mood and modality. Instead, the lower portion of the clause hosts aspectual projections, which have therefore a strong link to or are part of the propositional content of the clause. Since MPs are external to the proposition and clearly linked to mood and modality projections, it is not surprising that they can only be found in the higher part of the clausal structure.

To sum up, MPs are elements syntactically related to the IP. Because of their superficial position between mood and modality projections, they are rightly dubbed “modal” particles. However, in recent investigations, which I will briefly discuss in the next section, I pointed out that these elements also display a link to the left periphery of the clause.

2.2.2. A link between modal particles and ForceP

As already pointed out in 2.1., German MPs generally occur in the middle field of root and embedded clauses. The fact that main clauses can license particles is not surprising since these types of clauses display root properties per definition and are therefore endowed with independent illocutionary force. Nevertheless, embedded clauses can sometimes display root properties as well and, consequently, they can also license MPs, as we have seen, for example, in (4), repeated here as (16):

- (16) Er hat ein schlechtes Gewissen,
 he has a bad conscience
 weil er wohl gelogen hat. (Asbach-Schnitker 1977: 48)
 because he PRT lied has

We should now ask which embedded clauses can display root properties and therefore license MPs. For this purpose, I will make use of some recent theories by Haegeman (2002, 2004a,b, 2006) about the syntax of root and embedded clauses. In the next section, I will briefly sketch her approach. In 2.2.2.2., I will then provide an explanation for the distribution of German MPs in embedded contexts by adopting Haegeman’s proposals (cf. Coniglio 2007c, forthcoming).

2.2.2.1. The internal and external syntax of clauses

In recent works, Haegeman (2002, 2004a,b, 2006) draws a distinction between certain subordinate clauses resembling root clauses (since, semantically, they behave as if they were unembedded), on one hand, and embedded clauses in traditional terms, on the other.

Let us now concentrate on adverbials. Haegeman argues for the existence of two types of such subordinate clauses, i.e. central and peripheral adverbials, the first ones being more deeply embedded than the second ones, which would therefore occupy a more peripheral position.

Consider the following examples contrasting two different types of conditionals:

- (17) a. If it rains we will all get terribly wet and miserable.
 b. If [as you say] it is going to rain this afternoon, why don't we just stay at home and watch a video?

Haegeman (2002: 117)

The sentence in (17a) contains a sequential relation between the event expressed in the conditional clause and its consequence in the matrix clause. In this case, Haegeman speaks of an *event conditional*. The sentence (17b) instead is discourse-related and contains a premise leading to the question in the matrix clause (or *associated clause*, according to Haegeman's terminology).¹⁵ This type of conditionals, called *premise-conditionals* by Haegeman (2002: 118), displays a certain degree of independence from the associated clause.

Haegeman (2002: 130ff) provides evidence demonstrating that the two types of conditionals differ syntactically with respect to their degree of subordination, i.e. with respect to their relation to the associated clause. Event conditionals are more deeply embedded than premise conditionals and, consequently, semantically and syntactically dependent from the associated clause. According to Haegeman (2002: 131), event conditionals (and *central adverbials* in general) are merged within the IP of the matrix clause by adjunction to its vP (or to an AspP). Premise conditionals (and other *peripheral adverbials*) are adjoined to the CP of the associated clause in a coordination-like structure.

¹⁵ Cf. Haegeman (2002: 118). The term *matrix clause* would be misleading in this case because *premise conditionals* are not embedded in the *associated clause*.

As a consequence of their different external syntax, event conditionals, temporal clauses and other types of central adverbials would also differ from premise conditionals and other peripheral adverbials with respect to another important property. While central adverbials are part of the speech act of the matrix clause, peripheral adverbials have independent illocutionary force: associated clause and peripheral adverbial constitute therefore two different illocutionary speech acts.

Another important point is that these two types of clauses, according to Haegeman, can also be distinguished with regard to their internal syntax, i.e. with regard to the internal structure of their left periphery.¹⁶ Haegeman (2002, 2004a,b, 2006) adopts the well-known theories by Rizzi (1997, 2001) on the fine structure of the CP. In particular, she assumes that the left periphery of a clause is articulated as follows (Haegeman 2002: 147, 151):

(18) Force Top* Focus Mod* Fin

The CP would be the syntactic space comprised between the projections of Force and Fin, encoding illocutionary force and finiteness respectively. Between these two boundaries, we find other discourse-related projections hosting topicalized and focalized elements and modifiers.¹⁷

With respect to these elements, Haegeman observes a crucial difference in the licensing of topicalized and focalized elements. While fronted adjuncts, which according to Haegeman occupy the projection ModP, can be found in all types of clauses (both central and peripheral ones), fronted arguments and focalized elements, which occupy TopP and FocusP respectively, can only be licensed in peripheral clauses as in (20), but they are excluded from central ones, as we see in (19):

(19) a. * If these final exams you don't pass, you won't get the degree. (Haegeman 2002: 148)

¹⁶. According to Haegeman's (2008a, 2008b) recent proposals, the highest part of the IP of central adverbials would be truncated as well, as demonstrated by the fact that Cinque's (1999) higher classes of adverbs are excluded from these contexts.

¹⁷. For reasons of space, I cannot go into the functions associated to each projection mentioned here. See Haegeman (2002, 2004a,b, 2006) and Rizzi (1997, 2001, 2004) for an in-depth examination.

- b. * When the questions you can't answer, you can ask for a different set of questions. (Haegeman 2002: 148)
- (20) a. We don't look to his paintings for common place truths, though *truths* they contain none the less. (Guardian, G2, 18.2.3., p. 8, col 1) (Haegeman 2004a: 160)
- b. If *these problems* we cannot solve, there are many others that we can tackle immediately. (Haegeman 2004a: 160)

Haegeman considers the contrasts above as a piece of evidence for postulating a difference in the internal structure of central and peripheral adverbials. In particular, she assumes that the CP of central adverbials is structurally reduced if compared to that of peripheral clauses.

Provided that all subordinate clauses have a projection SubP containing the subordinating conjunction, the structure of peripheral and central adverbials would only differ with respect to the presence vs. absence of certain projections, i.e. TopP, FocusP and the projection encoding information about the illocutionary force of the clause, viz. ForceP. As illustrated below, while peripheral adverbials, as well as root clauses, would display all the (intermediate) projections ForceP, TopP and FocusP, central adverbials would lack them:

- | | | | | | | |
|-----------------------------|-----|-------|------|-------|------|-----|
| (21) a. Central adverbials: | Sub | | | | Mod | Fin |
| b. Peripheral adverbials: | Sub | Force | Top* | Focus | Mod* | Fin |
| c. Root clauses: | | Force | Top* | Focus | Mod* | Fin |
- Haegeman (2002: 159)

Haegeman links the presence of the projections TopP and FocusP in root clauses and peripheral adverbials to the realization of the projection ForceP (Haegeman 2002: 160ff). I.e. the presence of this projection is crucial in determining the possibility for a clause to license topicalized or focalized elements.

At a second stage, Haegeman extends her analysis in terms of structural reduction to the other types of embedded clauses, in particular to complement clauses.¹⁸ Even though,

¹⁸. Haegeman (2002: 166) points out that relative clauses could be analyzed in a similar fashion. They seem to differ at least with respect to their external syntax. Appositive relatives often display illocutionary independency and are apparently more peripheral than restrictive ones.

with regard to their external syntax, these clauses are always embedded and consequently central clauses, they also present a differentiated internal structure, as represented below:

- (22) a. Non-factive complements: *that* (Top) (Focus) Force Mod* Fin
 b. Factive complements: *that* Mod* Fin
- Haegeman (2004a: 171)¹⁹

She proposes that non-factive complements present a full structure, in contrast to factive complements, which in contrast to these do not admit the presence of topicalized and focalized elements (see Haegeman 2004a, 2006 for the relevant tests).

The following table summarizes the results of Haegeman's investigations on the structure of the left periphery of embedded clauses. Only certain types present a full structure like that of root clauses:

(23) *The left periphery of embedded clauses*

Complement clauses	non-factive complements	full
	factive complements	reduced
Adverbial clauses	peripheral adverbials	full
	central adverbials	reduced
Relative clauses	appositive relatives	full
	restrictive relatives	reduced

As discussed above, Haegeman (2002, 2004a,b, 2006) claims that central adverbials present a reduced CP. In particular, she argues that temporal clauses and event conditionals (i.e. central conditionals) are always of the central type.²⁰ Other adverbials can be both central and peripheral. As far as complement clauses are concerned, we observed that factive complements, in contrast to non-factive clauses, display a reduced

¹⁹. See Haegeman (2002: 162ff, 2006: 1662f) about the uncertain positioning of ForceP with respect to the other CP-internal projections.

²⁰. In Coniglio (2007c, forthcoming), I proposed that locative clauses should be considered central adverbials as well.

structure. Finally, relative clauses could be analyzed in a similar fashion, since restrictive relatives seem to involve a more reduced structure than non-restrictive ones. As anticipated, Haegeman's proposals about the internal and external syntax of clauses can help us account for the distribution of MPs, as will be illustrated in the next section.

2.2.2.2. Accounting for the distribution of modal particles in embedded clauses

In Coniglio (2007c, forthcoming), I demonstrated that clauses displaying a reduced structure not only cannot license fronted arguments and focalized elements, but they cannot contain MPs either, since they cannot license root phenomena at all.

Thurmair (1989) had already observed that clauses not displaying independent illocutionary force cannot host particles. However, she had not provided a syntactic explanation of the phenomenon. Therefore, starting from Haegeman's proposals about a different structure of clauses, I provided a syntactic account for the phenomenon. Since MPs are a root phenomenon, their distribution is limited to clauses displaying root properties. They are banned from non-root contexts, since the latter do not constitute independent speech acts. We will see that these observations hold for Italian MPs as well.

Let us consider the following table summarizing the results of my investigation on the distribution of MPs in root and embedded contexts:

(24) *Distribution of German MPs in root and embedded clauses* (Coniglio 2007c: 27)

Clause types	MPs
Embedded clauses with a reduced CP	-
Embedded clauses with a full CP	+
Root clauses	+

MPs can only occur in those contexts that, according to Haegeman (2002, 2004a,b, 2006), display a full left periphery and thus root properties.

Therefore, on one side, we have root clauses and embedded clauses with a full structure, which are also endowed with independent illocutionary force. On the other side, there are embedded clauses displaying a reduced CP-domain (factive complements, central adverbials and restrictive relatives), which lack illocutionary force and depend on a

matrix clause²¹ as far as the anchoring of force to the speaker is concerned. They do not have a projection ForceP of their own.

It is not surprising that MPs can only occur in the first type of clauses, i.e. the ones with a full periphery. Consider two important characteristics of MPs. First, they trigger illocutionary effects by modifying or strengthening the illocution of the clause they occur in and thus presuppose the presence of Force.²² Second, MPs express the speaker's attitude towards the propositional content of the clause. Since information about the speaker is syntactically encoded in ForceP, the presence of this projection is even more necessary.²³

But let us now concentrate on some Italian lexemes and apply the syntactical observations made about German MPs to these elements.

3. Some potential modal particles in Italian

I will now survey some Italian words which, though being often considered as adverbs, display special characteristics worth scrutinizing. We will see that some elements are semantically as well as syntactically very close to German MPs. One should think of words like *mai*, *poi*, *pure* and so on, which will be separately taken into account below (see 3.1. to 3.3.).²⁴ More elements (*mica*, *ben* and *sì*) are considered in 3.4., which are probably to be treated like MPs too, but which are semantically still linked to the propositional content of the clause.

²¹. The clause containing their antecedent, in the case of (restrictive) relatives.

²². There is another important difference with respect to adverbs. While adverbs usually occur only in declarative clauses, MPs can also be found in other illocutionary types.

²³. For reasons of space, I will not address the issue of how they are licensed by ForceP. In Coniglio (2005, 141; 2007a, 110) I hinted at a possible analysis in terms of movement of MPs to SpecForceP, in accordance with some proposals by Abraham (1995) and Zimmermann (2004a,b).

²⁴. I will not attempt to give an English translation for these elements. In order to capture their meaning, the reader should read the explanation for each particle below.

Other examples of potential particles in Italian could be *appunto*, *certo*, *magari* and so on. They can also occur clausal-internally and have a function similar to that of MPs. However, for reasons of space, I will limit my analysis to the lexemes mentioned above.

3.1. *Mai*

Though being homophonous with the temporal adverb meaning ‘never’, the Italian MP *mai* has developed a completely different meaning. In general, depending on contexts, its function is that of signaling the rhetoricity of a question or the total incapacity on the speaker’s side to give an answer to it. The following example can be interpreted in both ways, according to the situation:

- (25) Cosa significheranno *mai* quelle parole?
 what will.mean PRT those words

The particle only occurs in interrogative contexts,²⁵ mainly in *wh*-questions, as in the example above. More rarely, it occurs in polarity questions as well. In this case, it is sometimes difficult to distinguish the MP from the temporal adverb:

- (26) Avrà *mai* letto quel libro?
 will.s/he.have PRT read that book

Obenauer/Poletto (2000: 134) have noticed that the positions that the particle can occupy are numerous, as we see in their example:

²⁵. It may also occur in (only formally) imperative types introduced by special verbs, with which they form a sort of fixed expression, as in the case of *vedi mai* in the following example:

- (i) Vedi *mai* che non riesca a perdere peso!
 look PRT that not I.manage to lose weight
 ‘If only I could lose weight!’

In such contexts, the illocutionary force of the clause is generally optative.

- (27) a. Cosa avrebbe *mai* Gianni potuto fare ...
 what had+conditional ever John could do ...
 b. Cosa avrebbe Gianni *mai* potuto fare ...
 what had+conditional John ever could do ...
 c. Cosa avrebbe Gianni potuto *mai* fare ...
 what had+conditional John could ever do ...
 d. Cosa avrebbe Gianni potuto fare *mai* in quel frangente?
 what had+conditional John could do ever in that occasion

In contrast to *poi*, which – as we will see below – can appear in *wh*-questions as well, *mai* can also occupy a position adjacent to the *wh*-element:

- (28) Cosa *mai* avrebbe Gianni potuto fare in quel frangente?
 what PRT would.have Gianni could do in that occasion
 ‘What could Gianni do on that occasion?’

However, in this case, *mai* seems to directly modify the *wh*-element (thus taking narrow scope over it), as do certain expressions like *diavolo* (‘devil’) and similar ones (cf. English ‘what *the hell*...?’).

But at a closer scrutiny, we notice that the positions *mai* occupies are not so numerous as one could conclude from the observation of example (27). If we look at the following sentence, we see for instance that the particle cannot follow the complement of the verb, nor occur in the first position of the clause:

- (29) <**mai*> quando <*mai*> avrà <*mai*> letto <?*mai*> quel libro <**mai*>?
 PRT when PRT will.s/he.have PRT read PRT that book PRT?

In this case, *mai* seems to be able to occupy all intermediate positions. However, the occurrence of the particle after *quando* is possible only if *mai* has narrow scope over the *wh*-element, as mentioned above. Interestingly, the position immediately before the object seems to be excluded as well, unless *quel libro* is ‘deaccented’. A plain intonation is not possible. Therefore, the only genuine position for the particle is the one between the two verbal elements, which delimit a sort of middle field.

Let us now consider the position of *mai* with respect to the Cinque’s (1999) adverbial hierarchy. Since the MP occurs in questions, it can only be combined with few classes of adverbs. We can nonetheless observe that the particle has to follow all higher

adverbs, until the habitual ones, such as *di solito* ('usually') in the example below. However, it cannot follow the higher class of repetitive adverbs, such as *di nuovo* ('again'), and all the lower adverbs:²⁶

- (30) a. Chi l'avrebbe <??*mai*> francamente <*mai*> detto che... ?
 b. Chi l'avrebbe <?**mai*> allora <*mai*> detto che... ?
 c. Chi l'avrebbe <?**mai*> di solito <*mai*> detto che... ?
 d. Chi l'avrebbe <*mai*> di nuovo <?**mai*> detto che... ?
 e. Chi l'avrebbe <*mai*> ancora <?**mai*> detto che... ?
who it-would.have PRT frankly/then/usually/again/still PRT said that

Thus, the Italian particle displays a behavior similar to that of German MPs. It occurs in the higher portion of the IP-domain, but it can only be found in one position between adverbs in *Asp_{habitual}* and those in *Asp_{repetitive(I)}*.

Interestingly, as in the case of German, we can postulate a link between *mai* and the CP-domain. The particle only occurs in those clausal types that according to Haegeman (2002, 2004a,b, 2006) display a full structure of the CP layer.

The number of contexts in which *mai* can be found is very limited, since only a few types of subordinate clauses display interrogative force, which is necessary for *mai* to be licensed. Nonetheless, as we see in the example below, the particle occurs in indirect questions (31), as well as in peripheral adverbials (32) and appositive relatives (33), provided that they are endowed with interrogative force:²⁷

- (31) Ha chiesto cosa avrebbe *mai* potuto
s/he.has asked what s/he.would.have PRT been.able.to
 fare in quella situazione.
do in that situation
 'S/he asked what s/he could have done in that situation.'

²⁶. It is worth pointing out that, probably as a consequence of the grammaticalization process, the particle *mai* occupies a higher position than the homophonous temporal adverb, which occupies the specifier of the projection *Asp_{perfect}* in the hierarchy in (13). Also see Cardinaletti (2008).

²⁷. In embedded clauses displaying a full CP-domain, it is also possible to have imperative constructions of the type seen in fn. 25.

- (32) Quel giorno ho lavorato fino a tarda notte perché cosa
that day I.have worked until late night because what
 avrebbe mai detto il capo se avesse scoperto l'errore?
would-have PRT said the boss if he.had discovered the mistake
 'On that day, I worked till late night. (because...) What would the boss have said if
 he had discovered the mistake?'
- (33) Non ebbi il coraggio di dirlo a Gianni,
NEG I.had the courage to tell-it to Gianni
 il quale come avrebbe mai reagito alla notizia?
who how would.he.have PRT reacted to-the piece of news
 'I didn't trust to tell it to Gianni. (because...) How would he have reacted to this
 piece of news?'

To conclude, though being an IP-internal element, the particle *mai*, like German MPs, displays typical characteristics of CP-related elements, since they only occur in clauses that constitute independent speech acts and consequently present a full left periphery.

3.2. *Poi*

The particle *poi* derives from the homophonous temporal adverb meaning 'then', 'later', which is also a conjunctive adverb ('in addition'). Therefore, it is often difficult to keep its different uses distinct. It can be mainly found in questions, but also in declaratives. In questions, *poi* can signal that the speaker is not able to find an answer, nor is the hearer, according to the speaker's assumptions, as we see in (34).²⁸ But it may also express the speaker's concern or interest with respect to the information being asked for, as in (35):²⁹

²⁸. Notice that the particle can also be used 'perfidiously' (in a rhetorical sense) to indicate that the answer is known to both speaker and hearer.

²⁹. Thus resembling the German particle *denn*, which usually expresses the speaker's concern. See Bayer (forthcoming).

- (34) Chi avrà *poi* telefonato?
who will.have PRT called

- (35) Ha *poi* cantato alla festa?
has.s/he PRT sung at-the party

Poi usually occurs in interrogative clauses, both *wh*- and polarity questions, as we can see in the examples above. It can be found in declarative contexts as well. In such cases, it is even more difficult to distinguish the MP from the adverbial usage. See the following examples where the particle has a MP-function:³⁰

- (36) Non siamo *poi* così lontani dalla verità. (Bazzanella 1995: 226)
NEG we.are PRT so far from-the truth

- (37) Non è *poi* così male!
NEG is PRT so bad

By using this particle, the speaker aims at mitigating the too strong assertion that is present in the preceding linguistic or extralinguistic context.

It is worth noting that, in *wh*-questions, the particle *poi* can occupy different positions with respect to other constituents. However, in contrast to *mai*, the particle *poi* cannot be found in the position immediately adjacent to the *wh*-element. See the following example:

- (38) Cosa <*poi>avrò <poi>detto <poi>che l'ha offesa?
what PRT will.I.have PRT said PRT that her.has offended
 'What did I say that offended her?'

In polarity questions, we observe a similar behavior:

- (39) Avrà <poi>cantato <poi>alla festa <*poi>?
will.she.have PRT sung PRT at-the party PRT
 'Do you think she sang at the party?'

³⁰. However, with comma intonation, *poi* can also be a conjunctive adverb.

In both examples, the unmarked position is the one between the two verbal elements, as we have seen in the case of *mai*.

Notice that also the first position is available in the examples above. But in such cases, we are no longer dealing with the particle *poi*, but with the temporal or conjunctive adverb. Therefore, the position of *poi* can help us distinguish the particle from adverbial usages.

When occurring in declaratives, the MP cannot occupy the first position, nor the one after the verbal complement:

- (40) <*poi> Non siamo <poi> così lontani <?poi>
 PRT NEG we.are PRT so far PRT
 dalla verità <*poi>. (adapted, from Bazzanella 1995: 226)
 from-the truth PRT

Nonetheless, other positions may be semantically ambiguous. In any case, we can claim that the MP *poi* occupies an IP-internal position.

Let us now consider its placement with respect to Cinque's (1999) adverbial classes (also see Cardinaletti 2008). In *wh*-questions, the particle seems to be able to occupy only the position between habitual adverbs, such as *di solito* ('usually'), and higher repetitive adverbs, such as *di nuovo* ('again'):

- (41) a. Chi l'avrebbe <??poi> francamente <poi> detto che non voleva venire?
 b. Chi l'avrebbe <*poi> allora <poi> detto che non voleva venire?
 c. Chi l'avrebbe <*poi> di solito <poi> detto che non voleva venire?
 d. Chi l'avrebbe <poi> di nuovo <*poi> detto che non voleva venire?
 who it-would.have PRT frankly/then/usually/again PRT said that s/he not wanted-to come

The same facts hold for *poi* in polarity questions:

- (42) a. L'avresti <??poi> francamente <poi> detto che non voleva venire?
 b. L'avresti <*poi> allora <poi> detto che non voleva venire?
 c. L'avresti <*poi> di solito <poi> detto che non voleva venire?
 d. L'avresti <poi> di nuovo <*poi> detto che non voleva venire?
 it-would.you.have PRT frankly/then/usually/again PRT said that s/he not wanted-to come

Considering declarative contexts, still higher positions are available. The particle can even precede adverbs in Mood_{speech act}. In any case, it cannot follow (higher) repetitive and lower adverbs:

- (43) a. Non era <poi> francamente <poi> così male.
 b. Non era <poi> allora <poi> così male.
 c. Non era <poi> di solito <poi> così male.
 d. Non era <poi> di nuovo <*poi> così male.
 e. Non era <poi> spesso <*poi> così male.
not it.was PRT frankly/then/usually/again/often PRT so bad

Poi seems therefore to follow a pattern similar to that of German MPs, occupying a very high position in the IP of the clause, and thus having scope over the whole proposition. Moreover, like German MPs, *poi* only occurs in those contexts that Haegeman (2002, 2004a,b, 2006) considers as peripheral clauses. As was seen in the case of *mai*, central adverbials cannot license the particle *poi* either. Let us consider a simple contrast:

- (44) Se il libro non ha (**poi*) il successo previsto, non verrà ristampato.³¹
 ‘If the book hasn’t the foreseen success, it won’t be reprinted.’
 (45) Se il libro non ha *poi* il successo previsto, perché verrà ristampato?
 ‘If the book hasn’t the foreseen success, why will it be reprinted?’

According to Haegeman’s proposals, the conditional in (44) is a central adverbial and is embedded in the matrix clause. On the contrary, the conditional in (45) is a peripheral adverbial and displays syntactic independence from the main clause. As we have seen in 2.2.2.1., only peripheral clauses display the projection ForceP. The fact that *poi* only occurs in these contexts seems to indicate that it is a CP-related element as the other MPs.

³¹. Notice that *poi* in its adverbial usage (both the temporal and the conjunctive one) is possible here.

3.3. *Pur(e)*

The Italian lexeme *pur(e)* originally means ‘also’, ‘as well’, ‘too’. In its MP-function, it has a different meaning, which varies according to the type of clause (declarative or imperative).

In declarative clauses, *pur(e)* signals that the speaker has no evidence to prove that his assertion is true, but he still thinks it logical to suppose that it must be true. In these contexts, the particle usually lacks its final *-e*. Let us consider the following example:

- (46) Deve aver *pur(*e)* letto il libro.
s/he.must have PRT read the book

In this case, only the reduced form is possible. The full form *pure* would have another function, meaning ‘too, as well’. Nevertheless, there are cases where both the full and the reduced form are possible.

The particle can generally have an ‘emphatic accent’. This can be optional, as in the preceding example, or obligatory. For instance, the particle in the following sentence must preferably be stressed:

- (47) Fantasmì o no, li ho *PUR* toccati con le mie mani.
ghosts or not them I.have PRT touched with the my hands
 ‘Ghosts or no ghosts, I’ve still touched them with my hands.’

The particle often occurs in concessive contexts, where we usually find the full form:

- (48) Ammesso *pure* che riesca a vincere la gara...
provided PRT that s/he.manages to win the competition

In such cases, the particle must be interpreted as the particle in imperative clauses we will see below (i.e. *ammetti pure...* ‘suppose...’), as is proven by the fact that the particle can only appear in its full form, which is typical of imperative contexts.

In imperative clauses, the particle weakens the strength of an order, as in the following example:³²

³². Notice that, in such cases, we have to exclude the reading of the particle as a *Gradpartikel*, meaning ‘also, as well’.

- (49) Lascialo *pure* sul tavolo!
leave-it PRT on-the table

As already anticipated, in this case, the omission of final *-e* leads to ungrammaticality (except for an accurate or poetic style):³³

- (50) *Lascialo *pur* sul tavolo!
leave-it PRT on-the table

In contrast to *pur(e)* in declarative contexts, ‘imperative’ *pure* cannot generally have an emphatic accent:³⁴

- (51) *Lascialo *PURE* sul tavolo!
leave-it PRT on-the table

Both in declarative and imperative contexts, the particle precedes VP-internal elements, thus having scope over the proposition. However, it cannot occupy the first position of the clause. The intermediate positions are the only possible ones:

- (52) <**pur*> deve <*pur*> aver <*pur*> letto <?*pur*> il libro <**pur*>.
PRT s/he.must PRT have PRT read PRT the book PRT

³³. The same can be said for those cases where the particle *pure*, though occurring in declarative contexts, has the function of weakening an order, as in imperative clauses. In the following example, the occurrence of the ‘imperative’ particle *pure* is made possible by the presence of the modal verb *potere* (‘can’).

- (i) Lo puoi *pure*/**pur* lasciare sul tavolo.
it you.can PRT leave on.the table
 ‘You can leave it on the table.’

³⁴. However, there are some exceptions. For example, when the particle occupies the last position in a sentence (or when it is followed by deaccented element). In this case, the particle can be stressed:

- (i) Lascialo *PURE* (, il libro) (, a Gianni)!
leave-it PRT the book to Gianni

- (53) <**pure*> lascialo <*pure*> sul tavolo <**pure*>!
 PRT leave-it PRT on-the table PRT

If we now turn our attention to the orderings of the MP with respect to Cinque's adverbial classes, we observe that *pur(e)* follows all higher adverbs, but it has to precede all lower ones. I.e., in Cinque's hierarchy, the particle can only occupy one position between habitual (*di solito*) and (higher) repetitive adverbs (*di nuovo*):

- (54) a. Aveva <?*pur*> francamente <*pur*> detto che non voleva venire.
 b. Aveva <**pur*> allora <*pur*> detto che non voleva venire.
 c. Aveva <?*pur*> di solito <*pur*> detto che non voleva venire.
 d. Aveva <*pur*> di nuovo <**pur*> detto che non voleva venire.
 e. Aveva <*pur*> sempre <**pur*> detto che non voleva venire.
s/he.had PRT frankly/then/usually/again/always PRT said that not s/he wanted.to come

Testing the position of *pure* with respect to adverbs in imperative contexts is much more problematic, since the presence of (higher) adverbs in imperatives is subject to numerous restrictions.

However, we can generally assume that the particle *pur(e)* displays a behavior similar to that of German MPs and can occupy the same IP-internal positions as these.

One further analogy to German MPs can be observed with respect to the distribution of *pur(e)* in embedded contexts. As mentioned above for the other particles, also the presence of *pur(e)* is restricted to those contexts that are to be considered as peripheral clauses. In contrast, the particle is excluded from central adverbials and other clauses that display a reduced CP-domain and thus do not allow for root phenomena.

The following sentences exemplify this fact with respect to *pur(e)* in declarative contexts (but similar considerations can also be made for *pur* in imperative contexts). The event conditional in (55) cannot license the particle, which is in turn possible in a conditional of peripheral type, such as (56):

- (55) Se Gianni ha (**pur*) detto che non verrà, allora non verrà.
if Gianni has PRT said that not he.will.come then not he.will.come
 'If Gianni said that he won't come, then he won't come.'

- (56) Se Gianni – come dici – ha *pur* detto che non verrà,
if Gianni as you.say has PRT said that not he.will.come
 perché allora ha prenotato l’hotel?
why then has.he booked the-hotel
 ‘If Gianni – as you say – said that he won’t come, then why did he book the hotel?’

To conclude, the syntactic characteristics of *pur(e)* seem to indicate that we are dealing with a modal particle like German ones.

3.4. Other potential modal particles

In this section, I will briefly take some more lexemes into consideration, which are probably to be analyzed as MPs as well. Nonetheless, these elements seem to still have a close connection to the propositional content of the clause. I am referring to elements such as *mica*, *sì* and *ben*, which will be briefly considered below.

3.4.1. *Mica*

Mica is a negative adverbial element, whose syntactic nature is far from trivial. It derives from Latin *mica*, meaning ‘crumb’, and is generally used to strengthen the negation.³⁵

- (57) Non siamo *mica* così lontani dalla verità.
not we.are PRT so far from-the truth
 ‘We are not so far from the truth.’

In its function of contributing to negate the clause,³⁶ *mica* seems to be linked to propositional content of the latter. However, its semantics is different from that of

³⁵ Notice that many Romance languages use analogous words indicating small things to strengthen the negation (e.g. French *pas* ‘step’, Tuscan *punto* ‘point’, etc.).

³⁶ Notice that it is possible for *mica* to occupy the position that is generally occupied by the negation *non*. In this case, the presence of the overt negation *non* is impossible:

negative adverbs. Its speaker-orientation induces us to think that we are dealing with a modal particle.

As observed by Cinque (1991), rather than strengthening the negation, the function of *mica* is that of introducing a presupposition on the speaker's side. But the issue whether *mica* could also be considered as a MP is far from clear. Cinque (1999) still considers it a negative adverb.

Let us now consider the functions of *mica* with respect to its syntactic distribution, as described by Cinque (1991). *Mica* can occur in different clausal types. In declaratives the particle is used by the speaker to negate an expectation on the hearer's side (cf. Cinque 1991: 314), as in the following example:

- (58) Non è *mica* tardi. Non l'hanno ancora annunciato. (Bazzanella 1995: 248)
not it.is PRT late not it-they.have yet announced
 'It's not late. They haven't announced it yet.'

Mica can also occur in polarity questions (but not in *wh*-questions), where it strengthens the speaker's expectation of a negative answer (cf. Cinque 1991: 315). See the following example:

- (59) Non è *mica* arrivata Maria? (Cinque 1991: 315)
not is PRT come Maria
 'Has Maria not come (yet)?'

In imperatives, *mica* implies the speaker's expectation that the hearer would certainly do *p* if he did not order him not to do it (cf. Cinque 1991: 316):

- (60) Non andartene *mica*!
not go.away PRT
 'Don't go away!'

-
- (i) *Mica* siamo così lontani dalla verità.
PRT we.are so far from-the truth
 'We are not so far from the truth.'

We could claim that, in this case, the particle has overtly moved to a higher position, the one usually occupied by negation (cf. Cinque 1991: 318f).

The interaction of *mica* with illocutionary force and speaker is a piece of evidence of its modal nature. Even its placement within the sentence is similar to that of (German) MPs. It precedes VP-internal elements, occupying an intermediate position in the clause, after the finite verb (thus never occupying the first position):³⁷

- (61) <*mica> non <*mica> ho <mica> letto <mica> quel libro <*mica>.
PRT not PRT I.have PRT read PRT that book PRT
 ‘I haven’t read that book.’

Notice that also its distribution with respect to adverbs is significative. Cinque (1999: 11) points out that the negative adverb occupies an intermediate position between the adverbs *solitamente* (‘usually’) and *già* (‘already’). Interestingly, this resembles the lowest position MPs can occupy. Finer combination tests reveal that *mica* occupies a position between habitual adverbs (*solitamente*, ‘usually’) and (higher) repetitive adverbs, such as *di nuovo* (‘again’), exactly as in the case of MPs. What is generally assumed to be a negative adverb is therefore probably a MP.

Furthermore, the distribution of *mica* in embedded clauses suggests that we are dealing with a root phenomenon, since it can occur in peripheral contexts, such as the clausal clause in (63), but not in clauses that are devoid of independent illocutionary force, as we see in the case of the temporal clause in (62):

- (62) *Quando non piove mica, esco di casa.
when not it.rains PRT I.go.out of home
 ‘When it doesn’t rain, I go out.’

- (63) Non prendo l’ombrello, perché non piove mica.
not I.take the-umbrella because not it.rains PRT
 ‘I won’t take the umbrella, because it isn’t raining.’

Therefore, although further investigations are maybe necessary in this case, I suggest that there are good reasons to include *mica* in the class of MPs.

³⁷. Except for the case seen in fn. 36.

3.4.2. *Si*

Beside its adverbial function (meaning ‘yes’), the lexeme *si* has developed another use, very similar to that of particles. *Si* is used to assert with strength the truth of a proposition that has previously been negated, either implicitly or explicitly. Thus, it has sometimes the same function as *verum focus*. But in this sense, the semantic contribution of *SI*’ seems to be linked to the propositional content of the clause. It is therefore often considered as an adverb, but – as we will see – its peculiar syntactic characteristics suggest that it should be considered as a MP.

Si generally presents an emphatic or sometimes even a contrastive accent:

- (64) Gianni ha *SI*’ detto che sarebbe venuto.
Gianni has PRT said that he.would.be come
 ‘Gianni DID say he would come.’

The types of clauses in which the particle is attested are very limited, since it can probably occur only in declarative clauses.³⁸

As for the position of the particle with respect to other IP-internal elements, we notice that it occurs before Cinque’s lower adverbs and takes scope over the proposition. However, it can never occupy the first position of the clause:³⁹

- (65) <**SI*> lui <?*SI*>⁴⁰ ha <*SI*> probabilmente <*SI*>
PRT he PRT has PRT probably PRT

³⁸. However, the particle is possible in contexts such as the following, where, even though the verb is marked as indicative, the sentence has imperative force:

- (i) *SI*’ che vai a scuola!
PRT that you.go to school
 ‘You WILL go to school!’

One could assume that we are dealing with an elliptical biclausal structure, where *SI*’ occupies the IP of a superordinate clause of the declarative type (since the particle generally occurs only in declarative clauses). However, I prefer to analyze this case not as a biclausal structure, but as a unique clause, where the particle *SI*’ overtly occupies the CP. In this position, the particle is able to modify the illocutionary force of the clause.

³⁹. Except for the case seen in the preceding note.

⁴⁰. This position is probably only available if the particle directly modifies the pronoun, thus having narrow scope over it.

già < *SI' > confessato < *SI' >.
already PRT confessed PRT
 'He HAS probably already confessed.'

Therefore, the behavior of *SI'* is similar to that of the other particles.⁴¹ This can also be observed on the basis of its distribution in embedded clauses. As expected, peripheral adverbials (67), but not central ones (66), can license the particle:

(66) *Quando Gianni ha *SI'* detto che sarebbe venuto, non gli credevo.
when Gianni has PRT said that he.would.be come not him I.believed
 'When Gianni said he would come, I didn't believe him.'

(67) Mentre Gianni ha *SI'* detto che sarebbe venuto,
while Gianni has PRT said that he.would.be come
 Luigi ha detto che preferiva rimanere a casa.
Luigi has said that he.preferred to.stay at home
 'While Gianni DID say that he would come, Luigi said that he preferred to stay home.'

To conclude, the syntactic behavior of *SI'* suggests that it should be considered as a MP as well.

3.4.3. *Ben*

The Italian particle *ben* derives from the adverb *ben(e)*, meaning 'well', which is a very low adverb in Cinque's (1999) hierarchy.⁴² The particle, which only occurs in

⁴¹. Notice that the adverb *NO* (meaning 'no'), used to strengthen the negation, displays a different behaviour, since it can follow VP-internal elements:

(i) Non ha fatto i compiti *NO*.
not s/he.has done the homework PRT
 'S/he didn't do his/her homework.'

⁴². Interestingly, particle and adverb can marginally co-occur, as in the following example:

declarative contexts, generally has an emphatic stress, as in the case of *SI'* (but this is not always obligatory):

- (68) Ci deve *BEN* pur essere una scorciatoia.⁴³
 there must PRT PRT be a shortcut
 ‘There MUST be a shortcut.’

In contrast to the particle *pur(e)*, which has both a full and a reduced form, *ben* only has a phonetically reduced form, the full form *bene* being restricted to the adverbial usage. As the result of a grammaticalization process, the particle has acquired a semantically bleached meaning. In particular, the function of *ben* is similar to that of *SI'*. By using this particle, the speaker usually wants to emphasize that he or she feels (or encouragingly strives to feel) confident about a certain fact.

Although, in rare cases, the particle seems to be part of the propositional content of the sentence (probably because its semantics is still linked to that of the homophonous adverb), its syntactic characteristics suggest that its behavior in these contexts is similar to that of other MPs.

For instance, as was shown for other particles, *BEN* must also occur before Cinque’s lower adverbs.⁴⁴ It can be found in a high IP-internal position, but in any case after the main verb. Therefore, it is never sentence-initial:

- (69) <**BEN*> deve <*BEN*> aver <*BEN*> già <**BEN*> confessato <**BEN*>.
 PRT s/he.must PRT have PRT already PRT confessed PRT
 ‘He MUST have already confessed.’

-
- (i) Deve *BEN* aver già esposto *bene* le proprie ragioni.
 s/he.must PRT have already told well the her/his reasons
 ‘S/he MUST have already stated her/his reasons well.’

But see Cardinaletti (2008) for different assumptions.

⁴³. Notice that the particle *BEN* is often combined with the particle *pur*, as in this example.

⁴⁴. According to Cinque (1999), *bene*, the adverbial counterpart of the MP, occupies a different position, in the specifier of VoiceP, a very low projection in his hierarchy. As we can see in the example below, the particle *BEN* occurs before the adverb *già* (‘already’). On the contrary, the adverb *bene* has to follow it obligatorily (cf. 13).

A behavior reminiscent of that of other particles can be observed also with respect to its distribution in embedded clauses:

- (70) *Quando Gianni ha *BEN*detto che sarebbe venuto, non gli credevo.
when Gianni has PRT said that he.would.be come not him I.believed
 ‘When Gianni said he would come, I didn’t believe him.’
- (71) Mentre Gianni ha *BEN* detto che sarebbe venuto,
while Gianni has PRT said that he.would.be come
 Luigi ha detto che preferiva rimanere a casa.
Luigi has said that he.preferred to.stay at home
 ‘While Gianni DID say that he would come, Luigi said that he preferred to stay home.’

The particle cannot occur in central adverbials, such as the temporal clause in (70), since, as was illustrated in 2.2.2., these contexts do not display independent illocutionary force, nor the projection ForceP. In contrast, *BEN* can be found in peripheral clauses such as (71), which according to our assumptions are endowed with independent force.

To sum up, syntactic data confirms that *BEN* belongs to the class of MPs. In general, we observe that many elements displaying an adverbial nature should be included in this class. But further investigation is required on this point.

4. Conclusions

To conclude, we can give a positive answer to the initial question, i.e. whether there are MPs in Italian. Some authors have already suggested this fact, but their analysis has been mainly based on semantic observations. Limiting the investigation on MPs to semantic criteria could lead to the extension of this class to lexemes that do not belong to it, such as interjections and similar discourse elements.

In this paper, I claimed that syntactic facts can help us shed some light on this phenomenon. In recent works (Coniglio 2005, 2006, 2007a,b,c, forthcoming), I explored the syntactic behavior of German MPs by exploring their peculiar ordering with respect to adverbs and their distribution in subordinate clauses, thus developing some syntactic instruments to detect them. In particular, I argued that not only do all

MPs occupy specific positions in the higher portion of the IP-domain, but also display analogies as far as their distribution in embedded clauses is concerned.

Similar observations hold for some Italian lexemes as well. The flourishing literature on German MPs may therefore help us better understand a phenomenon, which has not yet been fully understood in Italian.

Needless to say, many problems have been left unresolved. In particular, no answer has been given to a fundamental question: why are there so few MPs in Italian (and in Romance languages in general),⁴⁵ while in German (and in Germanic languages) we find such a wide variety of MPs? These and other facts deserve further investigation.

⁴⁵. For example, *bien* in French, *pues* in Spanish (both occurring in questions) and so on.

Appendix: The meaning of modal particles (Thurmair 1989: 200)

		ja	JA	doch	eben	halt	einfach	eh/sowieso	wohl	schon	auch	nicht	denn	etwa	eigentlich	bloß	nur	mal	ruhig	aber	vielleicht	mir
Assessment of proposition	KNOWN	H		H				S														
	UNKNOWN																					
	EVIDENT				H		S															
	PLAUSIBLE					H																
	EXPECTED										S	S										
	UNEXPECTED																			S	H	
	WANTED										(S)											
	UNWANTED													S							(S)	
	INTEREST																					S
Illocution	REINFORCEMENT		+													+	+					
	WEAKENING																	+				
	RESTRICTION								+													
Ref. to partner	CORRECTION			+				+				?										
	ENCOURAGEMENT																(+)		+			
Ref. to preceding discourse	simple				+	+	+				+		+	+								
	TRANSITION														+							
	EXPECTED										S											
	UNEXPECTED												(S)	S								
	VALIDITYRESTRICT.									+												
	LIMIT.OF RELEVANCE							+														

S = referred to the speaker

H = referred to the hearer

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Movement or Control? Some Hints from Floating Quantification

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1. Introduction: Hornstein's multiple quantifier diagnostics

Hornstein (2001) develops a diagnostic based on the properties of Floating Quantifiers (henceforth, FQ) to show that Obligatory Control (henceforth, OC) structures involve an extended chain, a corollary of his analysis of OC predicates as a result of A-movement from the base-generated position of the apparent controller within the infinitival clause to the surface position as an argument of the matrix predicate. In what follows, I will dub this theory 'Movement Theory of Control' (MTC for short).

Hornstein's diagnostic is based on Sportiche's (1988) idea that FQs are residues of an A-movement, adjacent to a trace of a moved NP,¹ as in the following structure:²

(1) [IP NP ... [VP [NP Q t_{NP}] ...]

¹. Hornstein points out that it is not necessary to assume Sportiche's theory of floating quantification is not necessary (see Hornstein 2001: 71, note 80). The assumption that the associate NP and the FQ be clause mates is however necessary. I take it then that Hornstein's diagnostics is not incompatible in itself with the adverbial theories of floating quantification (see Doetjes 1992).

². Sportiche takes the quantifier to be an adjunct of the NP. Shlonsky (1991) and succeeding analyses propose a functional projection (or even more than one), labelled 'QP', dedicated to the quantifiers. According to these proposal the NP movement starts from within the QP as follows:

(i) [IP NP ... [VP [QP Q t_{NP}] ...]

This does not affect Hornstein's discussion, neither the present one.

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Hornstein observes that examples in which an NP is associated to more than one FQ are odd (Hornstein's ex. (89b)):

- (2) ??The men all have all eaten supper.

Raising structures containing two FQs are odd as well, since they contain an A-chain only (Hornstein's ex. (91a)):

- (3) ??The men all seem to have all eaten supper.

Since each NP chain can include at most one quantifier (be it DP internal or floated), FQs can be used to detect NP-chains. Hence, Hornstein argues, if OC can be analyzed in terms of movement, OC structures containing more than one FQ are expected to have the same status as root sentences and raising structures containing more than one FQ. He then shows that this expectation is borne out (Hornstein's ex. (95c)):

- (4) ??The men all hope to have all eaten supper (by 6).

Of course, structures involving two A-chains each containing a FQ are fully legitimate, since they do not violate the constraint prohibiting there to be more than one quantifier per chain. Non-obligatory Control structures, which Hornstein claims are not formed by A-movement, constitute an example of structures involving two A-chains containing one FQ each (Hornstein's example (96b)):

- (5) The men all thought that all dancing with Mary was fun.

Hornstein also proposes a second type of diagnostic involving multiple *different* quantifiers:³

- (6) a. ??The men both have all eaten supper.
 b. ??The men both seem to have all eaten supper.
 c. ?? The men both hope to have all eaten supper (by 6).
 d. The men both thought that all dancing with Mary was fun.

³. The following examples are adapted from Hornstein's (2001) examples (91)b, (93)b, (95)d and (96)a.

The results of this second diagnostic test parallel those of the first test, in which the same quantifier is repeated twice.

Hornstein's diagnostics can be straightforwardly extended to Italian:

- (7) a. ?? Tutti gli studenti hanno tutti superato l'esame.
All the students have all passed the exam
b. ?? Tutti gli studenti sembrano aver tutti superato l'esame.
All the students seem to have all passed the exam
c. ?? Tutti gli studenti sperano di aver tutti superato l'esame.
All the students hoped to have all passed the exam
d. Tutti gli studenti hanno detto che superare tutti l'esame era la loro speranza.
All the students have said that to-pass all the exam was their hope
'All the students said all to pass the exam was their hope'.
- (8) a. ?? Entrambi gli studenti hanno tutti superato l'esame.
Both the students have all passed the exam
b. ?? Entrambi gli studenti sembrano aver tutti superato l'esame.
Both the students seem to have all passed the exam
c. ? Entrambi gli studenti sperano di aver tutti superato l'esame.
Both the students hope to have all passed the exam
d. Entrambi gli studenti hanno detto che superare tutti l'esame era la loro speranza.
Both the students have said that to-pass all the exam was their hope
'Both the students said all to pass the exam was their hope'.

Note however that intuitively sentence (8)c does not seem to be as degraded as sentences (7)a-c and (8)a and b, and it could be uttered in a context in which two students hope that all the members of a contextually relevant set of individuals of which they both are part have passed the exam. Despite its oddity if uttered out of the blue, sentence (7)c becomes possible in an appropriate scenario – for instance, if each of the contextually relevant students hopes for each of them to have passed the exam.

2. Control or Restructuring?

It must be noted that the conclusion that the oddity of OC structures containing more than one FQ is a piece of evidence in favor of the MTC is not compelling. Rather, Hornstein's diagnostics will turn out to be a valuable test for restructuring.

Wurmbrand (1998, 2001, 2003, 2004) and Cinque (2000, 2004, 2006) propose that NP movement is involved in restructuring.⁴ In restructuring structures the infinitival subject is an NP-trace. On the other hand, in non-restructuring infinitives the infinitival subject is PRO, the controller and PRO are not part of the same A-chain, and non-restructuring structures are the only OC structures. This theory predicts that restructuring structures should be strongly marginal when tested through Hornstein's diagnostics, whereas non-restructuring structures should be acceptable.

The question then arises whether Hornstein's diagnostics really show that OC involves movement, or whether they show that a given structure involves restructuring. In what follows, I will show, building on data from Italian, that the second option seems to be the correct one.

3. Exhaustive Control and Restructuring

The question above can be answered taking into account some syntactic and semantic properties of Control. Wurmbrand and Cinque claim that the distinction between restructuring and non-restructuring infinitives coincides with the distinction between 'perfect' and 'imperfect' (as Wurmbrand 1998, 2001 dubs them) or 'exhaustive' and 'partial' (as Landau 2000, 2003 calls them) Control predicates. The first class of Control predicates, Exhaustive Control (henceforth, EC) predicates, includes predicates requiring that the denotation of the infinitive subject be strictly identical to the (apparent) controller. The second class, Partial Control (henceforth, PC) predicates, includes predicates that do not require that the denotation of the infinitival subject and the denotation of the controller be identical. In PC the denotation of the infinitival predicates need only to include the denotation of the controller. Landau (2003) claims

⁴ Wurmbrand's and Cinque's theories of restructuring differ in certain respects. These differences are however not relevant in the present context.

that PC is incompatible with MTC, since the head of an A-chain and its traces must be strictly identical referentially.⁵

Let's go back to the question with which the previous section ended. Assuming Wurmbrand's and Cinque's theory of Control and Restructuring, Hornstein's diagnostics detect restructuring. Hornstein's tests applied to PC structures should then not yield unacceptability, since they do not involve A-movement. In this case, the two FQs should belong to two different A-chains, and, semantically, they should quantify over two different sets of contextually relevant individuals – one a subset of the other.

4. Partial Control and FQs

To check this hypothesis, Landau's (2001) diagnostic methods seem to be ineffective in themselves.⁶ However, the presence of a set of individuals within the conversational background seems to be able to elicit a PC reading even when the controller is plural. To do this, a second set of individuals is mentioned in a clause under which sentence (7)c is embedded:

- (9) Le ragazze₁ hanno detto che tutti i ragazzi₂ speravano di aver tutti₁₊₂ superato l'esame.

The girls have said that all the boys hoped DI to-have all passed the exam

'The girls said all the boys hoped to have all passed the exam'.

The following interpretation is intuitively available for the above control structure sentence: 'There is a set X of boys, and there is a set Y of boys and girls, X a subset of Y, such that every member of X hoped that every member of Y has passed the exam'. The two universal quantifiers then apply to two different sets of individuals. An

⁵. However, for a movement analysis of PC, see Hornstein (2003), Hornstein and Boeckx (2006), Barrie (2004), Barrie and Pittmann (2004). For a discussion of Hornstein's (2003) proposal, see below.

⁶. They indeed involve collective predicates, like *meet*, *gather*, in the infinitive or adverbials like *together*, which all require a semantically plural subject, vis-à-vis a singular controller. Unfortunately, Hornstein's diagnostics involve a *plural* controller/associate DP.

appositional can be inserted within the embedded clause to render explicit the set of individuals the embedded FQ applies to:⁷

- (10) Le ragazze hanno detto che tutti i ragazzi speravano di aver tutti – ragazze e ragazzi – superato l'esame.

The girls have said that all the boys hoped DI to-have all – girls and boys – passed the exam

'The girls said all the boys hoped for them boys and girls all to have passed the exam'.

The multiple different quantifier diagnostic test, in which the floated universal quantifier clearly applies over a set of individuals larger than the set of the controllers, provides similar results:

- (11) Le ragazze₁ hanno detto che entrambi i ragazzi₂ speravano di aver tutti₁₊₂ superato l'esame.

The girls have said that both the boys hope DI to-have all passed the exam

'The girls said both the boys hoped for them boys and girls all to have passed the exam'.

To contrast, embedding a root or a raising clause under a declarative predicate does not sort grammaticality, nor does adjoining an appositional possible in root and in raising contexts:

- (12) a. * Le ragazze₁ hanno detto che tutti i ragazzi₂ hanno tutti₁₊₂ superato l'esame.

The girls have said that all the boys have all passed the exam

- b. * Le ragazze₁ hanno detto che tutti i ragazzi₂ sembrano aver tutti₁₊₂ superato l'esame.

The girls have said that all the boys have said to have all passed the exam

- c. * Le ragazze₁ hanno detto che entrambi i ragazzi₂ hanno detto di aver tutti₁₊₂ superato l'esame.

The girls have said that both the boys have said to have all passed the exam

- d. * Le ragazze₁ hanno detto che entrambi ragazzi₂ sembrano aver tutti₁₊₂

⁷. The FQ has here a contrastive focus. I assume that this property has no relevance for the problem here discussed. I refer to Valmala (2008) for the discourse-related properties of the floating quantification.

superato l'esame.

The girls have said that both the boys seem to have all passed the exam

- e. * Tutti i ragazzi hanno tutti – ragazzi e ragazze – superato l'esame.

All the boys have all – girls and boys – passed the exam

- f. * Tutti i ragazzi sembrano aver tutti – ragazzi e ragazze – superato l'esame.

All the boys seem to have all – girls and boys – passed the exam

Let's go back to the sentences where a PC reading is apparently available. The acceptability of sentence (9) (and of (7)c and (8)c, provided the appropriate scenario) shows that the subject of *sperare* 'hope' and the infinitival subject do not belong to one and the same A-chain⁸. Hence, *sperare* is not a restructuring verb, which independent diagnostics on restructuring like, for instance, clitic climbing, long NP-movement, auxiliary selection confirm⁹. The following examples show that *sperare* is not a restructuring verb, in contrast with *potere* 'can', which is:

- | | |
|---|---|
| <p>(13) a. Spero di averlo superato.
I hope to have-it(CL) passed
'I hope to have passed it'.</p> <p>b. * Lo spero di aver superato.
It-CL I hope to have passed</p> <p>c. Si spera sempre di superare certi esami.
SI_{arb} hopes always to pass such exams
'One always hopes to pass such exams'.</p> <p>d. ?? Certi esami si sperano sempre di
superare.
Such exams SI_{arb} hope_{3pl} always to pass
'One always hopes to pass such exams'.</p> <p>e. Ho sperato di arrivare in orario.
I have_{Aux} hoped to arrive in time</p> | <p>a'. Posso leggerlo.
I can read-it(CL)
'I can read it'.</p> <p>b'. Lo posso leggere.
It-CL I can read
'I can read it'.</p> <p>c'. Si può leggere questi libri.
SI_{arb} can_{3sg} read these books
'One can read these books'.</p> <p>d'. Questi libri si possono
leggere.
These books SI_{arb} can_{3pl} read
'One can read these books'.</p> <p>e'. Ho potuto arrivare in orario.
I have_{Aux} can.PP to arrive in
time
'I was able to arrive in time'.</p> |
|---|---|

⁸. I include sentences (7)c and (8)c among PC structures because the controller and the controllee are not referentially identical. But this is a simplification. See section 6 for details.

⁹ On the restructuring diagnostics, see Rizzi (1978) and Cinque (2000, 2004, 2006).

- | | |
|--|---|
| f. * Sono sperato di arrivare in orario.
I am hoped to arrive in time | f'. Sono potuto arrivare in orario.
I am _{Aux} can.PP arrive in time
'I was able to arrive in time'. |
|--|---|

The analysis can be extended straightforwardly to other non-restructuring predicates, like factive, propositional, and interrogative predicates:

- (14) Le ragazze hanno detto che tutti/entrambi i ragazzi si rammaricano/ricordano di aver tutti letto quel libro.
The girls have said that all/both the boys regret/remember to have all read that book
'The girls have said that all/both the boys regret/remember having all that book'.

This sentence is appropriate in a scenario in which all the boys regret/remember that a certain book had been read by all of them and by someone else – here it may be the girls. *Mutatis mutandis*, a similar interpretation is achieved if the relevant predicate is interrogative:

- (15) Le ragazze hanno detto che tutti/entrambi i ragazzi si chiedevano quale libro leggere tutti.
The girls have said that all/both the boys wondered which book to read all
'The girls have said that all/both the boys wondered which book they have all to read'.

Example (9) and similar can be also contrasted with restructuring predicates. Assuming Wurmbrand's and Cinque's theories of restructuring, since restructuring predicates involve movement, they should be sensitive to Hornstein's diagnostics. This claim seems to be correct with any kind of restructuring verb in Italian:

- | | |
|--|---------------|
| (16) a. ?? Tutti/entrambi gli studenti lo possono leggere tutti. | <i>can</i> |
| b. ?? Tutti/entrambi gli studenti lo devono leggere tutti. | <i>must</i> |
| c. ?? Tutti/entrambi gli studenti lo volevano leggere tutti. | <i>want</i> |
| d. ?? Tutti/entrambi gli studenti lo hanno cominciato a leggere tutti. | <i>begin</i> |
| e. ?? Tutti/entrambi gli studenti lo hanno finito di leggere tutti. | <i>finish</i> |
| f. ?? Tutti/entrambi gli studenti lo hanno provato a leggere tutti. | <i>try</i> |
| g. ?? Tutti/entrambi gli studenti lo vanno a leggere tutti. | <i>go</i> |
| All/both the students it-CL V (P/C) to-read all | |

5. The combination of negative quantifier and universal quantifier.

Hornstein's diagnostics build on the generalization that there cannot be more than one quantifier per A-chain. Two quantifiers cannot belong to one and the same A-chain, no matter if only one or both of the two is floated (Hornstein's (2001) example (89c)):

(17) ?? Both the men both have eaten supper.

I assume, then, that the multiple different quantifier diagnostic can be repeated even with quantifiers that do not float, such as the existential quantifier *some* or the negative quantifier *no*. I will now focus on the negative quantifier in standard Italian and discuss the case of the existential quantifier in section 6.

The negative quantifier *nessun(o/a)* 'no' is syntactically singular (*Nessun libro/ *Nessuni libri* 'no-SG book/no-PL books'). This property in itself excludes the possibility for a universal FQ to occur in an NP-chain hosting the negative quantifier. The universal FQ requires a plural associate, thus a feature clash obtain between the two operators.¹⁰

Moreover, the logical form of a proposition containing the negative adjective may be represented by the following formula:

(18) $\neg \exists x P(x)$

Proposition (18) entails proposition (19), and vice versa:

(19) $\forall x \neg P(x)$

However, as Dowty and Brodie (1984) point out, FQs are obliged to take scope in their surface position. Hence, in a sentence like *The students have not all passed the exam* (and in its Italian counterpart *Gli studenti non hanno tutti superato l'esame*) the only available interpretation can be paraphrased as "It is not the case that for every student x , x has passed the exam", which implicates "There is some student x such that x has passed the exam". It cannot be paraphrased by no way as "For every student x , it is not the case that x has passed the exam", which entails "There is no student x such that x

¹⁰. Kayne (1981) notes that FQ have the same structural and locality constraint anaphors have. Of course they have the same morpho-syntactic constraints as anaphors.

has passed the exam”. A sentence like *No students have all passed the exam* seems then to be contradictory, since it asserts the proposition “ $\forall x \neg P(x)$ ” (by virtue of the negative adjective and by entailment), and that “ $\neg \forall x P(x)$ ” (by virtue of the negative adjective taking scope over the universal quantifier).

Thus, Hornstein’s diagnostics cannot be applied straightforwardly to Italian. However, Landau’s PC tests do involve a singular subject. It should then be possible to construct PC structures using the negative quantifier as the controller. The presence of a universal quantifier floated should show whether a PC reading is available or not¹¹. If the predicate of a so constructed sentence is a restructuring predicate, the sentence is ungrammatical:

- (20) a. * Nessuno studente lo può leggere tutti. *can*
 b. * Nessuno studente lo deve leggere tutti. *must*
 c. * Nessuno studente lo vuole leggere tutti. *want*
 d. * Nessuno studente lo ha cominciato a leggere tutti. *begin*
 e. * Nessuno studente lo ha finito di leggere tutti. *finish*
 f. * Nessuno studente lo ha provato a leggere tutti. *try*
 g. * Nessuno studente lo va a leggere tutti. *go*
 No student it-CL V (P/C) to-read all

Non-restructuring predicates can be acceptable, given the appropriate context:

- (21) (I viceministri₁ hanno detto che...)
 (The vice-ministers have said that...)
 (‘The vice-ministers said that...’)
 a. nessun ministro₂ si rammarica di essersi tutti₁₊₂ riuniti a Bruxelles.
 no minister regrets DI to-be all gathered in Brussel
 ‘no minister regrets they have all gathered in Brussel’.
 b. nessun ministro₂ ricorda di essersi tutti₁₊₂ riuniti a Bruxelles.
 no minister remembers DI to-be all gathered in Brussel
 ‘no mnister remembers they have all gathered in Brussel’.

¹¹. Note that according to Landau’s (2000: 48) PC-generalization (version I), “In a PC construction with a controller in the singular [...] cannot be inflected for plural, or contain a non-singular anaphor/floating quantifier”. It seems however that this generalization does not hold for PC in Italian, as examples in (15) show. See section 6 for a sketchy treatment of this question.

- c. nessun ministro₂ si chiede se riunirsi tutti₁₊₂ a Bruxelles.
 no minister wonders whether to-gather all in Brussel
 ‘no minister wonders whether they should all meet in Brussel’.

Intuitively, in any of the examples (21) the FQ applies to the set of the ministers plus the set of the vice-ministers, eliciting a PC reading (together with the collective predicate *riunirsi* ‘gather’).

Note that sentences in (21) are relevant within the debate whether PC can be reduced to the MTC, as a number of articles have claimed (see note 3). I discuss here Hornstein’s proposal to accommodate PC under MTC. Hornstein (2003: 42ff.) stipulates that a meaning postulate instantiates the PC reading. The conjunction provides the semantically plural reading of the infinitival subject:

- (22) If “DP Vs [TP to VP]” then “DP Vs [TP DP and some contextually specified others to VP]”

However, a negatively quantified DP cannot be a conjunct of a positively quantified DP, when a quantifier is floated:

- (23) * Nessun ministro e i viceministri si sono tutti riuniti ieri sera.
 No minister and the vice-ministers have all gathered yesterday evening

If a PC reading for sentences (21) was achieved via the meaning postulate in 0, the phrase *nessun ministro e i viceministri* ‘no minister and the vice-ministers’ should obtain at some level of the derivation, which should determine ungrammaticality and give rise to contradiction due to the presence of a negative quantifier and a floated universal quantifier within the same A-chain.

6. Some remarks on Partial Control and quantified controllers

Landau’s (2000: 48) PC-generalization (version I) is as follows:

- (24) “In a PC construction with a controller in the singular, the embedded predicate can be lexically collective or contain *together*, but cannot be inflected for plural, or contain a non-singular anaphor/floating quantifier”.

Given examples like (21), PC generalization does not seem to hold for PC in Italian, since the embedded predicate contains a non-singular floating quantifier in spite of a controller in the singular.

However, examples in (21) may not be PC structures in the sense of Landau.¹² Let us suppose that the controller is the presupposed set of the individuals the negative quantifier $\neg\exists$ applies on – remember that the quantifier $\neg\exists$ carries an existential presupposition when used as strong quantifiers: no minister remembers having met in Brussel presupposes that there is at least one minister. Thus, sentence (21) may be paraphrased as “there is no x, x a member of the set of the ministers P, such that x regrets/remembers every member of P’s having met in Brussel”.

Claiming that in these examples no PC holds seems to be a legitimate step and may explain the apparent violation of the PC-generalization without the undesired claim that in Italian the PC-generalization does not hold.

This proposal holds for examples (9) and (11) as well. Here again the claim that Control is partial may be debated. Let us consider a sentence in which the existential quantifier occurs within the controller DP:

- (25) a. Only some senators remember having all approved that law.
 b. Solo alcuni senatori si ricordano di aver tutti approvato quella legge.

Intuitively, the English sentence and its Italian counterpart are appropriate in a context in which a law has been approved by all of the members of the senate, while only some of them remember that it was approved unanimously.¹³ In such a scenario, sentences (25) seem to be felicitous with no need of, say, embedding them in order to provide other contextually relevant individuals in addition to the controller, differently from the examples by Landau. Hence, while in Landau’s examples the additional individuals to which PRO refers is given by the conversational background, in the examples here discussed it is presupposed by the controller itself.

¹². I thank James Higginbotham for this suggestion.

¹³. In an another reading, all refers to the set of ‘some senators’. This reading is not relevant here.

7. Conclusion

Hornstein's diagnostics prove a valuable test for detecting A-chains. Assuming Wurbrand's and Cinque's theory of restructuring, it has been shown that Hornstein's diagnostics can be used as restructuring tests, rather than as OC tests. Modal, aspectual and motion predicates, appear to involve A-movement from a thematic position of the infinitival predicate to an A-position of the restructuring predicate. Factive, propositional, and interrogative infinitival clauses seem to resist Hornstein's diagnostics and can be considered as PC predicates. This seems to support Cinque's (2004) idea that the only authentic instances of OC are PC structures, whereas EC structures can be reinterpreted as Restructuring. It has been shown how PC does not seem to be compatible with a movement analysis, building on an argument inspired by Hornstein's multiple different quantifier diagnostics, which involves the negative operator and a FQ. Finally, it has been shown that examples involving a quantified controller and an embedded FQ may not be cases of PC at all, although the reference of the controller and the reference of PRO do not need to coincide, as in the very cases of PC. While in the instances of PC discussed by Landau an individual is provided by the conversational background in addition to the controller, in the examples discussed here a set of individuals is presupposed by the very controller by virtue of its (strong) quantifier.

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Crosslinguistic variation and the syntax of tense

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1. Introduction

In his paper *Three Factors in Language Design* (2005), mostly devoted to the definition and the scope of the biolinguistic program, Chomsky points out that (p.4): “A core problem of the study of the faculty of language is to discover the mechanisms that limit outcomes to optimal types.” According to the *Strong Minimalist Thesis* (Chomsky 2001, 2005), the Faculty of Language (FL) is *perfectly* designed. Language is an *optimal* solution to the interface conditions that it must satisfy.

One of the issues arising in this framework concerns the nature of language variation, a traditional domain of inquiry in linguistics. Language variation – whatever its origin might be, lexical, syntactical or phonological – is one of the most popular area of investigation by linguists from all backgrounds, generative ones included. In the minimalist perspective, however, it ends up being considered as a *residue*, as an *imperfection* of the optimal system, lying outside Narrow Syntax.

On the other hand, exactly under this very same perspective, one is also forced to assume that no particular language is, generally speaking, *more* optimal than any other, and that therefore each language expresses a different optimal way to satisfy the interface conditions: those imposed by the sensori-motor system SM and by the conceptual-intentional system C-I.

These considerations might be particularly relevant when applied to those categories that are central to the computational system, as for instance the category Tense (T). T plays an important role at both interfaces, triggering agreement with the subject in many languages – at the S-M interface – and being the crucial locus for the temporal interpretation of the utterance – at the C-I interface. Note that, in both cases, T functions

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as a bridge toward the *context*. On one hand, it identifies the subject, which, roughly speaking, can be the speaker, the hearer or neither one. Hence, it locates the event with respect to the speech act participants. On the other hand, at C-I, it locates the events with respect to each other and, in particular, with respect to the *utterance event*.

In this work I will consider this issue, analyzing some cases having to do with the interpretation of tenses, or, better to say, with the temporal location of events. Typologically, languages differ widely as to the way of expressing temporal relations. Some languages – as for instance Italian and Romanian, to mention just two – have a rich and complex morphological system encoding various temporal relations. Others – such as English – have quite a simpler system, explicitly encoding only a subset of the distinctions encoded in Italian or Romanian. Finally, some languages – such as for instance Chinese – have no temporal morphemes at all.¹

On the other hand, however, in all languages – independently of the existence of temporal morphemes – sentences express a temporal ordering of events. Events *must* be located along the temporal dimension, be the language Italian, Romanian, English or Chinese, as remarked by many scholars.² Hence, languages behave uniformly as far as the requirements they satisfy, even if they accomplish this in very different ways. Here I will address the question more closely, trying to better define the *optimal solution* for the temporal interpretation of utterances.³

¹. On Chinese, see among the others Smith and Erbaugh (2005), Smith (2007) and Lin (2003, 2006).

². In the syntactic domain the first scholar who presumably formally addressed this question was Enç (1987).

³. In some languages, such as Latin, it is possible to have main clauses without a morphological verbal form. Still, they are temporally interpreted, and the value assigned to them is *present*. Consider for instance sentence (i):

(i) Caesar imperator

Lit: Cesar emperor

This sentence expresses the meaning *Cesar is the emperor*. In this paper, I'll also leave aside the discussion concerning the so-called a-temporal sentences, such as for instance *two plus two is four*. Let me only point out that a literal notion of a-temporality, however, is highly questionable and that these sentences are obviously temporally anchored as any other. See for instance Barwise and Perry (1982).

2. The role of indexicality: Temporal relations in English

In a grammatical sentence, the eventuality – where this term refers to both processes and states – must be temporally located, or, using a more technical term, *anchored*. The default *anchor* of the main clause eventuality is the utterance event, i.e., the *here and now* defined on the basis of the temporal and spatial coordinates of the speaker.⁴

In this section I will consider the distribution of finite verbal forms in English. In this language the main clause obligatorily expresses tense:⁵

(1) John is happy
BE-pres

(2) John ate a sandwich
EAT-past

(3) John will call Mary tomorrow
Modal(fut) CALL

The morphological tense, realized on the verb is interpreted as locating the event in the present, in the past or in the future with respect to the utterance event itself – i.e., with respect to the temporal location of the speaker.⁶

⁴. On the relevance of the spatial coordinate of the speaker for the temporal location of events, see Ritter and Wiltschko (2005; 2008). They show that in some Salish languages the relevant notion to this end is spatial, in terms of *here* and *there*, and not of *now* and *then*. In what follows, however, I will only consider systems based on the temporal location of the speaker.

⁵. I will not consider here the distribution of the English subjunctive, on the basis that it is a non-productive form, appearing in quite learned language in very few contexts. See Portner (1997) for an interesting discussion of such cases.

⁶. Several scholars addressed this point adopting slightly different perspectives. See among the others Stowell (1996), Guéron (2004), Zagana (1999), Higginbotham (2001), Schlenker (1993), Giorgi and Pianesi (2001), Ogihara (1996).

In English, the temporal location of the speaker is relevant for the temporal location of events embedded in complement clauses as well. Consider for instance the following sentence:

- (4) John said that Mary is pregnant

For this sentence to be felicitous, the embedded state must hold at the time John spoke and at the time of the utterance. In other words: the embedded present tense must be located twice: once with respect to the main clause subject's—John – temporal location and once with respect to the speaker's temporal location, i.e., *now*. This property goes under the name of *Double Access Reading* and is obligatory in English to the extent that the following sentence is infelicitous:

- (5) #Two years ago, John said that Mary is pregnant

Since we know that human pregnancy lasts much less than two years, in this case it is not possible for Mary to be pregnant both at the time John spoke and at the time of the utterance.⁷

If the embedded form is a past, English exhibits two different patterns, one for stative predicates and progressive verbal forms, and one for eventive predicates. Consider the following cases:

- (6) John said that Mary was pregnant

- (7) John said that Mary was eating a sandwich

- (8) John said that Mary ate a sandwich

In examples (6) and (7), the embedded state/event can be taken to be ongoing at the time of the saying by John, in that it is interpreted as simultaneous with the main event. In example (8), the embedded event is interpreted as preceding the saying. In all tree

⁷. There are in the literature two main accounts for this phenomenon. The *de re* approach, originally developed by Abush (1987), and the *Generalized DAR* proposal, discussed in Giorgi and Pianesi (2000, 2001) and Higginbotham (1995, 2001). Here I will not provide a discussion of the various theoretical proposals, but see sect. 3 for further details.

cases, the eating is located before the utterance time. The difference between (6) and (7) on one side, and (9) on the other, is due to aspectual properties. I come back to these distinctions when I address the properties of the Italian temporal system.⁸

Note also that in no case, included example (4) above, can the embedded event be interpreted as a pure indexical. In other words, in (4) the pregnancy cannot be ongoing *now*, while lying in the future with respect to the main predicate. Analogously, in (6)-(8) the eating cannot be past only with respect to *now*, while future with respect to the saying. In other words, sentence (4) cannot be a faithful report of the following discourse by John:

(9) “Mary will be pregnant”

Similarly, sentences (6)-(8) cannot be a faithful report of the following one:

(10) “Mary will eat a sandwich”

If the events in question are located with respect to each other as in (11), then the only verbal form available in English is the so-called future-in-the-past, as shown in examples (12) and (13):

(11) saying_____state/event_____ *now*

(12) John said that Mary would be pregnant

(13) John said that Mary would eat a sandwich

By means of this periphrasis, the speaker is allowed to locate the embedded event in the future with respect to the saying, but not necessarily in the future with respect to *now*, i.e., with respect to her own temporal location.

On the other hand, an event, or a state, expressed by means of the English *will*-future is obligatorily located both in the future of the subject – i.e., *John* – and in the future of the speaker as well:

(14) John said that Mary will be pregnant

⁸. For a discussion, see Giorgi and Pianesi (1997, 2001).

(15) John said that Mary will eat a sandwich

Interestingly, both the *would* and the *will* future forms might be a faithful report of the future oriented discourse by John mentioned above in (9) and (10). This consideration is important because it shows that indirect discourse – the reporting of somebody else’s speech – cannot be thought of as something merely derivable from the direct speech by means of grammatical *conversion* rules. The choice between the *would* and the *will* future, in fact, depends not only on John’s original speech, but also on the speaker’s temporal location with respect to the reported state/event. Therefore, the material circumstances of the reporting itself – i.e., the context of the specific utterance – are relevant for the choice of the embedded morphosyntactic form.

Note also that the *would*-future verbal form is not available in main assertions *qua* future. Consider the following example:

(16) #Mary would eat a sandwich

This sentence can only convey a *modal* meaning – something like: Mary would eat a sandwich *if she could* – and cannot be used to express the meaning that in the future Mary is going to eat a sandwich, as, on the contrary, is possible in the following case:

(17) Mary will eat a sandwich

Concluding these brief remarks about English, it is possible to say that embedded verbal forms do not have the same meaning they have in main clauses. The lack of the mere indexical reading is an argument in this direction, as shown by the interpretation of the embedded present tense and of the embedded past forms. Moreover, the properties of the embedded future forms show that the location of the speaker is a necessary ingredient in the choice of the subordinate verbal form and that even in English there is at least one verbal form – the *would* future – that can only appear in embedded contexts.

3. A theoretical proposal

Giorgi and Pianesi (2001) and Giorgi (2008) proposed an account for this paradigm, dubbed *Generalized Double Access Reading*. According to this perspective, all verbal forms appearing in embedded contexts – with the exception of the *would*-future, which I

discuss below – must be evaluated twice: once with respect to the main event, and once with respect to the utterance event. Both the temporal location of the superordinate subject and the location of the speaker are relevant to the interpretation.

The anchoring of the embedded event to the superordinate predicate is taken to be universally obligatory, as already proposed for instance in Enç (1987) and Higginbotham (1995). In main clauses the *superordinate* event is the utterance event itself.

The novel idea by Giorgi and Pianesi is the proposal concerning the anchoring to the speaker's temporal coordinate, giving rise to the DAR. This anchoring is obligatory, with certain verbal forms, in languages like English and Italian, whereas it is not in languages like Romanian and Chinese. In what follows, I'll discuss these languages in turn, showing in what way they differ.

3.1. A brief overview of Italian Sequence of Tense

3.1.1. The imperfect

Italian indicative verbal forms are like the corresponding English ones with respect to the enforcing of the DAR:⁹

- (18) Gianni ha detto che Maria è incinta
Gianni said that Maria is pregnant

- (19) #Due anni fa, Gianni ha detto che Maria è incinta
Two years ago, Gianni said that Maria is pregnant

⁹. In examples (18) and (19) the main past form *ha detto* is translated in English as a simple past. The form in question is literally a present perfect, being formed by the present tense of auxiliary *avere* (have) and the past participle of the verb. The simple past is *disse* (said), but this form is only very rarely used in spoken language in Central and Northern Italy. In Southern Italy, the situation is exactly the opposite, the simple past being the form of choice in most cases. Here I adopt my own variant of Italian, and will not discuss the matter any further, even if the subject is not as simple as it might seem at first sight. See also Giorgi and Pianesi (1997, ch. 3).

The discussion of sentences (18) and (19) is analogous to the one given above for the corresponding English ones. The DAR is obligatory in Italian, to the extent of ruling out (19), on the basis of what we know about human pregnancy.

Analogously, the embedded past and future forms do not exhibit significant differences with respect to the English ones:

- (20) Gianni ha detto che Maria ha mangiato un panino
Gianni said that Maria ate(PAST IND) a sandwich

- (21) Gianni ha detto che Maria mangerà un panino
Gianni said that Maria will eat(FUT IND) a sandwich

In sentence (20) the embedded event must be interpreted as preceding both the saying and the utterance time, and the embedded event in sentence (21) must be understood as following both the saying and the utterance time. Finally, even in Italian, it is impossible to have a purely indexical interpretation for embedded tenses, as discussed above with respect to English.

An interesting difference between Italian and English concerns stative predicates. The Italian equivalent of example (6) is the following:

- (22) Gianni ha detto che Maria era incinta
Gianni said that Maria was(IMP) pregnant

In this case, the embedded verbal form is an imperfect indicative. A simple past, or a present perfect –according to the variant of Italian adopted by the speakers– would sound ‘odd’:¹⁰

- (23) #Gianni ha detto che Maria fu/ è stata incinta
Gianni said that Maria was(SIMPLE PAST/ PRES PERF) pregnant

The reason of the oddness is mostly due to the aspectual properties of the imperfect verbal form.¹¹

¹⁰. On regional variation in Italian concerning the use of the past tenses, see fn. 9.

¹¹. As discussed at length in Giorgi and Pianesi (1997, 2001, 2004a), aspectual properties deeply affect the anchoring procedures. Note also that the simple past and the present perfect are aspectually perfective.

I will not go here into this discussion, because it lies too far away from the central topic of this work. The important point to be stressed here is that the simultaneity of the embedded state with the main predicate, expressed by means of the English verbal form *was*, must be rendered in Italian with the imperfect *era* and cannot correspond to the past forms *fu* or *è stato*. Analogously, the progressive periphrasis appearing in the English example (7) corresponds to the Italian progressive periphrasis with imperfect morphology:

- (24) Gianni ha detto che Maria stava mangiando un panino
Gianni said that Maria was(IMPF) eating a sandwich

The past morphology would be totally unavailable, as is in general the case with the progressive periphrasis in Italian:¹²

- (25) Gianni ha detto che Maria *stette/ *è stata mangiando un panino
Gianni said that Maria was(PAST/ PRES PERF) eating a sandwich

Again, the presence of the imperfect in Italian enables the embedded state/event to be interpreted as simultaneous with the main one, whereas this option is not available with the simple past/ present perfect, as happens with the English example (8).

A first conclusion might therefore be that the English past collapses both ‘functions’ – i.e., the past and the imperfect – and that aspectual properties of the event to which they are attached select then for the one or for the other. Only the imperfect function, however, is able to give rise to the simultaneous reading of the embedded event. Consider in fact the following additional piece of evidence:

Perfectivity can sometimes be combined with stativity, as for instance in the following case, yielding however the so called life-time effect (Mittwoch, 1982):

- (i) Napoleone fu/ è stato un grand'uomo
Napoleon was(SIMPLE PAST/ PRESENT PERFECT) a great man

The implication conveyed by this sentence, because of the presence of a perfective, is that the subject is dead.

¹². On the progressive in Italian see among the others Bertinetto (2000), Zucchi (1997), Bonomi (1997).

- (26) Gianni ha detto che Maria mangiava un panino
 Gianni said that Maria ate(IMPf) a sandwich

In example (26) the embedded event appears with imperfect morphology – in this case I intentionally did not use a progressive periphrasis – and is interpreted as temporally simultaneous with the superordinate predicate.

The proposal could therefore be that the English past tense is ambiguous between a perfective past and an imperfective – Italian-like one – but the latter is only available with stative and stative-like (progressive) predicates.

3.1.2. The subjunctive

In Italian the embedded verbal forms – in finite clauses – come in two varieties: indicative mood and subjunctive mood. The bipartition of the embedded verbal forms is common to many Romance and non-Romance languages, such as Spanish, Catalan, Romanian, Portuguese, Greek, Icelandic, German etc. In all the Romance languages, (one form or the other of) the indicative appears embedded under (non-negated) verbs of *saying*, whereas the subjunctive typically appears under verb of *wishing*, even if with some exceptions.¹³ But beside these core cases, even among Romance languages there are several differences as far as the contexts requiring one mood or the other are concerned. In Germanic languages, for instance, the subjunctive appears also under verbs of *saying*, making the general picture even more complex.¹⁴

In this work I do not describe or discuss the reasons why the indicative or the subjunctive mood must or can appear in the various contexts. I will propose the following generalization:

- (27) In complement clauses of Italian the indicative appears if the superordinate verb is a *speech act* verb.

¹³. For instance in Romanian, the subjunctive does not appear with factive-emotive predicates. See among the others, Farkas (2003), Terzi (1992), Quer (1998).

¹⁴. For a discussion of the indicative/ subjunctive alternation, see among the others, Giorgi and Pianesi (1997), Schlenker (2005), Roussou (1999), Manzini (2000). See also fn.13 above.

As far as complement clauses go, this generalization works quite well for Italian. Psychological predicates such as *pensare* (think), *credere* (believe), *sperare* (hope), *desiderare* (wish) etc, select an embedded subjunctive, whereas predicates such as *dire* (say), *affermare* (affirm), *dichiarare* (declare) etc, select an indicative. Consider the basic distribution and interpretation of the subjunctive verbal forms in Italian:

- (28) Gianni crede che Maria sia/*fosse felice
Gianni believes that Maria is(PRES SUBJ/*PAST SUBJ) happy

- (29) Gianni credeva che Maria fosse/*sia felice
Gianni believed that Maria was(PAST SUBJ/*PRES SUBJ) happy

The embedded verbal form in examples (28) and (29) is interpreted as simultaneous with the main one. Note that in (28) the main verb appears in the present tense, and the embedded verb has present subjunctive morphology. Analogously, in example (29) the main verb has past tense morphology and the embedded one features a past subjunctive. The opposite choices would not be possible, as shown by the ungrammatical options given above.

Subjunctive morphology, in other words, manifest itself as an agreement phenomenon between the morphological tense of the superordinate verb and the embedded one. As an argument in favor of this hypothesis, consider the following example:

- (30) Gianni pensava che Maria partisse ieri/ oggi/ domani
Gianni thought that Maria left(PAST SUBJ) yesterday/ today/ tomorrow

The embedded verbal form is a past subjunctive. The example shows that the temporal interpretation of the leaving event is not constrained by any indexical adverb. All indexical expressions are in fact compatible with it, so that the leaving can actually be located either in the past, in the present, or in the future with respect to the utterance event. The only requirement to be satisfied is *temporal* agreement with the main verbal form – present under present and past under past – as shown in the examples given above.

It is possible to express anteriority with respect to the main predicate, but this is obtained derivatively, by means of the compound subjunctive forms:

- (31) Gianni crede che Maria abbia telefonato
Gianni believes that Maria has(PRES SUBJ) called

- (32) Gianni credeva che Maria avesse telefonato
Gianni believed that Maria had(PAST SUBJ) called

The past participle *telefonato* (called), expressing the resultant state – that is, the state resulting from a preceding event – is taken to hold at the time of the believing. This configuration yields as a result a past interpretation without the intervention of a past morpheme. Note again that the auxiliary agrees with the main verbal form: present subjunctive under a present, past subjunctive under a past. Naturally enough, no DAR arises with the subjunctive, given the purely morphological nature of the temporal morphemes.

Consider however the following case, discussed in Giorgi and Pianesi (2004b) and Giorgi (2008):

- (33) Gianni ha ipotizzato che Maria fosse incinta
Gianni hypothesized that Maria were(PAST SUBJ) pregnant

- (34) Gianni ha ipotizzato che Maria sia incinta
Gianni hypothesized that Maria is(PRES SUBJ) pregnant

Ipotizzare (hypothesize) is a predicate which can be interpreted either as a purely psychological predicate, or as a communication one, similarly to the English *guess*.¹⁵

As a psychological predicate, it selects the subjunctive, but it is anomalous, permitting a non-agreeing configuration – present under past – as the one in (34). Interestingly, the configuration in (34) forces the DAR interpretation, analogously to the indicative cases analyzed above. Sentence (34) in fact crucially implies that the pregnancy of Maria both held in the past, at the time Gianni hypothesized about it, and *now*.

The presence of the DAR effect in (34) shows that the DAR cannot be simply due to the presence of a certain verbal form in the embedded clause – i.e., the indicative. In the next section I address this issue, which is central to the point investigated in this paper.

¹⁵. Thanks to J. Higginbotham for pointing this out to me.

3.2. Toward a syntax of indexicality

3.2.1. The Complementizer and the DAR

As well-known – see among the others Scorretti (1994), Poletto (1995, 2000, 2001) – in Italian the complementizer can be omitted when introducing (certain) subjunctive clauses, but it can never be deleted when introducing indicative ones.¹⁶

Giorgi and Pianesi (2004) and Giorgi (2008) observed that the possibility of deleting the complementizer correlates with the cases in which the DAR is enforced. This generalization can be stated as follows:

(35) In Italian the DAR interpretation and Complementizer Deletion never co-occur.

This proposal accounts for the following contrast:

(36) Gianni ha detto *(che) Maria è incinta
Gianni said (that) Maria is(IND) pregnant (DAR)

(37) Gianni credeva (che) Maria fosse incinta
Gianni believed (that) Maria was(SUBJ) pregnant (non-DAR)

More interestingly, it also accounts for the contrast found with *ipotizzare* (hypothesize):¹⁷

(38) Gianni ha ipotizzato (che) Maria fosse incinta
Gianni hypothesized (that) Maria were(PAST SUBJ) pregnant (non-DAR)

¹⁶. The Florentine dialect seems to admit CD even in certain indicative contexts, such as those embedded under the predicate *dire* (say). According to my informants, however, it seems that there are some usage restrictions, rendering the phenomenon not totally identical to the other CD cases – recall in fact that CD in Italian is totally optional. These properties of the Florentine dialect require therefore further study.

¹⁷. Sentence (39) therefore, seems to violate the generalization according to which the subjunctive morpheme does not express tense, but only morphological agreement. It can be showed however that the violation is only apparent. In this case, the present tense is not licensed by the superordinate verbal form, but by the speaker's coordinate itself, hence *now*. On the precise working out of this proposal, see Giorgi (2008).

- (39) Gianni ha ipotizzato *(che) Maria sia incinta
 Gianni hypothesized (that) Maria is(PRES SUBJ) pregnant (DAR)

As illustrated above, when the verb *ipotizzare* selects a subordinate subjunctive, it permits CD – ex. (38). On the contrary, in the DAR case – i.e., the present under past configuration in example (39) – the complementizer must obligatorily appear.

Giorgi (2008) proposed that the non-deletable C position is the locus for the realization in the syntax of the speaker's temporal coordinate. The complementizer introducing the subjunctive has different properties and does not occupy the same position in the projection. It does not bear any reference to the speaker and can be omitted. To put it intuitively: it does not convey any information relevant to the interpretation and therefore, in a way, it can be *dispensed with*.

In this perspective, the absence of the complementizer in English is to be considered as the realization of a null-complementizer, exhibiting the properties of the indicative-like complementizer in Italian. Notice in fact that the presence or absence of *that* does not have any effect on the DAR non-DAR interpretation of the following sentences:

- (40) John said (that) Mary is pregnant

In example (40), the complementizer can be omitted, even if the sentence is interpreted according to the DAR. This result actually fits with what is already known on the subject. As pointed out originally by Kayne (1981), in fact, the null complementizer is not an available option in Italian.¹⁸

So far, therefore, it can be said that in Italian the DAR is enforced due to the presence of a high complementizer position, constituting the *trait d'union* between the syntax and the context. In this Italian and English are identical – modulo the existence of the null complementizer in English. In Italian there is also a further option, due to the presence in the system of the subjunctive, a form resistant to the DAR interpretation, unless appearing in a communication context, such as the one created by *ipotizzare* (hypothesize).

¹⁸. For a recent account in the minimalist framework, see Boskovic and Lasnik (2003) and references cited there.

3.2.2. The Italian imperfect and the English past

What about the Italian imperfect and the English (stative) past? We saw above, in fact, that these forms are immune from the DAR. Note also that the Italian imperfect, with respect to C, patterns with the indicative and not with the subjunctive:

- (41) Gianni ha detto *(che) Maria era incinta
Gianni said (that) Maria was(IMPF) pregnant

Giorgi (2008) proposed that the ‘normal’ indicative verbal forms – present, past and future – always enforce the DAR, being introduced by the leftmost complementizer in the C-layer, containing the representation of the speaker’s temporal coordinate. The subjunctive does so only when it co-occurs with communication predicates – such as *ipotizzare* (hypothesize). In all the other cases, the subjunctive complementizer does not contain any reference to the speaker’s temporal coordinate. Finally, the imperfect is an indicative form, and is introduced by the leftmost undeletable complementizer. Hence, it should exhibit DAR effects, contrary to facts.

Note that the imperfect, in general across Romance languages, has often been dubbed as an *anaphoric* temporal form. This is so because it can appear in main assertions, but it must be introduced by some temporal topic. In other words: it cannot be used *out of the blue*, and a temporal reference must be given in the previous discourse or in the context. Consider for instance the following examples:

- (42) #Gianni mangiava un panino
Gianni was eating(IMPF) a sandwich
- (43) Ieri alle 5, Gianni mangiava un panino
Yesterday at 5, Gianni was eating(IMPF) a sandwich

In order to be acceptable, the sentence must be introduced by a temporal topic, as in (43). Looking at the facts from another perspective, discussed in Giorgi (2008), the imperfect cannot be anchored to the utterance time as the indicative past, as opposed to the indicative past forms. One way of capturing this observation could be to say that the imperfect cannot be anchored to the utterance event because it bears the feature [*anti-speaker*]. For this reason, it cannot be directly anchored to the speaker’s temporal

coordinate, but can be located with respect to it only *indirectly*, as happens when a temporal locution such as *yesterday at 5* appears.

By virtue of its anti-feature, the imperfect, even if it appears in clauses introduced by the high indicative-like complementizer, does not locate the event with respect to the speaker's coordinate, but only with respect to the superordinate event, yielding a simultaneous reading.¹⁹

Interestingly, it is exactly because of this property that the imperfect appears in the contexts embedded under *dream* predicates, as discussed in Giorgi and Piansesi (2001b; 2004). Giorgi and Piansesi argued that dreams contexts are special, because the tense is not anchored. The clause embedded under the *dream* predicate expresses the content of the dream without locating it in the past, present or future of the speaker (nor is the embedded event located with respect to the subject either). Other verbal forms of the indicative, such as the present perfect or the simple past do not yield grammatical results. Consider the following examples:

- (44) Gianni ha sognato che c'era un terremoto

Gianni dreamed that there was(IMPF) an earthquake

- (45) *Gianni ha sognato che c'è stato/ ci fu un terremoto

Gianni dreamed that there has been(PRES PERF/ PAST) an earthquake (ok if *evidential dream*)

The imperfect is the form used to express the content of the dream. If some other indicative form is used, the result is – at best – that of *evidential dream*, a dream in other words, which, according to the speaker, reveals reality, as pointed out in the gloss. The point of interest here is that the form appearing in *dream* contexts in English is the simple past. Consider the following examples:

¹⁹. When the embedded clause is introduced by a temporal topic, as might be expected, the imperfect gives rise to a simultaneous interpretation with respect to the temporal topic:

- (i) Gianni ha detto che ieri alle 5 Maria mangiava un panino

Gianni said that *yesterday at five* Maria was eating a sandwich.

For further discussion, see Giorgi (2008).

- (46) John said that Mary left
(the leaving is located in John's past and in the speaker's past)
- (47) John dreamed that Mary left
(*the leaving is located in John's past and in the speaker's past. The leaving is just the *content* of the dream)

There is a contrast between the ordinary subordinate contexts, for instance those embedded under a verb of *saying* as in (46), and the contexts created by *dream*. In the former case, the temporal interpretation of the embedded event must be past both with respect to the subject of the superordinate verb and with respect to the speaker's temporal location. This does not make any sense inside a *dream* context: there is no way in which the leaving event in example (47) might be said to be located in the past with respect to the dreaming event and in the past of the speaker.

With respect to the phenomena illustrate here, it can be concluded therefore that the English past 'corresponds' both to the Italian simple past and to the Italian imperfect. Hence it can be said to be a *real* past tense, instantiating a preceding relation between two arguments. In some contexts, however, it behaves as an *anti-speaker* form, corresponding to the Italian imperfect. Which of the two values will be selected depends on two factors: the nature of the superordinate predicate – for instance, *say* vs. *dream* – and the aspectual value of the embedded predicate – namely, stative vs. eventive.²⁰

Concluding this discussion, it is possible to say that English and Italian are both DAR languages. In Italian the clauses exhibiting the DAR are always introduced by the left-most undeletable Complementizer. Subjunctive clauses are usually introduced by a lower, deletable, complementizer. The indicative/ subjunctive distinction mostly coincides with the DAR/ non-DAR interpretation of embedded clauses. In some cases, the presence of the left-most high complementizer does not give rise to the DAR; in these cases, an imperfect verbal form appears. The proposal is that the imperfect, due to

²⁰. In Giorgi (2008 ch. 5) the same hypothesis is proposed to explain the verbal pattern in Free Indirect Discourse in Italian and English. In English, in literary FID contexts we find an overwhelming presence of past forms, whereas in Italian these are almost always corresponding to imperfect verbal forms. The idea would be that even in this case, the English past is an *imperfect in disguise*. Note also that in the literature on the topic, mostly about the English texts, the presence of a past form creates considerable problems. The proposal developed here, therefore, also solves a problem in that domain.

its anti-speaker feature, neutralizes the effect of the presence of the speaker's temporal coordinate in C.²¹

In English there is no indicative/ subjunctive distinction, but the past tense collapses both the function of a 'real' past form, and that of an Italian-like imperfect. I have argued that the absence of DAR effects with statives and progressives is due to the possibility for statives to select this option, whereas this is not possible, for independent reasons, with eventive predicates.²²

Hence, it looks like languages have two ways to encode the DAR/ non-DAR dimension: a) presence of the left-most C-position vs. its absence – basically, encoded in the indicative/ subjunctive distinction b) the past/ imperfective distinction, where both tenses are introduced by the left-most C position. Italian has both possibilities, whereas English can only exploit the second one.

In the following section, I will briefly discuss Romanian and Chinese. Romanian is a non-DAR language, exhibiting the indicative/ subjunctive distinction. Chinese does not have any tense or mood morphology associated with the verbs and is a non-DAR language.

The cross-linguistic variation can be summarized in the following table:

table 1:

	subjunctive	Double Access Reading
Italian	+	+
Romanian	+	-
English	-	+
Chinese	-	-

This kind of variation seems is at first sight quite puzzling. It is not clear at all how come that, with respect to the DAR, Romanian patterns with Chinese and not with

²¹. For a detailed discussion, see Giorgi and Pianesi (2004b) and Giorgi (2008).

²². Giorgi and Pianesi (2001) argue that English statives can be made simultaneous with a superordinate event. Due to the *punctuality constraint*, English eventives, on the contrary, cannot. Simplifying, the reasoning runs as follows: English eventive predicates are always inherently *perfective* – i.e., they are bounded eventive sequences. The superordinate, anchoring event is seen as a (mereological) point. A perfective verbal form can never be made simultaneous with a superordinate event because a bounded sequence cannot coincide with a (mereological) point (the *punctuality constraint*).

Italian, and conversely, languages with poorer morphology, such as English and Chinese, do not pattern alike.

My proposal, as sketched in the introduction, is that morphological variation is only a superficial clue and that what really matters is the pattern observed at the C-I interface.

4. Toward a generalization: Some remarks on Romanian and Chinese

4.1. Romanian

As mentioned above, Romanian is a non-DAR language. Consider the following Romanian examples:²³

(48) Maria e insarcinata.

Maria is(PRES IND) pregnant

(49) Acum 2 ani Gianni a spus ca Maria e insarcinata.

Two years ago John said that Maria is(PRES IND) pregnant

The present tense is the form used in main sentences to express simultaneity with the utterance time, as shown in example (48). In Romanian, however, a sentence such as (49), has the same meaning as sentence (50) in English:

(50) Two years ago, John said that Mary was pregnant

In sentence (49), as in sentence (50) in English, Mary's pregnancy holds at the time of the saying, but does not have to hold at utterance time. Recall in fact, as discussed

²³. I wish to thank all my Romanian students, in Venice with our Erasmus program, who participated to the course of *Theoretical Linguistics* in the academic years '06-'07 and '07-'08, for discussing with me about these and related data. In particular, I thank Iulia Zegrean for her kindness in answering all my questions about the data. Every misuseage of the evidence is obviously exclusively my fault.

above, that the temporal²⁴ specification *two years ago* is totally incompatible with an embedded present tense in DAR languages, such as English and Italian.²⁵

(51) *Two years ago, John said that Mary is pregnant

(52) *Due anni fa Gianni ha detto che Maria è incinta

In other words, on one side Romanian is like English and Italian, in that a present tense in a main clause is interpreted indexically. On the other, in Romanian the indexical component disappears when the present tense is in a complement clause.

Romanian also has the indicative/ subjunctive distinction. Typically, the subjunctive appears under control verbs in the place of the English and Italian infinitive, as in the following example (from Farkas, 2003, ex 4):

(53) Maria vrea sa-i raspunda

Maria wants SUBJ PRT-clitic answer(SUBJ)

Maria wants to answer him

Interestingly, the subjunctive does not appear in factive-emotive contexts – see among the others Farkas (2003). This suggests that the indicative/ subjunctive distinction encodes partially different properties with respect to the Italian subjunctive. On the other hand, like Italian, Romanian admits Complementizer Deletion with the subjunctive. The subjunctive verbal form in Romanian is introduced by a syntactically low particle *sa*. Such a particle is syntactically lower than the complementizer *ca*. *Sa* is in most cases the only element distinguishing the indicative verbal form from the

²⁴. The subjunctive in Romanian also appears in a periphrastic construction to express future and as an imperative.

²⁵. Recall that states might be persistent, and therefore they might be holding *now*, even if the language is not a DAR language. This effect does not mean anything: The crucial test must always be provided by a sentence like the one in (51).

subjunctive one – with the exception of the third person singular – and is therefore the distinctive property of the subjunctive in Romanian.²⁶

The complementizer *ca* cannot be deleted with the indicative, but it is in general omitted with the subjunctive. Consider in this respect examples (49) and (53):

- (54) Jon a spus *(ca) Maria e insarcinata.
Jon said *(that) Maria is(PRES IND) pregnant

- (55) Maria vrea (*ca) sa-i raspunda
Maria wants (*that) *sa*-him answer(SUBJ)
Maria wants to answer him

In example (54) the complementizer cannot be omitted, whereas in (55) it cannot be present. However, if the subjunctive clause has a lexical subject, the complementizer *ca* is again obligatorily realized:

- (56) Maria vrea *(ca) Jon sa-i raspunda
Maria wants *(that) Jon *sa*-him answer(SUBJ)
Maria wants *(that) Jon answers him

The presence of *ca* in (56) shows that in principle in Romanian the high complementizer position is available even with the subjunctive.²⁷

In this paper I do not intend to provide an exhaustive analysis of the Romanian Mood system, because it would lie outside the scope of this work, but I will discuss some generalizations and propose some possible lines of future research on the topic.

I illustrated above with respect to Italian that the DAR/ non-DAR interpretation is largely coincident with the indicative/ subjunctive distinction. In particular, in indicative clauses, the high Complementizer encoding the speaker's coordinates is present, whereas in (most) subjunctive clauses such a complementizer is not realized. To some

²⁶. In Italian the personal endings of the subjunctive present differ in at least four persons out of six, depending on the verbal declension. In Romanian moreover there is no subjunctive imperfect – i.e., there is only one simple subjunctive form.

²⁷. For a discussion, see Aboh (2004, ch. 5). On this topic, see also Dobrovie Sorin (1994), Terzi (1992), Motapanyane (1995).

extent, this accounts for the indicative/ subjunctive bipartition of clauses in Italian from a syntactic point of view: in indicative embedded clauses the speaker is represented at phase level in the C-layer, whereas in subjunctive clauses it is not there.

The problem raised by these considerations with respect to Romanian is the following. Given that it is a non-DAR language, the functional reasons of the distinction between a Complementizer encoding the speaker's coordinates – the indicative-like complementizer – and a deletable complementizer, not encoding this information – i.e., the subjunctive-like complementizer – disappears. Non-DAR clauses do not require anchoring of the embedded verbal form to the speaker's temporal coordinate, hence, in Romanian there is no reason to hypothesize a complementizer encoding the speaker's temporal location, as opposed to one that does not.²⁸

Pursuing this line of reasoning, one might suggest that the indicative/ subjunctive distinction has a different role in the grammar of Romanian with respect to the role it has in the grammar of Italian. This might seem a reasonable suggestion, given the empirical observation concerning the absence of infinitival control structures in this language. In the same vein, one might propose that the absence of DAR in Romanian points to the absence of the complementizer encoding the speaker's temporal coordinates. Hence, a possible line of investigation could be the analysis of the properties of the complementizer, in order to ascertain if it is significantly different from the Italian one.

This line of research, however, might be not the most promising one. The possibility of deleting the complementizer in fact looks very close to Italian CD – or, at least, closer to the Italian-like deletion phenomena, than to the English null complementizer pattern, since it follows, the indicative/ subjunctive divide. Hence, one might suggest that CD phenomena in Romanian are to be traced back to the presence/absence of the speaker's temporal and spatial coordinates in the left periphery of the clause, like in Italian.

So far, however, I do not have positive empirical arguments to offer in favor of this view, but, on the other hand, there are no counter-arguments that I can see.

More importantly, it might be desirable to claim that the possibility of encoding the speaker's coordinate in the left-most position in the C-layer is a universal one, as argued in Giorgi (2008). In this way, the interface between syntax and context would be univocally represented by grammar.

²⁸. Interestingly D'Hulst etc. (2003) discussed the lack of the future-in-the-past in Romanian. Again, since this language never anchors the embedded event to the speaker's coordinate, the necessity of a distinction between the equivalents of a *will*-future and a *would*-future disappears.

In the next section I'll argue that the analysis of Chinese might provide an argument in favor of the second perspective.

4.2. Long Distance Anaphors and the speaker's coordinates

4.2.1. Long Distance Anaphors in Italian

In this section I will briefly analyze the properties of Chinese with respect to the interface with the context. As I just illustrated above, Italian has a rich verbal morphology encoding tense and mood distinctions, as well as aspectual properties. Chinese, on the contrary, is a language almost without morphology and with no tense and mood distinctions detectable on the verb, but only aspectual ones. Temporal interpretation is taken to be derivative on lexical and aspectual properties.²⁹

Given this state of affairs, one might think that it is impossible to test the relevance of the hypothesis proposed here with respect to Chinese. The issues related to the presence of the speaker's temporal coordinate in the C-layer of the embedded clause in fact seem to be irrelevant, or at least not testable, due to the lack of tense and mood distinctions.

However, in Italian, beside the facts related to the DAR, there is also another set of phenomena sensitive to the presence of the indicative/ subjunctive distinction, namely, the distribution of long distance anaphors, henceforth LDAs.

As well known, LDAs, are cross-linguistically permitted to get over a clause featuring a subjunctive, or infinitive, verbal form, but are blocked by an indicative one. That is, simplifying somehow, the antecedent of a LDA cannot lie outside the first clause containing an indicative, but can lie outside a clause containing a subjunctive. This phenomenon was observed both in the Germanic, for instance in Icelandic, and in the Romance domain, for instance in Italian.³⁰

To illustrate this point, consider the following examples:

- (57) Quel dittatore_i spera che i notiziari televisivi parlino a lungo delle proprie_i gesta
 That dictator hopes that TV news programs will talk (SUBJ) for a long time about
 self's deed

²⁹. See Smith (2007) and Lin (2006).

³⁰. See, among the others, Thrainsson (1991) and Giorgi (1984).

- (58) Quel dittatore_i ha detto che il primo ministro_j era convinto che i notiziari televisivi avessero parlato a lungo delle proprie_{j/*i} gesta.
That dictator said that the Prime Minister was(IND) convinced that the TV news program had(SUBJ) talked a lot about self's deeds
- (59) *Quel dittatore_i ha detto che i notiziari televisivi hanno parlato a lungo delle proprie_i gesta
That dictator said that the TV news programs talked(IND) for a long time about self's deeds
- (60) *Quel dittatore_i ha detto che i notiziari televisivi parleranno a lungo delle proprie_i gesta
That dictator said that the TV news programs will(IND) talk a lot about self's deeds

This paradigm shows that for the anaphor to be long distance bound, the main verb of the embedded clause must be a subjunctive. In particular the ungrammaticality of (59) and (60) shows that an indicative prevents the anaphor from looking any further for an antecedent, whereas the grammaticality of (57) and (58) shows that a subjunctive is *transparent* to this purpose. LDAs also exhibit a series of further properties, as for instance being usually subject-oriented, which I will not take into account in this brief discussion.

The point to be stressed here is that the indicative mood actually has a blocking effect on the long distance anaphor, defining the domain in which it has to look for an antecedent.

Interestingly, the blocking effect I just described above is not limited to sentences featuring an indicative verbal form, but it also extends to some cases of subjunctive clauses. I showed above that the speaker's coordinate is represented in the left periphery of the clause also in some subjunctive contexts, which, as expected, give rise to the DAR, as for instance the *ipotizzare* (hypothesize) cases described in exx. (33)-(34) and (37)-(38). The prediction is therefore that on these cases long distance binding should be blocked, as happens with the indicative mood in sentences (59) and (60). Consider to this end the following examples:

- (61) Quel dittatore_i ha ipotizzato che il primo ministro venda illegalmente i propri_i*
tesori
That dictator hypothesized that the prime minister illegally sells(PRES SUBJ)
self's treasures
- (62) Quel dittatore_i ha ipotizzato che il primo ministro vendesse illegalmente i propri_i
tesori
That dictator hypothesized that the prime minister illegally sold(PAST SUBJ)
self's treasures

In example (61) a present subjunctive is embedded under a main past, whereas in example (62) the usual past-under-past configuration obtains. The superordinate subject is much more available as an antecedent in example (62) than in example (61), where the sentence is preferentially interpreted with *propri* (self's) referred *il primo ministro* (the prime minister). This contrast, even if subtle, certainly goes in the expected direction and cannot be accounted for by invoking the indicative/subjunctive distinction discussed above.

An account for these cases can be provided along the following lines. Sentence (61) is a DAR sentence – i.e., a sentence in which the embedded eventuality has to be located both with respect to the temporal coordinates of the superordinate subject, *that dictator*, and to the temporal coordinates of the speaker. Therefore, in order to reach its expected antecedent, the anaphor should cross a clause endowed with the speaker's coordinate. In the indicative clauses given above – cf. exx. (59) and (60) – the LDA should do the same, whereas this would not happen in the 'normal' subjunctive cases illustrated in examples (57) and (58).

Given this pattern, the alternative hypothesis to explain the whole of the cases given above can be the following: the blocking of the anaphor is due to the presence of the speaker's coordinate in the left periphery of the clause, and not to the presence of the indicative mood *per se*.³¹

In other words, a LDA could look for an antecedent beyond its own clause only if the speaker's coordinate are not represented in its left-periphery, hence the anaphor *proprio* can take a superordinate, long distance, subject as an antecedent.³²

³¹. For a detailed discussion of long distance binding see Giorgi (2006, 2007).

³². Irrelevantly, the intermediate subject, *il primo ministro* (the prime minister) is available as an antecedent in both cases.

Consider also that, coherently with what I said above, the indicative imperfect is not transparent to LD binding – i.e., it does not admit a long distance anaphor to be bound outside its domain, showing therefore that it is in this respect a well-behaved indicative. Consider to this purpose the following sentences:

(63) Quel dittatore_i ha detto che i libri di storia parlavano spesso delle proprie*_i gesta
That dictator said that the books of history often spoke (IMP) about self's deeds

(64) Quel dittatore_i ha detto che i libri di storia hanno parlato spesso delle proprie*_i gesta
That dictator said that the books of history often spoke (PAST IND) about self's deeds

(65) Quel dittatore_i sperava che i libri di storia parlassero spesso delle proprie_i gesta
That dictator hoped that the books of history often spoke (SUBJ) about self's deeds

The imperfect verbal form in example (63) patterns with the past indicative in example (64), and both contrast with the subjunctive in sentence (65). Only in example (65), in fact, can the LDA be bound outside the minimal clause containing it.

The important conclusion following from this evidence, which will be useful in the subsequent discussion, is that with the imperfect no DAR effects are detectable – due to its peculiar feature endowment. With respect to the distribution of LDAs, however, the effects due to the presence of the speaker's temporal coordinates become visible again. In other words, even if it does not show up with the DAR, the imperfect does encode reference to indexicality in the C-layer.

4.2.2. Long Distance Anaphors in Chinese

In Chinese there are no DAR effects, as remarked in the previous sections, but LDAs are fairly common.³³

³³. In Italian LDAs are not very common in spoken language and for some speakers they are not totally 'natural'. In Chinese, on the contrary, LDAs are very common in all linguistic registers. It is not clear to

In Chinese there is no subjunctive/ indicative divide, given that there is no mood distinction at all. I showed in the preceding discussion that the presence of the speaker's coordinates could be detected even in absence of DAR effects, by means of the analysis of the distribution of LDAs. One might wonder therefore, if there is any blocking effect in Chinese as well, in spite of the absence of indexical morphology associate with the verb.

It is a well known fact, that in Chinese the binding domain of a LDA is indeed bounded by intervening items, which however do not have a *verbal* nature, but (mostly) a *nominal* one. In other words, the blocking items are not connected with the category *verb*, but in most cases connected with the category *noun*.

For instance, In Chinese an intervening first or second person pronoun prevents the anaphor from being bound by the subject of the superordinate clause. Consider the following example:

- (66) Zhangsan_i danxin wo/ni_j hui piping ziji_{i/*j} (Huang and Liu 2001,ex.11a)
 Zhangsan is worried that I/you might criticize myself/yourself/*him

In this example the anaphor *ziji* cannot refer to the higher third person noun *Zhangsan*. This example contrast with the following one:

- (67) Wo_i danxin Zhangsan_j hui piping ziji_{i/j} (Huang and Liu 2001, ex.11b)
 I am worried that Zhangsan will criticize me/himself

As discussed by authors, in Chinese the blocking effect is asymmetrical, in that an intervening third person Noun Phrase does not have the same effect and the LDA *ziji* can refer back to *wo* (I).³⁴

me where the difference between the two languages might lie and I will not consider this issue any further.

³⁴. Huang and Liu (2001) point out that some sentences with an intervening third person antecedent might be controversial. Some speakers might find it hard to *pass* over a third person intervening subject. Their own judgment, however, is that the sentences with an intervening third person, like the one provided in the text, are fully acceptable.

They also show that the blocking effect induced by a first or second person pronoun persists even if the pronoun in question does not occur in a position where it may count as a potential antecedent. Consider to this end the following example:

- (68) Zhangsan_i gaosu wo_j Lisi_k hen ziji_{i/*j/k} (Huang and Liu 2001, ex.8a)
 Zhangsan told me that Lisi hated self

In this example *wo* – the first person pronoun – is not a potential antecedent, given that it does not appear in subject position. In spite of this, the binding domain of the LDA is limited to the embedded clause and the superordinate subject, *Zhangsan*, is not a possible antecedent.

The relevant question at this point concerns the nature of the blocking effect in Chinese. Which property distinguishes first and second person pronouns from third persons? An interesting insight comes from some examples by Huang and Liu (2001) that are not easily amenable to the theoretical accounts formerly proposed.³⁵

They observe that some third person NPs can act as blockers, when they are identified by means of deixis, as illustrated by the following example:

- (69) Zhangsan_i shuo DEICTIC-ta_k qipian-le ziji_{i/*k} (Huang and Liu 2001, ex. 12)
 Zhangsan said that DEICTIC-she/he cheated himself/herself

The word DEICTIC here stands for the ostensive gesture pointing at a person present in the context. When this is the case, the superordinate subject *Zhangsan* is not available as an antecedent, and the anaphor must necessarily have an antecedent in the embedded domain. In the example given above, the antecedent is the deictically identified noun.

Another interesting observation comes from the analysis of the effects on LD binding of items, which are not even clearly nominal ones, i.e., explicit temporal locutions. As I pointed out above, Chinese does not have temporal morphemes, but only aspectual ones. Temporal locutions can be used to the purpose of defining the sequence of events, that is, the ordering of the events with respect to each other.

Consider the following examples:

³⁵. As for instance the movement theory of LDAs, see Cole (1996). Huang and Liu (2001) themselves adopt a revised version of such a theory.

- (70) ? Zhangsan_i kuanjiang-guo houlai sha si ziji_i de naxie ren_j
 (Huang and Liu, ex. 107)

Zhangsan has praised those persons who **later** killed him

- (71) * Zhangsan_i shang xingqi zanmei-le jin zao piping ziji_i de nei-ge ren
 (Huang and Liu ex. 109).

Zhangsan praised last week the person who criticized self **this morning**

Later is an anaphoric temporal item, given that it must refer back to a time already given in the sentence. The expression *this morning*, on the contrary, is an indexical locution, and as such its location depends on the temporal coordinate of the speaker. Interestingly, the indexical temporal expression seems to act as a blocker for the LDA, so that the superordinate subject *Zhangsan* in (71) is not available as an antecedent. On the contrary, in (70) the anaphor can refer back to it.³⁶

Given this evidence, it is possible to formulate a generalization. The blocking effect in Chinese seems to be induced by items which crucially rely for their interpretation on indexicality – i.e., on the context defined on the basis of the speaker's temporal and spatial coordinates. First and second person pronouns, deictically identified noun phrases, indexical temporal locutions, all share this property.

If this is correct, then Italian and Chinese would not differ at the relevant level of abstraction, in that in both languages the distribution of LDA would be affected by the presence in the sentence of indexical items.

The morphosyntactic properties of Italian are such that indexicality is prototypically encoded, as far as the syntax goes, in the verbal system – as for instance by means of the distinction between indicative and subjunctive. In Chinese, indexicality cannot be encoded in the same way, but the relevant effects are visible with *all* indexically related items.³⁷

In other words, the presence of the speaker's coordinates shows up in different ways, due to the fact that the languages in question differ with respect to their

³⁶. Huang and Liu (2001) actually mark this example as “?” for unclear reasons. It is nevertheless a significant contrast.

³⁷. See Giorgi (2008) for a discussion of indexically related nominal expressions in Italian. As I said in the text, the *prototypical* encoding in Italian is on the verbal system, but other indexical items, such as for instance first and second person pronouns, also shows a milder blocking effect with LDAs.

morphosyntactic properties. In Chinese, due to the lack of verbal morphology, the presence of speaker's coordinates does not show up in DAR phenomena, as in Italian, but their effects on LD binding are exactly the same.

5. Conclusions

The evidence discussed in this paper points to the conclusion that in all the languages considered here, the speaker's temporal and spatial coordinates are encoded in the syntax and have detectable effects on the interface conditions imposed by conceptual-intentional system C-I. This requirement might therefore be reasonably taken to be universal and to be part of Narrow Syntax.

It is even possible to speculate that precisely this property is at the bottom of the phase nature of the complementizer projection. In fact, the location of events with respect to indexicality – or their *lack* of location with respect to it – might be taken to be the universal and basic property that clauses have to satisfy.

In this perspective therefore, it can be concluded that all languages are *optimal*, independently from the specific morphosyntactic implementation they exhibit, because all of them interface with the C-I system and with the context in the same way, once the appropriate level of abstraction is established.

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The syntax of focus negation

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1. Introduction

The aim of this article is to provide a unified analysis of all uses of the negative item NO (corresponding to pro-sentence negation as well as to a Focus marker similar to ‘really+neg’) in Italian varieties. The behavior of this item is rather interesting because it displays a window on the left periphery and the various projections contained in this domain and on its interaction with the IP. I propose that, despite its surface distribution, NO is always located in the same position in all the constructions in which it occurs; namely a (either contrastive or informational) Focus position in the CP layer. That negation is sensitive to Focus is well known, (see Etchebarre & Echebarria (2007) for a recent treatment of the relation between Focus and Negation). All cases of NO are instances of one and the same structure in which NO is in the low CP Focus position; the seemingly different position of NO depends either on an elliptical structure similar to sluicing as analyzed in van Craenenbroeck and Liptak (2006), (2008) or on optional remnant movement of the whole IP in front of NO. We will see that all the differences among the various constructions can be traced back to independent properties of the whole structure.

In section 2 I describe the distribution of NO in some northern Italian varieties and Veneto regional Italian. In section 3 I analyze contrastive Focus negation providing a unified analysis for sentence initial and sentence final NO, which occur in structures with evidential modality of direct evidence by the speaker. In section 4 I analyze the pro-sentence usage of NO, and show that it can be analyzed with the same structure as the sentence final and sentence initial NO if a structure similar sluicing in wh-constructions is adopted. Pro-sentence NO does not have an evidential character, but

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this is due to an independent constraint on sluicing regarding the impossibility of moving an empty verb outside to projections higher than its usual landing site in declarative clauses.

2. The distribution of the negative marker NO

In this section I provide a general view on the possible structures in which NO can occur. The first usage the negative marker NO displays, in standard and non standard Italian varieties as well as in English, is the so-called pro-IP (or CP) negation:

- (1) A: Ci sei andato?
 There are gone?
 ‘Have you gone there?’
 B: No/Sì
 No/Yes
 ‘No, I did not’

To the best of my knowledge, there is no Italian dialect which uses short tags as English does, Italian varieties do not need any repetition of the verb or of the auxiliary in any context.¹ In Italian dialects the values of English short tags are taken by sentential particles of different sorts, which I will not investigate here (see on this Munaro and Poletto (2004), (2006)), and which in any case are not verbs. All Italian varieties have developed a morpheme like NO to answer a question negatively.

Notice however that in the colloquial variety of Italian used in Veneto (and more generally in the Northern regions like Friul, Lombardy, Piedmont and Liguria) NO can serve as a sentence final Focus marker emphasizing negation (the corresponding positive element is also used to reinforce a positive statement) in answers to questions:

- (2) Non ci vado NO! *Regional Italian*
 Not there go NO

¹. Some dialects do have a form of reinforcement of the negative or positive marker to which an adverbial formative is added *sine/none*. This is probably similar to the forms *yep/nope* found in some varieties of English.

- (3) No ghe vado NO! *Veneto*
 Not there go NO
 ‘I won’t go there’

The meaning of the negative marker NO in these contexts is similar to the one of an evidential that includes the speaker and the addressee, who both have evidence of the fact that the event is negated. The informal pragmatics of an utterance like the ones above is something like “why are you asking me whether I’m going, it is self evident to me and it should be to you as well”. I will show later on that NO has an evidential value. NO does not only have an evidential and a negative value, the intonational contour of the utterance clearly indicates that NO is focused (and this is why I write it all in capitals).² If NO is located in Focus, it should rather be sentence initial and not sentence final.

As a matter of fact, in Veneto and in the regional variant of standard Italian spoken in the region, this item can also be found at the very beginning of the clause followed by a complementizer, which clearly shows that the element is in the CP domain. This type of construction is much more widespread than the one in which NO is sentence final.

- (4) NO che non ci vado! *Regional Italian*
 NO that not there go
- (5) NO che non ghe vado *Veneto*
 NO that not there go
 ‘I won’t go there’

The meaning and the pragmatics of the two constructions are the same, in both cases NO underlines that the (negative) answer should be self-evident to the interlocutor as it is to the speaker.

Both structures have a positive counterpart, namely SI ‘yes’: this is also an evidential meaning, in this case a positive one:

². See below for arguments showing that NO is sentence final and not simply in a low position inside the IP.

- (6) Ci vado SI Regional Italian

There go YES

‘I will go there indeed’

- (7) Sì che ci vado

Yes that there go

The distribution is exactly the same, as SI can be found at the end of the whole clause or at the beginning.

This type of Focus negative marker is shown by Zanuttini (1997) to have been turned into standard negation in some Northern Italian dialects: she reports that NO is related to Focus in Pavese and Milanese and is indeed the standard negative marker (but notably with the same interesting properties I analyze below in section 3).

In other dialects, like the Rhaetoromance variety of S. Leonardo di Badia, NO is this only possible negative marker in imperative clauses where it substitutes for the usual negative marker *ne...nia*, which is similar to standard French negation. A declarative sentence is thus negated with *ne...nia* as in (10), or with *mine* (corresponding to the special negative marker *mica* of standard Italian which is analyzed by Cinque (1976) as triggering an implicature):

- (8) a. Maria ne va nia a ciasa

M. not goes not to home

- b. Maria ne va mine a ciasa

M, not goes not to home

Neither *nia* nor *mine* can occur in imperative clauses:

- (9) *Ne le fa nia/mine

Not it do not/not

‘Don’t do it’

The only possible negative marker is NO, which occurs either in first position (and in this case there is no other negative marker) or at the end of the clause (and in this case the preverbal negative marker *ne* is obligatory):

- (10) a. Ne le fà NO
 Not it do NO
 b. NO le fà
 NO it do

Interestingly, one might wonder what makes the negative marker NO compatible with imperatives while *nia* is incompatible. Moreover, notice that the two possible positions (sentence final or sentence initial) are exactly the same as those where we see Focus negation in Veneto. Veneto also has a similar phenomenon, although it is morphologically less evident, as the distinction between the standard negative marker and NO is simply in the opposition between an open and a closed /o/. Although the two dialects use the item NO in different constructions, the syntax seems to be the same.

A more general fact about Focus negation is that, as other types of negative markers (see Roorick (2008) on French *ne*) it does not always convey a negative meaning. A case of this type is illustrated by the following conversation:

- (11) Waiter: Cercava qualcosa?
 Looked-for something? ‘Are you looking for something?’
 Customer: NO, NO, volevo solo i savoiardi
 No, no wanted only the cookies
 Actually, I just wanted cookies

In this case, the customer is indeed looking for something, the use of negation is meant to indicate that the type of request has already been satisfied or is not relevant.

Another type of context in which NO has no negative marker at all are exclamative clauses:

- (12) Arrivo al parcheggio, e NO che mi hanno fatto la multa!
 Arrive at the parking lot, and NO that me have done the fine!
 ‘I arrived at the parking lot, and surprisingly I had got a ticket!’

Here the usage of NO rather indicates the surprise of the speaker, it is not negative at all. This type of negation is often called ‘expletive negation’, I refer to Zanuttini and Portner who offer both a semantic and a syntactic treatment. Apparently, these cases are similar to the sentence initial case illustrated above, as they are followed by a whole clause.

3. An analysis of Focus negation

I think that a unified analysis of this item in all the constructions where it occurs is not only possible but desirable. Therefore, I propose that NO is always located in the same position and has the same properties in all the constructions (and dialects) where it occurs.

Given that in standard Italian and in Veneto NO is a negative Focus marker, and that it can precede the complementizer I adopt the null assumption that sentence initial NO is indeed located in the Focus position which is standardly assumed to be in the lower portion of the CP layer.³

However, the very presence of a complementizer represents a problem: usually a DP/PP with contrastive Focus is not followed by a complementizer in either Italian or Veneto:

- (13) a. UN GATO NERO el me ga portà casa
 A cat balck, he me has taken home
 b. *UN GATO NERO che el me ga portà casa
 A cat black that he me has taken home

However, other elements located in the Focus layer display either verb movement (with enclisis of the subject clitic) or a complementizer in Veneto: exclamative, interrogative and free relative⁴ wh-items, the wh-item introducing a temporal clause and the one corresponding to ‘as’, *sicome*, all require a complementizer:

- (14) No so che gato che el te ga portà casa
 Not know what cat that he you has taken home

³. I will adopt here the following layering of the CP proposed in Benincà and Poletto (2004). For arguments in favour of this structure see Benincà and Poletto (2004):

(i) [Hang. Topic [Scene Sett. [Left disl. [List interpr [[_{CONTR. CP1} adv/obj], [_{CONTR. CP2} circ.adv. [_{INFORM. CP}]]]]]
 | FRAME | | THEME | | FOCUS |

⁴. Veneto does not have any wh-form in non free relatives, only the complementizer is used with a resumptive pronoun, a strategy which is well attested in several languages.

- (15) Cossa che el me ga portà casa!
What that he me has taken home!
- (16) Chi che el me porta casa, ze sempre un foresto
Who that he me takes home, is always a stranger
- (17) Sicome che el me ga portà casa un gato nero...
As that he me has taken home a cat black
- (18) Quando che el me ga portà casa un gato nero...
When that he me has taken home a cat black

Given that since Benincà's (2001) and Rizzi (2001) clearly show that relative wh-items and interrogative wh-items are not located in the same position in Italian varieties, we cannot assume that it is a single position in the CP layer which requires the presence of the complementizer, rather it seems to be the class of wh-elements which requires the complementizer even though they are located in different projections according to the construction in which they occur. Apparently, in Veneto the class of elements requiring a complementizer is even wider, as it includes:

- a) Wh-items of any type (exclamative, interrogative, free relative)
- b) All items introducing a temporal clause ('when', 'before', 'after') or a purpose clause ('given', 'as', 'seen')
- c) The item introducing a causal or a consecutive introduced by 'as'

I would like to propose that NO belongs to the same class of elements, which all are intrinsically operators, differently from focussed DPs. Notice that all the cases noted above introduce embedded clauses except for the exclamative case, which (as I will show later) has a property in common with NO. The regional variant of standard Italian does not have such a widespread class of elements, however, it still uses the complementizer in exclamative clauses, (and in some causal and consecutive clauses). Whatever the mechanism forcing the presence of a complementizer in some clause types but not in others, the observation remains that the presence of the complementizer does not seem to be related to the Focus projection per se (or any other position in the CP), but rather to the class of items located in various specifier, which varies a lot even within the same Veneto region, the diachronic tendency being that the complementizer

is realized more and more. I will leave this problem aside and just assume that Focus Negation belongs to the class of intrinsic operators which require a complementizer after them, which includes *wh*-items but not focussed DPs and PPs.

Therefore, the analysis of a sentence like the following is the one in (20):

(19) NO che no ghe so ndà!

NO that not there am gone

(20) [CP_{Focus} NO [FinP [Fin° che ...[IP no ghe so ndà]]]

Since Rizzi (1997) a finite complementizer is generally assumed to be merged in Force°, a position higher than Focus. However, Poletto (2000) noticed that several Northern Italian dialects realize a complementizer after all or some *wh*-items in embedded questions. The examples above also show that the finite complementizer cannot be always merged in Force. Poletto (2001) Cocchi and Poletto (2007), Belletti (2008) Ledgeway (2005) all show on independent evidence that there exist also low complementizer merged in Fin° which can avoid moving to Force. I will assume that this is an additional case of this sort.

An argument in favour of the idea that NO is in Focus and that consequently the complementizer following NO is not a high but a low one comes from the following observation: while it is perfectly possible to have a Topic element in front of NO, it is not possible to have it after the complementizer: if the complementizer were in the Force layer of a clause embedded under NO, we would predict that the whole CP layer (including all Topic projections) is available (I thank G. Cinque for pointing this out to me).

(21) A Gianni NO che non glielo do

To Gianni NO that not to him-it give

I do not really want to give it to G.

(22) *No che a Gianni non glielo do

NO that to Gianni not to him-it give

One could object that cases like these might be treated as some sort of constituent negation [A Gianni NO] with the constituent [DP+NO] placed in the Focus field at the

beginning of the clause. This cannot be the case, as the following Veneto example shows:

- (23) A Gianni po NO che non ghe lo daria
To John prt. NO that not him it would-give

In (23) the sentential particle *po* (analyzed at length in Munaro and Poletto (2004)) intervenes between the XP at the beginning of the clause and the negative emphazier. This shows that the XP and NO do not form a constituent.

As for sentence final NO, I propose that this construction is related to the one with sentence initial NO in the following way: No is always located in the Focus layer in the CP, its sentence final position is the result of IP fronting. A sentence like (24) can thus be analyzed as (25):

- (24) No ghe so ndà NO!
Not there am gone NO

- (25) [SpecGroundP [IP no ghe so ndà] [Ground° [CPFocus NO] [FinP [IP no ghe so ndà]]] [Fin° [IP no ghe so ndà]]]

According to this analysis, NO is always moved from within the NegP where it originates⁵ to a Focus position, which, following standard assumptions on the structure of the clause in Italian is located low in the CP area. When NO is in first position, the sentence there is no IP fronting. When NO is in sentence final position, this is the result of a movement of the whole IP to a position, GroundP, which is located in the Topic field, higher than Focus (again following standard assumptions on the CP layer).⁶

Notice however that the two sentences with sentence initial and sentence final position of NO do not constitute a minimal pair, because the complementizer only surfaces when NO is in sentence initial position, as the ungrammaticality of the following examples

⁵. I will not pursue the matter of the original position of NO any longer in this work. For a detailed discussion see Poletto (2008).

⁶. For independent evidence in favour of the position of GroundP in the CP see Poletto and Pollock (2004)).

shows, where the complementizer can neither be moved along with the IP (26a), nor be left in situ (26b):

- (26) a. *Che non ci vado NO
 That not there go NO
 b. *Non ci vado NO che
 Not there go NO that

In order to explain the asymmetry concerning the complementizer occurrence, I will simply propose that CP projections are subject to the Doubly filled comp filter, according to which the head and the specifier of the same projection cannot be both occupied at the same time. In the case of sentence final NO, the IP has moved first to the SpecFin position before moving to SpecGround, hence the ban against the occurrence of the complementizer.⁷ If the sentence does not move, FinP has to be realized, and this is done by means of merging a complementizer.

- (27) [SpecGroundP [IP no ghe so ndà] [Ground° [CPFocus NO] [FinP [IP ~~no ghe so ndà~~]]] [Fin° [IP ~~no ghe so ndà~~]]]

- (28) [GroundP [CPFocus NO [FinP [Fin° che ...[IP no ghe so ndà]]]]

Notice that the IP in the structure above is the direct complement of FinP, but it is a standard assumption in the recent literature that a complement cannot move to the specifier of the head selecting it. Therefore, the type of IP projection moved cannot be the highest one. Given that these sentences have an evidential value, it seems plausible to assume that it is the inflected verb itself that moves to this position and that it is this EvidModP, and not the whole IP which moves to SpecFin and then to Ground.⁸

There are several arguments in favour of the idea that NO occupies a left peripheral position even when it is sentence final: the first is that NO is indeed sentence final and not sentence internal, as one might expect if NO were located in the low IP area.

⁷. Notice that the IP projection which moves cannot be the highest one, namely the complement of Fin, as movement of a complement to the specifier of its selecting head is generally banned. I will specify which projection moves in what follows.

⁸. From now on I will refer to both sentence final/sentence initial NO as evidential NO.

However, no real argument can occur after NO, only right dislocated items are possible:

- (29) No ghe so ndà NO, al cinema
 Not there am gone NOT, to the cinema
 ‘I really did not go to the cinema’
- (30) *No ghe so ndà NO, da nisuna parte
 Not there am gone NOT, to no place
 ‘I really did not go anywhere’
- (31) *Non mi ha detto NO su
 Not me has told NO off
 ‘He did not tell me off’

Elements which cannot be right dislocated, as object quantifiers or verbal particles are ungrammatical in structures like these if they follow NO. Suppose that in structures like (30) NO were sentence internal, it should be located in some low Spec position in IP (if we adopt Cinque’s theory on adverbs) or adjoined to the VP (if we do not accept Cinque’s view). In any case, internal arguments in their base position should follow NO, but they do not. If we adopt the hypothesis formulated above, this fact receives a natural explanation: NO is not followed by objects because the whole IP has to be moved to its left. Hence, structure (27) is designed to account for the fact that all IP-internal material has to occur before NO, and only elements which can be right dislocated (like definite PPs, but unlike Quantified PPs or verbal particles) can be found to the right of the negative marker. This is not expected if an alternative analysis is adopted allowing NO to occur in a low IP position.

The second argument in favor of the idea that NO is always in the CP even when it appears in sentence final position is that NO is incompatible with elements whose position is typically associated to the lower portion of the CP layer, like *wh*-items:

- (32) *Dove non sei andato NO?
 Where not are gone NO?
 ‘Where didn’t you go?’

- (33) *Il ragazzo che non ha telefonato NO, è Gianni
 The boy that not has phoned NO, is John
 ‘The boy I did not phone is John’

NO is both incompatible with interrogative *wh*-items and with relative pronouns, which is expected if the two types of elements are banned by a minimality effect, but is not, if NO is assumed to be located in the low IP area.

The third argument in favour of the idea that NO is located in the CP layer is the fact that sentences like the following also receive a straightforward explanation:

- (34) a. Gianni SI che *(l)’ho visto
 Gianni YES that (him)have seen
 ‘I saw Gianni indeed’
 b. A Gianni NO che non lo darei
 To Gianni NO that it not would-give
 ‘I would never give it to Gianni’

Here we see that the whole clause has not moved, what has moved is a DP, a PP or an Adverb hence movement to Ground is optional, in which case NO is sentence initial, and GroundP can host different types of elements, the IP, yielding sentence final NO, a DP or a PP, yielding NO in second position. Notice that the optionality of movement to GroundP and the fact that it can host various types of elements is typical of Topic-like position. Notice that GroundP is similar to other Topics because there can be more than one projection of this type, thus yielding third position NO or sentence final NO in case one of the two moved XPs is the IP (or better EvidentialModP) itself:

- (35) a. A Gianni, ieri, NO che non gli ho parlato
 ToG., yesterday NO that not to-him have talked
 b. A Gianni, non gli ho parlato NO
 To G. not to him have spoken NO

Therefore, I will assume that the analysis proposed above for sentence initial, sentence final and second-position NO is correct and try to apply it to the other occurrences of NO.

4. The evidential character of NO

From the semantic point of view, NO belongs to those types of negative markers, which are often referred to in the literature as “emphatic” negation. There are at least three types of emphatic negative markers in Italian varieties: the first one is ‘mica’, analyzed by Cinque (1976) as inducing a presupposition, the second is ‘niente’ meaning at all (see Garzonio and Poletto (2008)) which has scalar properties. The third one is NO, which I described in section 2 in informal terms as having the following semantic import: the speaker is uttering his/her surprise at the fact that his/her interlocutor asks for a piece of information which is self evident to the speaker and should be to the interlocutor as well. I intend to propose that in the case of NO the effect of “reinforcing” negation is provided by the evidential character of this structure, though, as we will see, NO is not itself an evidential marker (see below section 5). Evidentiality is defined in Roorick (2001:125) in the following way:” Evidentials indicate both source and reliability of information. They put in perspective or evaluate the truth value of a sentence both with respect to the source of the information contained in the sentence, and with respect to the degree in which this truth can be verified or justified”.

Arguments in favour of the idea that NO enters an evidential structure are the following: firstly, according to Roorick’s overview article, only evidentials whose source of information involves the speaker can be surprisals. The very same link between evaluation by the speaker and surprise is also found with NO, as the speaker utters his surprise at a question about something he evaluates as self-evident. Other types of constructions which display the same link have been analyzed in a similar fashion: Obenauer (2004) analyzes the type of special question known as surprise-disapproval (in his terminology SDQs) as containing a modal projection.

Secondly, evidentials are typical of the spoken language, and tend to disappear when a language is written: constructions with NO are typical of the spoken and colloquial language. Moreover, they are only related to regional or non standard varieties of Italian, not to the standard.

Thirdly, Cinque (1999) assumes that the default value of an evidential is the one of the speaker: this is the value that we find in Italian, where there is no overt verbal morpheme expressing the marked evidentiality value (hearsay).

A further (and stronger) argument of the evidential character of this construction is the following: if NO triggers an evidential structure where the speaker has direct evidence for an event, the structure should be incompatible with adverbs which express a

different evidential value, like ‘allegedly’. This is exactly what we observe in the following example:

- (36) **Apparentemente Gianni non è arrivato* NO
 Allegedly G. not is arrived NO

It is a fact that evidentials display restrictions in embedded domains, this is also the case with NO.

Sentence final/sentence initial NO is very limited in embedded domains, and this varies with the type of main verb selecting the embedded clause:

- (37) a. **Sai che non viene* NO?
 Know that not comes NO?
 ‘Do you know that he is not coming at all?’
 b. **Se non viene* NO
 If not comes NO
 If he is not coming, ...
 c. **Mi dispiace che non viene/venga* NO
 Me displeases that not comes/come+subjunctive NO
 ‘I am sorry that he is not coming at all’

Evidential NO is not possible under verbs like ‘know’, factive verbs like ‘be sorry’ or in if-clauses.

The reason for this restriction is probably different for the various types of embedded clauses: in the case of an a conditional clause, Haegeman (2008) postulates that there is no Focus projection inside this structure. As we have seen above, NO is hosted in a focus projection, so a whole set of embedded clauses cannot host NO because the relevant projection is simply not there. As for the reason why NO is excluded from embedded clauses which are marked as factive by the selecting verb, I think this is not simply a syntactic restriction, but rather a semantic one. A speaker cannot evaluate an event which is already presented as a known fact.

The restriction observed above is not found in complements of verbs like ‘say’ and ‘think’.

- (38) a. Credo che non venga NO
 Believe that not comes NO
 ‘I think that he is not coming at all’
 b. Mi ha detto che non viene NO
 Me has told that not comes NO
 ‘He told me that he is not coming at all’

Moreover, in the case of verbs like ‘think’ there is an interesting restriction on the person of the main verb, which must be a first person (either singular or plural):

- (39) a. *Crede che non venga NO
 (He) thinks that not comes NO
 b. *Credi che non venga NO
 (You) think that not comes NO
 c. Crediamo che non venga NO
 We think that not comes NO

This constraint is enlightening, as it shows that the speaker must be involved in the evaluation of the truth value of the event. This is exactly what we expect if this construction has an evidentiality character. The type of evidentiality we observe here is precisely the one in which the speaker presents the sentence as first hand evidence. Languages which have evidential morphemes clearly distinguish ‘first hand’ evidence from hear-say or reported. Therefore, the person restriction found with NO is an argument in favour of the evidential character of the construction.

I would like to push the analysis even further and adopt Sigurdsson (2004)’s hypothesis that the agent of the speech act is actually present in the syntax by means of a Speaker projection in the CP layer.

Evidential modality is syntactically analyzed by Cinque (1999) as being located at the border of the IP structure higher than other modal projections including epistemic modality and higher than all tense projections but lower than evaluative and speech act modality, as illustrated in (40).

- (40) [frankly_{Moodspeech act} [fortunately_{Moodevaluative} [allegedly_{Moodevidential}
 [probably_{Modepistemic} [once_{T(past)} [then_{T(fut)}]]]]]]]

I assume here Roorick's proposal that EvidModP is anaphoric in nature, which directly accounts for the first-person restriction observed with verbs like 'think' fact: the anaphoric head located in EvidModP must be bound by the speaker feature located in the main CP. If the main subject is a first person, it can pass on the [+speaker] feature and binding of the anaphor will be correct. If the subject is not a first person, it interferes in the binding relation between the speaker in the main CP and the anaphor, and there is a feature conflict between the default value of the EvidModP (first person) and the non first person subject of the main clause. Roorick discusses similar facts for parentheticals in English (which he analyzes as evidentials) containing a subject. Here there is no subject of a parenthetical, but the features of the anaphor (which is something like a null version of 'myself') must anyhow agree with those of the binder. Therefore, the effect is the same although the way EvidModP is checked is not identical (in English the cases examined by Roorick EvidModP is checked by a parenthetical, here it is the inflected verb itself which moves to EvidModP).

The case of verbs like 'say' is different: the complement of such verbs is well known for being similar to a main clause in the sense that it has a fully fledged CP structure like main clauses. It is probably the case that such complement can have its own independent Speaker projection in its CP layer and does not depend on the CP of the main verb.

If EvidModP is a projection located at the IP border, and NO is located in Focus, this means that NO is not an evidential marker per se, but that it is the whole structure which has an evidential value: it is the inflected verb that moves to EvidModP. If NO is by itself not an evidential element, there should be structures in which it has indeed no evidential value. This is the case of pro-sentence NO, as I will show in the next section.

5. Pro sentence NO

It is a well known fact that some languages have developed pro forms for assertion and negation while others answer a yes/no question with the repetition of the predicate (and of the subject depending on pro drop). One might ask what pro forms like NO are in the syntax in terms of projections, i.e. whether the pro form has to be conceived as an "imploded structure" or whether the whole clause is in some way structurally present, though phonetically empty. Probably both possibilities are realized in different languages, as the fact that the distribution of NO in Italian (and more generally in Romance) is not identical to the distribution of 'no' in English seems to suggest.

Assuming that pro-sentence NO is still in the CP layer, and more precisely in the same Focus position used for Focus negation in the evidential constructions seen above, we can hypothesize that there is a whole null IP following NO:

(41) [GroundP [CPFocus NO [FinP [Fin° ...[IP]]]]

One argument in favour of the idea that the whole structure is still present though empty is the fact that arguments can be extracted out of the null IP and placed in GroundP in the same way illustrated above for second position NO:⁹

(42) Io NO

I NO “I did not”

(43) Io NO che non vengo

I NO that not come “I am not coming”

(44) A me NO (che non l’ha detto)

To me NO (that not it has told) “I was not told

(45) Gianni NO (che non l’ha visto)

G. NO (that not him has seen) “G. did not see him”

(46) Ancora NO (che non l’ho letto)

Yet NO (that not it have read) “I did not read it yet”

⁹. Notice that constructions of this type are impossible in English, where negation of a single XP is provided by ‘not’, cases equivalent to the ones discussed here require the verb and the subject to be expressed:

(i) A. Who finished his job?

B. I did not

B’. *I no

This suggests that the type of construction examined here for Italian does not really have a parallel in English.

One argument showing that the XP preceding NO is in a Ground position (the same position where we see the whole IP in the cases of sentence final NO seen in the preceding section) is the fact that quantifiers cannot be found to the left of NO, unless they are interpreted as specific (as indicated by the translation and by the symbol %):¹⁰

(47) %Nessuno NO
Nobody NO

(48) %Qualcuno NO
Somebody NO

(49) %Tutti NO
Everybody NO

There seems to be some variation in the judgments here, probably due to the fact that the negative quantifier ‘nobody’ is not as easily interpreted as specific as the existential or the universal one.

It is also possible to have more than one grounded element and the combination can be either of two arguments or one argument and one adverb:

(50) A: Sai che Piero ha regalato un brillante a Carla?
Know- that P. has given a diamond to C.?
B: Gianni a Maria NO
G. to M. NO
C: Gianni di sicuro NO
G. definitely NO

This shows that the whole series of Topic projections is available in this construction and that any element belonging to the empty IP following NO can be moved to a Topic position (more specifically GroundP).¹¹

¹⁰. Cinque (1990) shows that quantifiers can indeed be left dislocated in a Topic position, but only if they are interpreted as specific.

¹¹. One might even wonder whether the elliptical sentence can be null because there is a corresponding null topic in GroundP, which allows to interpret the null IP as the one of the question. I will not pursue this matter any further here, as I do not have empirical evidence showing the presence of the null Topic.

Note that in this constructions there cannot be a scene setting adverb. This is due to the fact that these sentences are answers to questions, and the scenario is already provided by the question or input sentence of the interlocutor. Again, these sentences are possible if the adverb is not interpreted as a scene setting one but as the first item of a pair-list reading. One might assume that the following sentence are impossible because GroundP is located higher than the scene setting position for adverbs. However, I think that this test is not relevant: scene setting is not excluded because it cannot occur higher than Ground, but because it is not available, given that the context is already set.

- (51) a. %Ieri a Gianni NO
 Yesterday to G. NO
 b. %Nel 1492 Amerigo NO
 In 1492 A. NO

Notice however, that all these cases are different from the ones analyzed in section 3 in terms of evidentiality. While the cases in which NO is combined with an overt clause (either on the left or on the right of NO) are cases of evidentiality, the evidential value is lost when the sentence is null. The following contrast shows the point in question:

- (52) A: Gianni è già arrivato?
 G. is already arrived?
 B: Apparentemente NO
 Apparently NO

- (53) *Apparentemente Gianni non è arrivato NO
 Apparently G. not is arrived NO

In the case of pro-sentence NO, the structure with a verb like ‘allegedly’ is felicitous. When the clause is phonetically realized, the combination of the adverb and NO is not felicitous because of the contradicting evidential value between the construction and the adverb. Recall that according to the analysis put forth above, constructions in which the sentence is realized are evidential because the inflected verb moves to a modal projection checking the relevant feature (see Cinque (1999) for empirical arguments that evidential modality is present in the IP structure and that it is a very high projection in the IP layer). Therefore, it is not focus negation which has per se evidential value, this is provided by verb movement to the relevant IP projection.

If the restricted distribution of evidential NO is the result of its evidential character, we expect that pro-sentence NO, which is not evidential, is not restricted in any sense in embedded domain. This prediction is only partially met:

- (54) a. *Mi dispiace di/che NO
 Me displeases of/that NO
 b. *Sai che NO?
 Know that NO?
 c. %Se NO, gli telefono
 If NO, I call him
 d. %Gli telefono, se NO¹²
 I call him, if NO

The restriction on the type of main verb is still active, *if*-clauses, factive verbs and verbs like ‘say’ do not tolerate NO. I think these restrictions are related to the lack of left peripheral position in some embedded clauses, much in the spirit of Haegeman recent work on the defective left periphery of some types of embedded clauses. She assumes that some embedded clauses lack the Focus projection: if evidential NO and pro-sentence NO are located in the same position, we expect that none of the two is possible when Focus is lacking.

The second restriction seen above is not found with pro-sentence NO:

- (55) a. Crede di NO
 b. Credi di NO
 c. Credete di NO

There is no ban against a subject different from the speaker with pro-sentence NO. This type of restriction does not have to do with the position, but with evidentiality: given that pro-sentence NO has not evidential value, because the null verb of the null IP cannot raise up to the relevant modal projection, this is expected.

As for the reason why pro sentence NO is not evidential, I propose that a construction like (53) cannot be interpreted as an evidential structure is that the verb checking the relevant projection is null. The explanation runs as follows: suppose cases like pro-

¹². *Sennò* has become an adverb with the meaning of ‘otherwise’ and it is a fixed form which does not interest us here.

sentence NO are similar to sluicing constructions, in which (according to van Craenenbroeck (2004)) the IP is still syntactically present, though empty, this means that pro sentence NO has a structure like the following:

(56) [GroundP [CPFocus NO [~~FinP~~ [~~Fin^o~~ ~~che~~ ... [~~IP~~ ~~no ghe so ndà~~]]]]

Van Craenenbroeck and Liptak (2008) show that Hungarian and Turkish are different from English because sluicing targets a Focus phrase, and not the whole CP (in our terms ForceP). Notice that this is the exact parallel of NO, which is also located in a Focus position. More precisely, they show that some morphemes which are generally attached to the inflected verb in non elliptical constructions are attached to the sluiced constituent in ellipsis cases. I report here from they article one case of Turkish which is immediately relevant to the analysis of NO:

- (57) A: Hasan hergün biri-ne para ver-iyor-mu". B: Kimey-**mi**!?¹³
 HasanNOM everyday someoneDAT money give-PROG-EVID-3S
 whoDAT-EVID
 ‘A: Reportedly, Hasan gives money to someone everyday. B: Who to?’
- (58) Hasan hergün kimey-(***mi**!) para ver-iyor-**mu**!?
 HassanNOM everyday whoDAT-EVID money give-PROG-EVID-3S
 ‘Who does Hasan reportedly give money to every day?’

The contrast between the two examples above illustrates the point: in the sluicing case in (57) the evidential morpheme is attached to the wh-item. Non sluiced constructions like (58) obligatorily display the evidential morpheme on the inflected verb.

This pattern is observed by van Craenenbroeck and Liptak (2008) for the Focus suffix *-e* in Hungarian and for various morphemes in Turkish. From the pattern they conclude that the phonetically empty verb cannot move outside its usual position.

Given that striking similarity between the Turkish case and focus negation, I propose that the same is true for the evidential position in IP in pro sentence NO, which is higher than the usual landing position of the inflected verb in Italian. The empty inflected verb cannot raise to the head of the EvidentialModP, which (as shown by Cinque (1999)) is higher than the usual landing position of the verb. Differently from Turkish, Italian does

¹³. The examples correspond to (24) and (26) in van Craenenbroeck and Liptak (2008).

not have any independent evidential morpheme which can attach to NO. As there is nothing checking the evidential position, pro-sentence NO does not have any evidential value.

Therefore, constructions like pro-sentence NO in Italian and cases in which NO follows a single constituent are to be treated on a par with cases of sluicing, where the whole IP is syntactically present, but not phonetically realized. The only distinction between pro-sentence NO and evidential NO is due to the independent ban against moving the inflected verb to the modal projection encoding evidential modality.

6. Conclusive remarks

In this work I have tried to show that all instances of the sentential negative marker NO are amenable to the same analysis and that the differences found between the various cases can be traced back to independent constraints: in all cases NO is located in a Focus position in the low left periphery. When its IP is phonetically realized, it can be realized in its base position, (which yields sentence initial order of NO) or moved to the specifier of GroundP, yielding sentence final NO. In both cases it is possible to have more than one grounded element (either the IP and an XP or two XPs). In both cases the structure has an evidential value, obtained by moving the verb into the relevant modal projection.

The position of Focus is also the locus where pro-sentence NO is realized in a structure similar to sluicing, where the whole IP is phonetically silent. In this case the verb cannot move outside its usual domain to the modal projection providing the evidential reading and the structure has no evidential value. This is shown by the different distribution of evidential and pro-sentence NO in embedded clauses.

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