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# Splitting up Force, evidence from discourse particles\*

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## 1. Introduction

The term ‘discourse particles’ is usually referred to a special class of elements in different languages, which have an ‘adverbial’ function *lato sensu*. In contrast to the traditional class of adverbs, discourse particles have more abstract functions and meanings. They are used to introduce the speaker’s point of view in the discourse. By means of discourse particles, the speaker wants to stress her attitude or opinion with respect to the propositional content of the utterance.

An example of the wide and heterogeneous group of discourse particles are those lexical elements which are usually referred to as *Modalpartikeln* or *Abtönungspartikeln* (‘modal’ or ‘shading particles’ respectively, henceforth MPs) in the long German tradition of studies on this topic (cf. Thurmair 1989). This is a special class of words (such as *denn, doch, ja, schon, wohl*, etc.) that may only occur in the IP, whose meaning and function depend on the context of use. Consequently, they cannot be easily translated into other languages.

The importance of these elements becomes particularly evident in spoken language, since they are typical of spontaneous speech. Although they are avoided in written language, they turn up to be necessary in spoken language in order to make an utterance sound more natural and expressive. Let us consider the following example for German:

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\*. We would like to thank Anna Cardinaletti, Guglielmo Cinque and Giuliana Giusti for their precious comments on this work.

- (1) Kann er *denn* schwimmen?  
*can he Prt swim*  
 ‘Is it true that he can swim?’

By using *denn*, the speaker wants to stress her particular interest or concern with respect to the information asked for. The question in (1) is grammatical even in the absence of the particle. However, the sentence would lose its particular flavour.

In some cases, then, MPs turn out to be (nearly) mandatory, as for instance in the following optative clause in German:

- (2) Hätt ich meiner Tochter *nur/bloß/doch* geglaubt! (Thurmair 1989:24)<sup>1</sup>  
*had I to-my daughter Prt/Prt/Prt believed*  
 ‘If only I had believed my daughter!’

As one can see in the examples, MPs (or discourse particles in general) are not part of the proposition, i.e. of that part of the utterance that constitutes the nucleus of the predication and determines its truth value (cf. Bußmann 2002:542). They are external to the proposition, since they provide additional information about the speaker’s opinions and intentions. Thus, they pertain to the illocutionary layer. In particular, discourse particles display a crucial twofold behaviour. On the one hand, they interact with the clause type, i.e. with the syntactic form of the clause they occur in, since it is a well-known fact that each particle can only occur in certain types of clauses: declarative, interrogative, etc. (cf. Thurmair 1989:49). On the other hand, they interact with the illocutionary force (assertive, directive, etc.), since they contribute to express the speaker’s intention by modifying it (cf. Jacobs 1986, 1991).

The idea we would like to pursue in this paper is that the interaction of discourse particles with both clause type and illocutionary force can give us some hints about the

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<sup>1</sup>. Beside optative clauses, such as (2), Thurmair (1989:24f) mentions the following two other cases, in which the usage of MPs in German is (almost) obligatory:

- i. V1 sentences with *doch*:

Dann kam der Ölschock. Die Krise traf Marseille extrem schmerzhaft, ist *doch* der riesige Hafen zu achtzig Prozent vom Ölgeschäft abhängig. (‘Then came the oil shock. The crisis hit Marseille very hard, the huge port depends on oil for eighty percent of its total business.’)

- ii. independent verb-last sentences:

Dass du *JA* rechtzeitig heimkommst! (‘Make sure you are home in time!’)

syntactic distinction of the two categories, which are generally assumed to be encoded in one and the same projection, namely Rizzi's (1997) ForceP, or are not clearly kept distinct in syntax.

This paper is organized as follows. We will first show what the functions of discourse particles are. In doing this, we will base our analysis on the long tradition of studies on German MPs. Furthermore, we will then take into account some discourse particles in Italian and Romanian. In particular, we will discuss their syntactic and pragmatic properties, i.e. on the one hand their clause type restriction and, on the other hand, their interaction with illocutionary force. Finally we will show how the interaction of discourse particles with both clause type and illocutionary force can be accounted for in syntax. We will argue that their syntactic behaviour is a piece of evidence for splitting up Rizzi's (1997) ForceP and for postulating two distinct projections for illocutionary force and clause type.

### 1.1. Syntactic and pragmatic properties of discourse particles

The studies on discourse particles started from the research done for German and other Germanic languages. In particular, it was shown that German displays a class of adverbial elements, which have been referred to in various ways: 'Modalpartikeln', 'Abtönungspartikeln', etc. (see, for instance, Abraham 1995, 2009a, Bayer 2001, 2008, Borst 1985, Hentschel 1986, Meibauer 1994, Ormelius-Sandblom 1997a,b, Thurmair 1989, 1991). Gradually crosslinguistic evidence has proved them to be a more widespread phenomenon. We will claim that such elements are available in Romance languages, too, such as in Italian and Romanian.

As pointed out in the previous section, discourse particles are used by the speaker to express her attitude, belief or opinion with respect to the propositional part of her utterance (cf. Thurmair 1989). Let us consider the following German sentence:

- (3) Er kann *ja* schon schwimmen.  
*he can Prt already swim*  
 'He can already swim (it is evident / as you know).'

In this example, the speaker uses the particle *ja* to emphasize that the propositional content of her utterance ('he can already swim') is evident and, hence, potentially known to the addressee (cf. Thurmair 1989:200). On the one hand, the speaker utters the

‘proposition’, while on the other hand she adds her personal assessment and opinions about certain aspects of this proposition (cf. Abraham 2009b).

It has been argued that German MPs only occur in the *Mittelfeld* (‘middle field’) of the clause, i.e. in that part of a (main) clause in German which is delimited by the finite verb, on the left, and by the non-finite part of the verb, on the right (also see section 2).<sup>2</sup> The following sentences, derived from example (3), are ungrammatical:

(4) \* Er kann schon schwimmen (,) *ja*.

(5) \* *Ja* kann er schon schwimmen.

A particle such as *ja* can occur neither in the *Nachfeld* (‘final field’) nor in the *Vorfeld* (‘initial field’), i.e. before the finite verb or after the non-finite verb, respectively.<sup>3</sup>

Beside their being confined to the clausal middle field, we would like to point out another crucial syntactic property of discourse particles. As already mentioned above, each particle is only compatible with specific clause types. For instance, the unstressed particle *ja* may only occur in declarative clause (Thurmair 1989), such as (3) above. In contrast, the particle *denn* may only occur in questions (Thurmair 1989, Wegener 2002, Grosz 2005, Bayer 2008), as in (1), repeated as (6) below. Example (7) is ungrammatical since the particle is incompatible with the declarative type.

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<sup>2</sup>. Notice that, in contrast to Cinque’s (1999) adverbs, German MPs do not occupy a fixed position in the IP. As was shown in Coniglio (2005, 2007a,b), they may occupy one or more positions in between ‘higher’ adverbs, but cannot occur after the (higher) class of repetitive adverbs:

(i) *Positions accessible to MPs in Cinque’s (1999) hierarchy of functional projections:*

(!) > Mood<sub>speech act</sub> > (!) > Mood<sub>evaluative</sub> > (!) > Mood<sub>evidential</sub> > (!) > Mod<sub>epistemic</sub> >  
 (!) > T(Past) > (!) > T(Future) > (!) > Mood<sub>irrealis</sub> > (!) > Mod<sub>necessity</sub> >  
 (!) > Mod<sub>possibility</sub> > (!) > Asp<sub>habitual</sub> > ! > Asp<sub>repetitive(l)</sub> > \* > Asp<sub>frequentative(l)</sub> > \* > ...

Similar observations can be made with respect to Italian. Cf. Coniglio (2008, to appear).

<sup>3</sup>. The property of MPs of occurring in the middle field of the clause led some scholars to assume that they are phenomena typical of Germanic languages, since these languages display a middle field or similar structures (Abraham 1991a). See section 2.

(6) Kann er *denn* schwimmen?

*can he Prt swim*

‘Is it true that he can swim?’

(7) Er kann (\**denn*) schwimmen.

*he can Prt swim*

‘He can swim.’

Based on Altmann (1984:137), Thurmair (1989:44ff) lists seven clause types for German:

- i. declaratives
- ii. *yes/no* questions
- iii. *wh* questions
- iv. imperatives
- v. optatives
- vi. exclamatives
- vii. *wh* exclamatives

In particular, *denn* may occur in polarity and *wh* questions, (unstressed) *ja* only in declaratives, etc. Hence, each particle occurs in a subset of the seven types listed above. Besides clause type, what is fundamental for the licensing of discourse particles is illocutionary force (cf. Jacobs 1986, 1991, Thurmair 1989, Abraham 1991b, Zimmermann 2004a, b, etc.). By illocutionary force, we mean the speaker’s intention in producing an utterance, in the sense of Austin (1962) and Searle (1975a). When uttering a sentence, the speaker performs a ‘speech act’. According to Searle (1975a), we could distinguish five main categories of speech acts:

- i. assertives
- ii. directives
- iii. commissives
- iv. expressives
- v. declarations

The illocutionary force is assertive when the speaker wants to assert the truth of the proposition, the force is directive in orders and requests (requesting an action or a piece of information) and so on.

One can usually observe a one-to-one relation between clause type (CT) and illocutionary force (ILL). Thus, for instance, a directive (requesting an action) typically corresponds to an imperative clause, as for example in (8). However, it often occurs that, for reasons of politeness, an order is indirectly expressed by means of a question, as in (9). This is what Searle (1975b) calls ‘indirect speech acts’.

(8) Call the police!                      ILL = directive      CT = imperative

(9) Could you call the police?      ILL = directive      CT = interrogative

With all these in mind, let us now consider discourse particles again. We have seen that particles may only occur in certain clause types. However, if we take into account the function of discourse particles, we notice that these elements do not modify the type, but rather the illocutionary force of the clause (cf. Jacobs 1986, 1991, Thurmair 1989, and Zimmermann 2004a,b).

This claim may be proven by taking into account an example from German, where the great number of particles sometimes allows for a fine-grained nuancing of the illocutionary force. For instance, German has a wide number of particles which are compatible with imperative clauses. Some examples are *halt*, *mal*, *doch*, (stressed) *JA*, etc. Let’s consider example (10):

(10) Ruf die Polizei!  
‘Call the police!’

- a) Ruf *halt* die Polizei!
- b) Ruf *mal* die Polizei!
- c) Ruf *doch* die Polizei!
- d) Ruf *JA* die Polizei!

↓  
cogent order

*bloss*, *nur*, etc.

The insertion of a discourse particle does not modify the clause type of the sentence – which is imperative in all cases– but it contributes to modify the speaker’s intention, i.e.



the illocutionary force of the utterance. Although the arrow in (10) may be simplifying empirical facts, it is true that the use of a particle can turn the (default) sentence into a simple suggestion, an order, a compelling command, etc.

Therefore, the particle has the function of modifying the illocutionary force of the utterance, in the sense that it may nuance it in accordance with the speaker's intentions. As claimed by Jacobs (1986, 1991), particles take on the illocutionary force of a given clause (X) and turn it into a different, more precisely specified illocutionary force (X'). This idea could be represented as follows:

$$(11) X + \text{Prt} = X' \quad (\text{where } X \text{ stands for illocutionary force})$$

In the following part of the paper, we will base our investigation into some elements in Italian and Romanian on the hypothesis that, on the one hand, discourse particles must be compatible with the clause type (declarative, interrogative, exclamative, etc.) for their syntactic licensing, but, on the other hand, they modify illocutionary force (assertive, directive, etc.) on the pragmatic level.

## 2. Italian and Romanian data

During the last decades, most research concentrated on German particles, but more recently greater attention has been paid to Germanic languages in general. A number of studies were conducted on Dutch (cf. Westheide 1986, van der Wouden 2000), Swedish (cf. Beijer 2005), etc.

Interestingly, the presence of particles in these languages was linked by Abraham (1991a) to a peculiar syntactic property of them, namely the availability of a *Mittelfeld* or of a similar syntactic space (see 1.1.).<sup>4</sup> Traditionally, the term 'middle field' refers to the medial part of the sentence, i.e. the one delimited, in a main clause, by the finite verb in the second position and by the non-finite verb in the last position.<sup>5</sup>

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<sup>4</sup>. Also see Abraham (1991b:249): "[...] languages with an extensive use of truly modal particles are of the structural MF-type, and the occurrence of MPs is restricted to this MF."

<sup>5</sup>. In North Germanic languages, we find a similar sentence-internal space in between the finite and non-finite verbal elements, the *nexus field* (cf. Abraham 1991a:346ff).

- (12) Er hat *ja* das Buch gelesen.  
*he has Prt the book read*  
 ‘He read the book (as you know).’

However intriguing, Abraham’s (1991a) generalisation is contradicted by the existence of a (probably smaller) inventory of particles in languages for which the existence of a middle field has never been assumed. For instance, Italian and Romanian, two Romance languages, display such discourse particles, as we will show in the following part of the paper.

To this point, it should be noted that, cross-linguistically, particles which denote the speaker’s intentions do not always occur in the IP (as is the case for German particles), but may also occur in the CP.<sup>6</sup> In the following part of the paper, we will call all types of particles (both CP and IP particles) ‘discourse particles’. However, when referring to the specific type of sentence-internal German-like particles, we will sometimes make use of the (more restrictive) term ‘modal particles’. We will see how the recent syntactic studies, in particular those within the cartographic framework, can help us distinguish the positions occupied by each type of particles.

As for Italian, there is evidence of the existence of discourse particles (cf. Burkhart 1985, Cardinaletti 2009, Coniglio 2008, to appear, Held 1985, Radtke 1985). In particular, the presence of German-like IP particles in Italian has already been claimed by Coniglio (2008, to appear): *pure, mai, poi*, etc. Consider the following examples:

- (13) Chiama *pure* la polizia!  
*call Prt the police*  
 ‘Call the police! (if you feel like it)’
- (14) Cosa significheranno *mai* quelle parole?  
*what will.mean Prt those words*  
 ‘What (on earth) do those words mean after all?’

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<sup>6</sup> There are languages, such as Cantonese (cf. Law 2002) and Veneto dialects (cf. Munaro and Poletto 2004), which also display sentence-final particles. These have been generally considered CP particles, which – due to the movement of the rest of sentence to a higher position – occupy the last position in the sentence (see, for instance, Munaro and Poletto 2004). Also see Cardinaletti (2009) for evidence that sentence-final particles are IP particles, instead (see fn. 11).

It may be the case that Italian also displays particles that can occur in the CP. Under certain conditions, some potential candidates are *almeno*, *magari*, *proprio*, *tanto*, etc. (also cf. Bazzanella 1995, Bonvino, Frascarelli and Pietrandrea 2008).<sup>7</sup> Consider the following sentence:

- (15) *Tanto* il libro non lo leggo.  
*Prt the book not it I.read*  
 ‘I won’t read the book in any case.’

Particles such as *tanto* seem to occupy a CP internal position. The same observation holds for a larger group of elements in Italian. However, no specific cartographic studies for these elements are available so far.

A possible distinction between IP and CP particles can be drawn for Romanian, too. There is hardly any syntactic literature on this topic on Romanian.<sup>8</sup> Nonetheless, we can assume that there is a class of particles in this language as well. One example of discourse particle in Romanian is *doar*, which may occur either in the CP or in the IP:

- (16) <*Doar*> de mâine cineva va veni <*doar*> cu o solu"ie.<sup>9</sup>  
*Prt from tomorrow somebody will come.up Prt with a solution*  
 ‘From tomorrow on somebody will (evidently) come up with a solution.’

In (16), the first occurrence of *doar* is in the CP, since it precedes the topicalized element *de mâine*, while the second one is in the IP, since it follows a bare quantifier in preverbal subject position –which occupies SpecTP in indicatives (cf. Cinque 1990)– and the inflected verb. Not all Romanian particles behave like this, since there are cases

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<sup>7</sup>. We should notice that there are probably different types of CP particles. Those taken into consideration here are only the sentence-integrated ones, i.e. those which are not separated by a comma intonation from the rest of the sentence.

<sup>8</sup>. Cf. Thun 1984 for a comparison between German and Romanian discourse particles based on their semantic-pragmatic properties.

<sup>9</sup>. The use of *doar* here can be ambiguous between the reading as modifier of the PP *cu o solu"ie*, in which case *doar* is the equivalent of English *only*, and the discourse particle reading.

of particles that may occur either only in the CP or in the IP. Section 2.2 will shed some light on the properties of Romanian discourse particles.

The existence of discourse particles of different languages, which occur either in the CP or in the IP, is nothing new. See, for instance, the typology proposed in Del Gobbo and Poletto (2008), based on the results of interlinguistic investigation (such as Munaro and Poletto (2004) on Veneto dialects and Coniglio (2005)<sup>10</sup> on German).<sup>11</sup> Interestingly, however, one property seems to be common to all particles, regardless of their syntactic distribution, i.e. they depend on the clause type for their syntactic licensing and on illocutionary force for their pragmatic and discourse functions.

### 2.1. Italian discourse particles

As was shown in Coniglio (2008), Italian displays a group of German-like IP particles (also cf. Cardinaletti 2007, 2009). Some examples of this kind of particles are *mai*, *mica*, *poi*, *pure*, etc.<sup>12</sup> As already mentioned, we can argue for the existence of CP particles in Italian, as well. However, since cartographic studies on these elements are not yet available, we will concentrate here on IP particles in this language.

As observed for German MPs, Italian particles, too, must be compatible with clause type (cf. Coniglio 2008). For instance, the particle *mai* may only occur in interrogative clauses (also see Obenauer and Poletto 2000):<sup>13</sup>

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<sup>10</sup>. Notice that, although German particles are confined to the highest projections in Cinque's (1999) functional structure of the IP (cf. (12), for instance), they are probably syntactically linked to CP layer (Coniglio 2007c, 2009, to appear).

<sup>11</sup>. Cardinaletti (2009) claims that sentence-final particles in Veneto dialects (and in Italian), which are assumed to be merged in the CP by Munaro and Poletto (2004), are actually generated in the IP. In contrast, sentence-initial particles are to be posited in the CP (or higher) and have different semantics.

<sup>12</sup>. All these elements are polyfunctional. Here, we only refer to their particle function.

<sup>13</sup>. Thus, for instance, the particle cannot occur in a declarative clause. Notice, however, that the homophonous temporal adverb meaning 'never' is possible in the latter context.

- (17) Avrà *mai* letto quel libro?  
*s/he.will.have Prt read that book*  
 ‘(I wonder:) Did s/he really read that book?’

Although discourse particles are dependent on the clause type for their syntactic licensing, on the pragmatic level they interact and modify the illocutionary force. For instance, the particle *pure* in example (13), repeated as (19) here, has the effect of modifying the illocutionary force of the clause by weakening the order. In other words, the sentence in (19) differs from the one in (18) –i.e., the same sentence without the particle *pure*– in as much as the speaker’s order in (19) is not as cogent as in (18): the speaker just wants to emphasize that she does not intend to force the addressee to call the police.

- (18) Chiama la polizia!  
*call the police*  
 ‘Call the police!’

- (19) Chiama *pure* la polizia!  
*call Prt the police*  
 ‘Call the police (if you feel like it)!’

As mentioned in 1.1., in indirect speech acts (cf. Searle 1975b), there can be a kind of mismatch between illocutionary force and clause type. Consider the following example:

- (20) Puoi *pure* chiamare la polizia.  
*you.can Prt call the police*  
 ‘You can call the police (if you feel like it).’

ILL = directive; CT = declarative

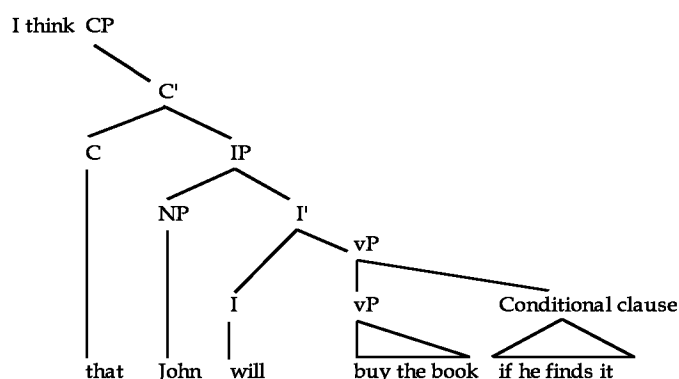
In (20) the clause type is declarative, even though we are dealing with a concealed order by the speaker, who wants the addressee to call the police. Interestingly, probably because of the presence of the modal verb *puoi* (‘you can/may’), the particle *pure*, which is typical of imperative contexts, may also occur in a declarative clause. Crucially, although the particle must check its compatibility with the clause type, its

function is that of modifying the directive force of the utterance, in the sense that it weakens the strength of the order.<sup>14</sup>

That discourse particles interact with the illocutionary force of the clause is proven by another fact. Their distribution shows that they are to be considered main clause phenomena (in the sense of Emonds 1970). More specifically, they can only be licensed in those clauses, which –according to Haegeman (2002, 2004a,b, 2006)– are endowed with illocutionary force (see Coniglio 2007c, 2009, to appear).

In some recent studies, Haegeman distinguishes two types of subordinate clauses, namely those generated inside the IP of the main clause, i.e. central adverbials (21),<sup>15</sup> and those merged only after the CP of the matrix clause was projected, i.e. peripheral adverbials (22):

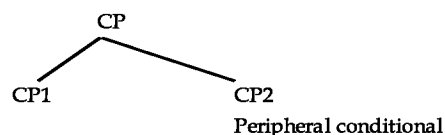
(21) *Central adverbials* (Haegeman 2002:131)



<sup>14</sup>. Note that, in (20), the function of weakening the strength of the order is typical for *pure* when occurring in imperatives but not when occurring in declaratives, where the particle has a ‘concessive’ function, instead: it underlines that the speaker has no evidence to prove that her assertion is true, but she still thinks it logical to suppose that it must be true.

<sup>15</sup>. The same is true of complement clauses, as well. Notice, however, that complement clauses, although being syntactically ‘central’, they should be distinguished in factive and non-factive clauses, according to Haegeman (2006). In particular, the latter would share some properties of peripheral adverbials, such as the availability of a syntactic projection where illocutionary force is encoded.

(22) *Peripheral adverbials* (Haegeman 2002:132)



According to Haegeman (2002 and following work), not only do the two types of clauses differ because of their different merging position, but they also have different internal structure. Based on Rizzi's (1997) Split-CP hypothesis,<sup>16</sup> Haegeman (2002:159) makes a step forward and claims that the CP is extended more in peripheral adverbials than in central adverbials:

- |                            |     |       |      |       |      |     |
|----------------------------|-----|-------|------|-------|------|-----|
| (23) a Central adverbials: | Sub |       |      |       | Mod* | Fin |
| b Peripheral adverbials:   | Sub | Force | Top* | Focus | Mod* | Fin |
| c Root clauses:            |     | Force | Top* | Focus | Mod* | Fin |

The crucial difference between central and peripheral clauses consists in the presence or absence of the syntactic projection ForceP, where illocutionary force is encoded.

If we now consider discourse particles again, we observe that they may only occur in those clauses, which are endowed with illocutionary force, namely in peripheral adverbials, in non-factive complement clauses, and in appositive relatives. The following examples are taken from Coniglio (2008:117f). Also see Coniglio (to appear).

- (24) Se Gianni ha (\**pur*) detto che non verrà, allora non verrà.  
*if Gianni has Prt said that not he'll.come then not he'll.come*  
 'If Gianni said that he won't come, then he won't come.'

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

<sup>16</sup> Rizzi's (1997) proposes the following structure for the left periphery of the clause:

- (i) Force (Top\*) Foc (Top\*) FinIP

The particle *pur(e)* is allowed in the conditional in (25), which is a peripheral adverbial in Haegeman's terms, but not in the central conditional in (24).

To sum up, it was shown for Italian that discourse particles have properties similar to those pointed out for German. In the next section, we will show that a similar scenario can be sketched out for Romanian particles, too.

## 2.2. Romanian discourse particles

Romanian traditional grammars cluster together under the category of 'adverbs' many elements that have different properties in syntax, semantics, phonology and pragmatics. In certain contexts however, some (of these) elements appear to behave similarly to discourse particles. See for instance Manoliu Manea (1985), who analyses *chiar* as an 'insinuating particle', Manoliu Manea (1993) for *doar* as element negating expectations defined as pragmatic presuppositions, Hill (2002) and Ra'iu (2010), who treat *oare* as an optional 'question marker/word'. A finer grained distinction is thus in order in the light of recent studies and approaches to such elements.<sup>17</sup> On the basis of syntactic, semantic and morphophonologic evidence, candidates for the category of discourse particles have been identified.

The group of possible candidates is a small class of words which are often homophonous with adverbs, or even with conjunctions (*dar*, see fn. 19) or interjections (*p"i*).<sup>18</sup> It is thus difficult to distinguish between their uses as discourse particles and

<sup>17</sup>. The present claim, based on syntactic grounds, for the existence of "particles" in Romanian can also be found in recent literature. See, for instance, Hill (2007) for Romanian particles 'of direct address', which mark the speaker's point of view, and particles 'of indirect address', which identify the hearer (Hill 2007:2080). Traditionally treated as interjections (Croitor-Balaciu 2006), these particles are claimed to be syntactically constrained, and to appear in a pragmatic field, the Speech Act Phrase (following Speas and Tenny 2003) at the left periphery. Also see Zegrean (in preparation) for a thorough syntactic argumentation for the presence of discourse particles in Romanian.

<sup>18</sup>. For instance, *doar* can be an adverb (or scalar particle) just like English *only*, or a temporal adverb (*i*), among other uses.

(i) *Doar*      ce-a      ajuns      acas#, c#      a      \$i      aprins      radioul.  
*as soon as*    *what-has arrived*    *home*    *that has immediately*    *turned.on*    *radio-the*  
 'As soon as he arrived home he turned on the radio.'



their adverbial/ conjunction/ filler word functions. This polyfunctionality is not typical only of Romanian particles (cf. for instance Cardinaletti 2007, 2009, who notes that, in Italian and German, particles and adverbs are (almost) always interrelated).

A (non-exhaustive) list of such elements is given in (26) below. Some evidence for their position in the left periphery of the clause or in the IP will be given below.

- (26) CP: *oare, m"car, tocmai, ?or, ?p"i, ?apoi*<sup>19</sup>  
 IP/CP: *doar, numai, m"car, barem*  
 IP: *chiar, cam, prea, ?#, ?tot*

In what follows, we will briefly tackle the issue of the distinction between CP and IP particles in Romanian. We must however bear in mind that like Italian, Romanian does not have a *Mittelfeld* in the Germanic sense.<sup>20</sup>

The question of the position of discourse particles has been raised in recent literature (Cardinaletti 2009, Coniglio 2005, 2007a,b, to appear, Del Gobbo and Poletto 2008). Although MPs have been claimed to be base-generated in the IP field (cf. Coniglio 2005), some analyses have suggested that they may covertly raise to the left periphery of the clause (Abraham 1995, Coniglio to appear, Zimmermann 2004a,b). This assumption seems necessary in order to ensure the scope of the particle over the entire clause.

However, there are particles for which there is no evidence that they have been merged in the IP. Instead, there is positive evidence of their occurrence in the CP (see Italian *tanto* in (15) above). Therefore, we could assume the logical alternative to the movement analysis, namely the base generation of discourse particles in the CP. We suggest that Romanian *oare* is one such particle.<sup>21</sup>

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<sup>19</sup>. Geographically-dependent variants of the same item can be found, such as *apoi/ap"i, doar/doar"/dar*. This is unsurprising, since they notoriously belong to spoken language.

<sup>20</sup>. What could be suggested to function as German-like MPs (alongside with their adverbial use) is a very small class of so-called 'semiadverbs' such as *cam, prea*, etc. Each 'semiadverb' is confined to a specific position in the string of clitic elements which are obligatorily adjacent to the verb in Romanian. However, a more in-depth analysis of these elements is left for further research.

<sup>21</sup>. Also cf. Cardinaletti (2009) for sentence-initial particles in Veneto dialects located in the CP or higher (see above).

Some evidence pointing in this direction is the position of the particle with respect to elements in the left periphery: *oare* can precede a left-dislocated element (27) or a *wh* element (28).<sup>22</sup>

(27) *Oare* \$i ma\$ina \$i-a vândut-o Ion pân# la urm#?  
*Prt also car-the refl has sold it<sub>CL</sub> Ion until at end*  
 ‘Has Ion sold his car, too, in the end (, I wonder)?’

(28) *Oare* unde va pleca Ion mâine?  
*Prt where will leave Ion tomorrow*  
 ‘Where will Ion leave tomorrow (, I wonder)?’

It can be argued that other particles, such as *doar*, are located either in the CP or in the IP, see the discussion around (16) above, repeated here as (29).

(29) <*Doar*> de mâine cineva va veni <*doar*> cu o solu"ie.<sup>23</sup>  
*Prt from tomorrow somebody will come.up Prt with a solution*  
 ‘From tomorrow on somebody will (evidently) come up with a solution.’

Other particles appear to be confined to the IP layer only. This has been shown for Italian and German in Coniglio (2005, 2008). Such particles seem to be present in Romanian too, i.e. *chiar*, *cam*, *prea*, and few others (Zegrean, in preparation).

The exact position of the particle is not crucial for the main proposal in the present paper. The theoretical account proposed in section 3 and 4 below holds for all particles in the CP layer or lower, but it does not apply to elements merged outside the CP (for particles external to the CP see, for instance, Cardinaletti 2009).<sup>24</sup>

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<sup>22</sup>. See also Hill (2002) who argues for the head status of *oare* merged as an optional complementizer in the lowest C head, namely Fin°. While we do not believe that *oare* is an (optional) complementizer, we do take her extensive syntactic support, too, as evidence for its merging in the left periphery of the clause.

<sup>23</sup>. The second occurrence of *doar* here can be ambiguous between a modifier of the PP *cu o solu"ie*, in which case *doar* is the equivalent of English *only*, and a discourse particle.

<sup>24</sup>. A mechanism similar to that in sections 3 and 4 could be developed in the case of elements (possibly present in languages other than the ones we consider in this paper) merged in one of the two highest projections that we propose, namely ILL or CT.

What is more important, instead, is the distribution of discourse particles with respect to clause type. As claimed above for Italian and German, Romanian discourse particles occur in main clauses and in peripheral subordinates, which have an articulated, root-like left periphery as in (23b,c) above. As expected, each particle is compatible with specific clause types.

*Oare* occurs in main (30a) and embedded interrogative clauses (31). In both these examples, *oare* strengthens the interrogative value of the clause.<sup>25</sup> (30b) exemplifies the incompatibility of *oare* with the exclamative clause type.

- (30) a. *Oare* a telefonat Maria asear# (aşa cum a promis)?  
*Prt has called Maria last.night as how has promised*  
 ‘Has Maria called last night, as she promised (, I wonder)?’
- b. (\**Oare*) ce târziu a telefonat Maria asear#!  
*Prt what late has called Maria last.night*  
 ‘Maria called so late last night!’

- (31) Cu Ioana am vorbit la telefon mai devreme,  
*with Ioana I.have talked at phone more early*  
 în timp ce *oare* Maria a telefonat azi?  
*while Prt Maria has called today?*  
 ‘I talked to Ioana earlier on the phone, (while) has Mary called today (,I wonder)?’

*Doar* can appear in interrogatives, declaratives, and exclamatives (32). It has an adversative flavour: the speaker rejects all possibly different beliefs.<sup>26</sup> Of the subordinate clauses, this particle occurs in peripheral contexts, i.e. in non-factive complement clauses, peripheral adverbials, and appositive relatives (33). The ban on its occurrence in clauses deeply embedded in a superordinate structure is exemplified with a restrictive relative in (34).

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<sup>25</sup>. While still expecting a *yes/no* answer, the question is marked, since *oare* “adds a stylistic dimension to the question (e.g., doubt, wonder, irony, etc.) which is not transparent in its absence” (Hill 2002:14).

<sup>26</sup>. Depending on the intonation of the clause, *doar* may also express evidentiality, similarly to English ‘for sure’ (Manoliu Manea 1993).

- (32) *Doar cât de naiv trebuie s# fie Ion (, dac# înc#*  
*Prt how of naïve must that be<sub>SUBJ</sub> Ion if still*  
*nu și-a dat seama c# a fost luat peste picior)!*  
*not refl has realized that has been taken over foot*  
 ‘(Isn’t it obvious) How naïve must Ion be (, if he still hasn’t realized that he was fooled at)!’
- (33) *Nu l -am mai vazut de-atunci pe Ion, c#ruia*  
*not him<sub>CL</sub> I.have more seen since Ion<sub>ACC</sub> who<sub>DAT</sub>*  
*doar i -am spus s# treac# pe-aici când vrea.*  
*Prt he<sub>CL,DAT</sub> I.have told that pass.by<sub>SUBJ</sub> here when he.wants*  
 ‘I haven’t seen John since then, to whom I DID tell to pass by whenever he wanted.’
- (34) *Nu l -am mai vazut de-atunci pe b#iatul c#ruia*  
*not him<sub>CL</sub> I.have more seen since boy-the<sub>ACC</sub> who<sub>DAT</sub>*  
*(\*doar) i -am spus s# treac# pe-aici când vrea.*  
*Prt he<sub>CL,DAT</sub> I.have told that pass.by<sub>SUBJ</sub> here when he.wants*  
 ‘Since then, I haven’t seen the boy to whom I DID tell to pass by whenever he wanted.’

Summing up, we have seen that discourse particles are present not only in Germanic languages, but also in Romance. In particular, we have shown that Italian and Romanian particles have a similar behaviour: they modify the illocutionary force of the utterance and their distribution depends on the clause type.

### **3. The syntactic representation of illocutionary force and clause type as two distinct projections**

Our analysis of the syntactic representation of particles and of their relation with the discourse/pragmatic field, on the one hand, and with the clausal properties, on the other hand, relies on the proposal of splitting up Rizzi’s (1997) ForceP. Specifically, we assume that the highest projection of the CP layer can be divided into two projections: ILL(ocutionary Force), where the speaker’s intentions are encoded, and C(lause)

T(type), where features ensuring the realization of syntactic operations proper of each clause type are present.

One piece of evidence that CT must be distinguished from ILL comes from the mismatch between the (intended) illocutionary force of an indirect speech act and its concrete syntactic realization. Although surfacing as an interrogative clause, (35) for instance, is not a request of an information (in fact an answer to it would be odd), but it is a directive requesting an action on behalf of the addressee (also cf. (8) and (9) above).

(35) Could you close the window, please? (\*Yes, I can/could.)

ILL = directive (requesting an action); CT = interrogative

If we consider central subordinates, although it has been claimed that they do not have illocutionary force (Haegeman 2002 and further work), they do have a clause type, namely a ‘default’ one (which is generally similar to a declarative in root contexts). This may be taken as a further piece of evidence that CT must be encoded in a projection that is distinct from ILL.

(36) Se piove(\*?/\*!), mi bagno.

*if it.rains, refl I.get.wet*

‘If it rains, I’ll get wet.’

We assume that, even though central subordinates do not have *independent* illocutionary force, they do nonetheless have the projection ILL (which encodes the speaker’s coordinates, allegedly by inheriting them anaphorically from the superordinate clause). Therefore, ILL will be present both in central and peripheral clauses.

Along these lines of reasoning we observe that if ILL is full-fledged, as in root contexts, all possible clause types are available (interrogative, declarative, imperative, etc.). In contrast, given that ILL is assumed to be impoverished in central subordinate clauses (since they have no independent illocutionary force), it can only be associated with the ‘default’ declarative CT.

We further suggest that CT must be lower than ILL, because:<sup>27</sup>

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<sup>27</sup>. In the present analysis, CT results from the splitting of ForceP, thus it is also assumed to be higher than the positions where CP particles are merged. However, we have little to say, for the time being, on the precise merging position of CP particles. Judgements are subtle, but it seems to us that Italian and

- a. CT closely interacts with FinP and with the IP, since it is the projection that conveys information about the syntactic structure (i.e. information on constituent movement requirements in interrogatives or exclamatives). In other words, the information in CT is accessible to the internal syntax of a clause.<sup>28</sup>
- b. ILL is the syntactic projection which encodes the speaker and her attitude/intentions in relation to the discourse. It lies at the interface between syntax and pragmatics and is visible at the discourse level.

The proposal that ILL is the highest projection of the left periphery goes along the lines of previous accounts of the syntactic representation of the Speaker in the CP domain, possibly in its most peripheral position, where it can function as an interface to the discourse. For instance, Giorgi (2008, 2009, 2010) argues for the syntactic presence of the speaker's temporal (and spatial) coordinates in a specialized projection C-speaker as "the highest, leftmost, position in the Complementizer-layer" (Giorgi 2009:134). Further, Speas and Tenny (2003) postulate a Speech Act Phrase (SAP) that selects the CP. In their account, the SAP is the place where the assignment of pragmatic roles (Speaker, Hearer and Utterance Content) is related to the configuration in which they appear. In particular, they follow Rizzi (1997), Ambar (1999, 2002), and Cinque (1999) in claiming that "syntactic structures include a projection whose head encodes illocutionary force", and suggest that "this head is overt in languages that have sentence particles, clitics or morphemes indicating whether the sentence is a statement, question, etc." (Speas and Tenny 2003:317).

In what follows we will account for the interaction between the two (leftmost) projections of the CP in our proposal, namely ILL and CT, and the overt elements that express the speaker's intentions/attitude, that is discourse particles.

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Romanian CP particles appear to precede FamiliarTopic (and probably also ContrastiveTopic), but they do not occur higher than GroundTopic (in the sense of Frascarelli and Hinterhölzl 2007).

<sup>28</sup>. In our 'Split-Force' proposal, the high complementizer *che* in Italian, which in Rizzi (1997) is in Force°, will head the CT projection.

#### 4. A feature-based proposal for the interaction between illocutionary force, clause type, and discourse particles

Given what we have said so far on the properties of discourse particles (*Prt*), in our proposal a *Prt* is assumed to always have two interpretable features, a feature which refers to the speaker encoded in ILL and one which ensures syntactic compatibility with CT.

Accordingly, *Prt* has an interpretable feature [*i*intent(ionality)] related to the illocutionary force, and an interpretable feature [*i*type] related to clause type. In assuming this, we follow Bayer (2008), who makes a feature-based proposal for the German particle *denn*.

(37) *Prt* [*i*type; *i*intent]

Since all clause types are associated with a specific syntax (i.e., word order), the type feature of CT will be interpretable.<sup>29</sup>

(38) CT [*i*type]

Along these lines of analysis, ILL has an uninterpretable feature related to the clause type [*u*type] and an uninterpretable feature related to intentionality [*u*intent].

(39) ILL [*u*type; *u*intent]

Whereas the [*u*intent] feature on ILL will probe for its interpretable counterpart on *Prt*, both features [*i*type] (on CT and on *Prt*) will be probed by [*u*type] in ILL.<sup>30</sup>

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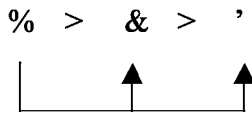
<sup>29</sup>. For Adger (2003), an interpretable [clause-type] feature is present on C, which “determines whether a CP is interpreted as a question or as a declarative statement” (Adger 2003:333). In our system of ‘Split-Force’, this feature is found on CT.

<sup>30</sup>. In central subordinates, ILL has an uninterpretable feature for what we call ‘default’ type (see section 3), which will find its perfect match on CT. For Multiple AGREE (see (41)), ILL will continue probing in its domain. If a *Prt* is present, ILL will find a non-matching type feature on the particle, thus AGREE cannot apply to both goals, causing the derivation to crash. Consequently, particles cannot appear in central subordinates.

(40) ILL [*#type*; *#intent*] > CT [*itype*] > *Prt* [*itype*; *intent*]

Our account for the matching of one uninterpretable feature ([*utype*] in ILL) against two interpretable features of the same kind ([*itype*] in CT and *Prt*) relies on the Multiple AGREE mechanism as a single simultaneous operation (based on Covert Multiple Feature-Checking without MOVE), as represented below:<sup>31</sup>

(41) *Multiple AGREE* (Hiraiwa 2000:70)



(AGREE (% & '), where % is a probe and both & and ' are matching goals for %)

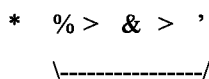
Therefore, the probe ILL looks for all matching goals in its domain (i.e., it does not stop probing, once it has found the closest matching goal, namely CT). Once the probe has found (all) its goals (CT and *Prt*) in the same domain, Multiple AGREE will apply simultaneously.

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Given Multiple AGREE, if two (or more) particles co-occur, their features [*intent*] will be both licensed by ILL in one single operation. As for particles which are merged above the CP layer, this mechanism would also explain their different semantics with respect to particles merged in the CP/IP layers (cf. Cardinaletti 2009).

<sup>31</sup> Multiple AGREE avoids the Defective Intervention Constraint, which prohibits the establishment of an AGREE relation when a closer but inactive goal (due to prior AGREE with a probe) is present. The latter would intervene between a probe and another goal (Chomsky 2000:123). Thus, the DIC would block a further AGREE relation at a distance (cf. Hiraiwa 2000).

(i) *Defective Intervention Constraint* (Chomsky 2000:123)





## 5. Conclusions

In this paper, we argued for the necessity of splitting up Force (Rizzi 1997) into two projections – namely ILL(ocutionary Force) and C(lause) T(ype) – on the basis of the functions and distribution of discourse particles.

All clauses have a clause type. The distribution of discourse particles indicates that each of them has to be compatible with specific clause types (cf. Thurmair 1989). We assumed a syntactic interaction between the particles and the clause type.

Further, we have shown that, at the same time, discourse particles interact with the illocutionary force of the clause. They are typical main clause phenomena. Hence, they can only appear in root contexts (main clauses and peripheral subordinates, cf. Haegeman 2002 and following work), which can be considered to have independent illocutionary force and thus to be speech acts. In particular, we have argued that the function of discourse particles is that of modifying the illocutionary force (cf. Jacobs 1986, 1991) and that this interaction must be reflected in syntax.

Once we have claimed that it is necessary to represent illocutionary force and clause type distinctly in syntax, we have assumed a Multiple AGREE mechanism of feature checking (cf. Hiraiwa 2000) in order to account for the syntactic relations between illocutionary force, clause type and discourse particles.

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# **Collapsing the Head Final Filter and the Head Complement Parameter**

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## **1. Introduction**

In this paper, I will address the issue of how the OV-VO distinction can be captured in a minimalist framework adopting the universal base hypothesis (UBH) (cf. Kayne 1994). In particular, I will argue that head final effects and the head complement parameter can be derived from the workings of a phase-based condition on the mapping between syntactic structure and prosodic structure. The notion of phases that is needed to properly define the interaction between syntax and prosody is more fine-grained than the one proposed in Chomsky (2001, 2005). I will argue that phases and their subphases are defined by predicates and their extended projections in the sense of Grimshaw 1991.

If we dispense with directionality parameters altogether, the question arises of which other properties in language word order facts can be derived from or related to. The ideal candidate with which to locate this type of difference in the minimalist program are interface properties (cf. Chomsky 1995, 1998). Given that languages should not differ at LF, possible candidates are constituted by interface requirements on the mapping to PF. While morphology proper is a good candidate for explaining OV-properties in agglutinating languages, word order differences between the Germanic languages that belong to the inflectional type call for an alternative explanation.

Thus, I would like to explore the question of whether the major word order differences between the Germanic OV- and VO-languages can be related to major differences in the mapping between syntactic structure and prosodic structure in these languages.

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### 1.1. Differences between German and English

A property that correlates with the head complement parameter is the placement of event related adjuncts in the Germanic OV- and VO-languages. Time, place and manner adjuncts occur preverbally in German, but postverbally in the exact mirror order in English, in the unmarked case, as is illustrated in (1ab). The qualification *in the unmarked case* here is important, since both English and German allow for alternative orders, as is illustrated in (2a) and (2b) respectively.

- (1) a. C T P M-V OV-languages  
 b. C V- M P T VO-languages
- (2) a. John carefully read the book this Tuesday in the garden of his friend  
 b. Der Hans hat die Maria besucht gestern in Wien  
 The John has the Maria visited yesterday in Vienna

In this paper, I will address the question of which property defines the unmarked order of these elements and put aside the issue of how alternative orders can be derived in these languages. The generalization in (1) raises the question of which property connects the head complement parameter with the default placement of event-related adjuncts. Obviously, the instrument of the head complement parameter is insufficient to accommodate this correlation. Ideally, there should be a common underlying property from which the placement of both complements and event-related adjuncts follows.

The proposal that I would like to make in this paper is that the placement of arguments and these adjuncts in English and German follows from a unique condition in which prosodic weight plays a crucial role. Most importantly, the heaviness of a syntactic phrase will be defined by applying metrical restrictions on the branching nature of syntactic constituents. The main idea that I will argue for is that heavy syntactic phrases must be spelled out on the right branch with respect the selecting/modified head, if the mapping between syntactic structure and prosodic structure in the containing phase is quantity-sensitive.

One difference between VO-languages like English and OV-languages like German that strikes me as being essentially prosodic in nature is the fact that adjuncts that can occur between the subject and the vP in VO-languages are subject to restrictions absent in OV-languages (cf. Haider 2000).



- (3) a. John (more) often (\* than Peter) read the book  
 b. Hans hat öfter (als der Peter) das Buch gelesen  
 c. John very carefully read the book  
 d.\* John with care read the book

The data in (3), in particular the contrast between (3c) and (3d), shows that we cannot simply resort to the branchingness of a constituent. Descriptively speaking, the head of the adjunct must not have material to its right in VO-languages. This is only possible if the heavy adjunct appears postverbally, raising the question of whether there is a connection between the properties in (1) and (3).

The restrictions illustrated in (3) are reminiscent of head final effects, first discussed by Emonds (1976) and Williams (1982). In section 2, I will discuss head final effects in more detail and argue that these effects as well as the placement of arguments with respect to the selecting head can be derived from a single condition that applies in the syntax-prosody interface.

## 2. The Head Final Filter

The data in (3) can be captured by a generalized version of the head final filter, given in (5) below. On the basis of contrasts like in (4), Williams (1982) proposed a condition which requires that the head of a prenominal modifier be adjacent to the (modified) noun.

- (4) a. [a [<sub>AP</sub> proud] man]  
 b. \* a [<sub>AP</sub> proud [of his children]] man

- (5) (Generalized) Head Final Filter:  
 A premodifier must be head final

While the HFF covers a great number of empirical facts (cf. Escribano 2009) and thus constitutes a valid empirical generalization, its status as a genuine syntactic condition is problematic for the following reasons.

**2.1. The HFF as a pure syntactic condition**

First note that the HFF does not apply to subjects (ie. specifiers of I) as in (6a), intonationally detached DP and PP frames (cf. 6b) and specifiers of other functional heads in the C-domain (cf. 6c).

- (6) a. [Students [of linguistics]] read Chomsky a lot  
 b. [On [Tuesday evening]] I will take out Mary for dinner  
 c. [In [which city]] did John meet Mary?

This raises the question of why the condition should apply to modifiers but not to specifiers. A further question concerns the issue of its crosslinguistic application. As we have seen in the previous section (cf. example (3) above), it arguably applies in the middle field of VO-languages, but fails to apply in the same domain in OV-languages, raising the question of which factor determines whether the filter does apply or not. A possible answer to this is that the HFF is somehow linked to the head complement parameter. Note that this line of thinking leads to a peculiar conclusion, namely that its application in a VO-language like English has the (unexpected) effect that certain types of phrases must be head-final in an otherwise categorially head-initial language. This raises some doubts on whether HF-effects should be treated as purely syntactic effects.

At this point, it is important to note that the HF constraint also applies in an OV-language like German, namely in the nominal domain. Haider (2000) points out that modification in the German NP shares properties with modification in the English vP. Event-related adverbial phrases appear in NP-final position and their relative order is the same as in the English vP, as is illustrated in (7a-b). Furthermore, the complement of an adjective cannot follow the head (cf. the contrast between (8a-c)), while no such restriction applies in the clausal domain (8d).

- (7) a. die Überreichung der Oscars in L.A. letzten Sommer  
       the presenting (of) the Oscars in L.A. last summer  
 b. die Überreichung der Oscars letzten Sommer in L.A.
- (8) a. der [auf seine Kinder stolze] Vater  
       the of his children proud+Agr father  
 b. \* der [stolze auf seine Kinder] Vater  
 c. der Vater stolz/\*stolze auf seine Kinder

- d. weil er [stolz auf seine Kinder] ist  
 since he proud of his children is

Given that nominal phrases in German are head-initial, the data in (7)-(8) again raise the issue of whether there could be a connection between the application of this condition and the head complement parameter. The logic could be to assume that German DPs are head-initial since some condition like the HFF constraint applies in its domain which forces the postnominal placement of adjuncts and arguments and that the German IP is head-final since this condition does not apply in its domain, allowing for the preverbal placement of verbal complements and event-related adjuncts.

One possibility that comes to one's mind immediately is to assume a universal head-initial base plus licensing movement of arguments into the I-domain in both English and German. Then, one could assume that the application of this condition forces the postverbal Spell-out of DP-arguments in the V-domain in English, while the non-application of this condition in German allows for the preverbal Spell-out of DP-arguments in the I-domain. This, however, would imply that the HFF filter in principle also applies to Specifiers of functional heads (in order to affect the placement of complements when they have moved into the preverbal/prenominal domain for reasons of (Case-)licensing), raising the question of how the data in (6) above can be accounted for. What is needed is an interface condition that can be taken to apply, say, in the I-domain in English but fails to apply in the domain containing the subject as well as in the C-domain. In particular, what is needed is the concept of a phase that is defined by the set of interface conditions (PF- and LF-ones) that apply in its domain. I will take up this issue in Section 2.3 below.

Furthermore, it is important to note that in newer treatments of modifiers as specifiers of functional heads in the extended projection of the modified category (Cinque 1999), the HFF cannot be stated anymore as a genuine syntactic generalization that is based on the specific syntactic configuration of adjunction. If we get rid of adjunction, a problem arises for the statement of the HFF, since specifiers of functional projections are generally not subject to (5), as we have seen above. At this point we hit a bifurcation. One can either take this fact as a strong argument against Cinque's approach to modification, or adopt his account and look for a more appropriate account of the head-final effects. Here I will undertake the second task, dropping the assumption that the HFF does not apply to specifiers.

This move is in so far not completely unwarranted given the fact that the HFF is not a likely candidate for being a genuine syntactic condition anyway.. Within current

minimalist theory, it is best treated as a bare output condition at the PF interface, since order and adjacency are taken to be irrelevant to narrow syntax.

Note furthermore that the condition, as it is stated in (8), cannot be a genuine PF-constraint either, since the structural difference between specifiers and modifiers is no longer visible at PF. Therefore, I conclude that head final effects are in need of a deeper explanation. Its effects can neither be captured by a pure syntactic nor by a pure phonological condition. Alternatively, I propose to derive head final effects from a mapping condition applying in the interface between syntax and phonology. It is generally assumed that prosody has (restricted) access to syntactic structure, as is evidenced by specific proposals in which an initial prosodic structure is built on the basis of syntactic information (cf. Selkirk 1984, Nespor & Vogel 1986).

## 2.2. The prosodic motivation of HF-effects

In this section, I would like to motivate why HF-effects should be treated as prosodic in nature. One argument comes from the observation that HF-effects in English disappear, if the adjunct is epenthetic, constituting a separate intonational domain, as is indicated by the comma intonation in (9b).

- (9) a. \* John more often than Peter visited Mary  
 b. John, more often than Peter, visited Mary

The observation that the HF-effects are ameliorated if adjunct and verb are mapped into separate intonational phrases clearly speaks in favour of a condition that applies in the formation of prosodic constituents. The second argument comes from crosslinguistic variation. A similar effect appears in Italian, as is illustrated in (10). However, in Italian, contrary to English, a premodifier of the verb may not be modified at all (10b), escaping the head final filter.

- (10) a. Gianni pazientemente aspettava l'autobus  
 b. \*Gianni molto pazientemente aspettava l'autobus  
 c. \*Gianni con pazienza aspettava l'autobus

The data in (10) is best captured by assuming that preverbal modifiers may not be heavy, given the well-known fact that branching constituents counts as heavy in the

metrical domain. For instance, a minimal requirement for being weighty enough to form a prosodic word in many languages is a branching foot (comprising a strong and a weak syllable).

The head final effects in English resemble more the other minimal weight-requirement on prosodic words: if a foot contains only one syllable, this syllable must be bimoraic, that is, branching at the rhyme level to form a valid prosodic word.

Let us therefore look more closely at a domain in which the notion of prosodic weight and its role for metrical structure building is relatively well understood, namely the domain of foot construction at the word level.

Word-level stress is computed by virtue of foot construction parameters (iambic or trochaic foot, direction left to right, or right to left and so on), where a foot involves one dominant (strong) and at least one recessive (weak) branch. Foot construction systems may be quantity insensitive, quantity-sensitive or quantity-determined. In a quantity-insensitive system, foot construction proceeds on the basis of global parameters (like left- or right-headed foot) independently of the metrical properties of individual syllables. In a quantity-sensitive system, a heavy syllable cannot occupy a recessive branch, as is specified in (11) below, and in a quantity-determined system each dominant branch must be occupied by a heavy syllable. Prosodic word formation in German is an example for the latter case.

(11) weight-sensitivity (at the word level):

A heavy syllable must occupy a dominant branch, i.e., must be dominated by the head of the foot

Illustrating the working of weight-sensitivity, which, I will argue, constitutes the relevant notion for capturing HF-effects, in case of a potential violation of the condition in (11) an extra (defective) foot is constructed, leading to two adjacent stresses, as is illustrated for a putative example in (12).

In (12), I assume a word-level stress system that has left-headed binary feet and is quantity sensitive. In (12a) the word is parsed into a single binary left-headed foot. Thus, the first syllable receives stress, indicated by bold letters, the second syllable remains without stress, indicated by italics in (12a). In (12b), the creation of a single left-headed foot by mapping the heavy second syllable on a recessive branch leads to a violation of the condition in (11). The conflict is resolved in that the second syllable is mapped onto an additional foot, as is evidenced by the assignment of secondary stress on the second syllable, next to the assignment of primary stress on the first syllable.

- (12) a. normal foot construction: CVCV →(Pw (Ft CVC))  
 b. prosodic repair: CVCVC → (Pw (Ft1 CV) (Ft2 CVC))

In prosody, a syllable counts as heavy if its right branch, the rhyme, is itself branching, the complexity of the left branch, the onset, being immaterial for calculating its weight.

If we now draw the direct parallels between syllable structure and syntactic structure as determined by the X'-schema, we arrive at the following conclusion. A syntactic phrase should count as (prosodically) heavy, if its right branch is also branching, that is to say, if its head hosts a complement. Thus, we derive the effects of the HFF in English by the way of a prosodic restriction, as is illustrated again in (13).

- (13) a. \*the proud of his mother man  
 b. the very proud man  
 c. the man proud of his mother

(13a) violates the HFF filter since the head of the adjunct and the modified noun are not adjacent to each other. In the prosodic rendition of the HFF, the phrase [proud [of his mother]] counts as metrically heavy and thus should be mapped onto a dominant branch in prosodic structure. The amelioration of the HF-effect in (13c) indicates that the dominant branch in prosodic structure should be identified with a right-branch in syntactic structure. The issue of how the postnominal/postverbal appearance of adjuncts is derived is addressed in section 3 below.

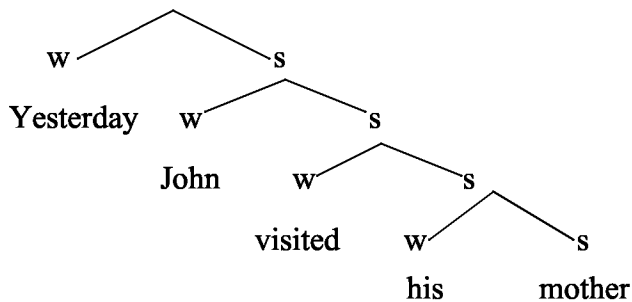
But what is the prosodic status of the modifier in (13b)? Remember that in syllable structure, the complexity of the onset is irrelevant for computing the metrical status of a syllable. Drawing the parallels between syllable structure and syntactic structure, we can thus assume that a constituent that combines a head and a specifier (in its extended projection), even if the latter is complex, does not yield a phrase that counts as prosodically heavy.

Let us now take up the question of why the dominant branch in prosodic structure should be identified with a right branch in syntactic structure. Ideally, the right branch should come out as the dominant branch in syntactic structure and prosodic structure. Since prosodic structure is taken to be derived from syntactic structure, the correlation seems to be well served by assuming asymmetric binary branching syntactic trees.

In anti-symmetric syntax, the dominant branch can be identified with the right branch, on the basis of the fact that the latter constitutes the recursive branch. A standard metrical interpretation of an asymmetric, binary branching syntactic tree

assigns the metrical value *strong* (s) to the right-hand branch at each projection level, as is illustrated in (14).

(14) Yesterday John visited his mother



The metrical interpretation of a syntactic tree in (14) immediately makes clear why HF-effect should apply to premodifiers. The left branch vis-à-vis a nominal or verbal head constitutes a weak branch. If this position is occupied by a heavy syntactic constituent, it will lead to a violation of a parallel condition to the condition in (11), given in (15).

(15) weight-sensitivity (at the sentence level):

A heavy syntactic phrase must occupy a dominant branch in prosodic structure

The metrical interpretation of a syntactic tree also makes clear why the postnominal or postverbal placement of such heavy adjuncts discards the effect: At the word level, with a relative shallow structure, a heavy syllable must not occupy a recessive branch, hence has to occupy a dominant branch. At the sentence level, with a more elaborated hierarchical structure, we may assume that a heavy syntactic phrase must occupy a branch that is more prominent than the branch of the modified head. Thus, by being placed to the right of a noun or verb, a heavy adjunct occupies a stronger branch than the modified head. Since metrical prominence is a relative property between two elements in a given domain, we may assume that the weight condition applies to a syntactic constituent and its selecting/modified head at the point of the derivation in which these elements are joined into a common prosodic constituent.

The property of relative prominence within a given domain implies that HF-effects will disappear, if adjunct and modified head are mapped onto separate intonational domains as in (9b) above, since the condition requires that a heavy adjunct should be more prominent than the modified head in the same domain.

The metrical interpretation of a syntactic tree together with the hypothesis that HF-effects are metrical in nature makes the prediction that HF-effect should appear with

modifiers (appearing in left-adjoined positions) and classical specifiers alike. Since subjects and specifiers in the C-domain in English do not display HF-effects, the condition must be taken to apply only in specific domains. The notion that is needed to make this assumption coherent is the notion of a phase. In the following I will assume that phases can be weight-sensitive or not. I will address this issue in more detail in section 2.4 below.

In a syntactic approach that excludes adjunction and assumes that modifiers occupy specifiers of dedicated functional heads in the extended projection of the modified head, all specifiers of this domain, or better put, all specifiers in a weight-sensitive phase must be taken to display HF-effects. Thus, we arrive at the following metrical rendition of HF-effects.

(16) The weight condition:

A Specifier that constitutes a heavy syntactic constituent must appear on the right branch with respect to the selecting / modified head (to occupy a more prominent branch than the head in prosodic structure)

To summarize, HF-effects are derived, if we assume that the mapping between syntactic structure and prosodic structure is weight-sensitive in a given domain. The important question becomes now how these domains are defined. Above, I have brought forward some arguments that it should not be determined phrase-structure configurationally. If the interaction between syntax and PF is a stepwise phase-based process, the best candidate for defining the domain is the phase, implying that in certain phases the mapping may be sensitive or may be insensitive to the factor weight. This is the line that I will pursue in the next sections. For the time being, we conclude that the difference between (3a) and (3b) can be captured without invoking the HFF, if we assume that the mapping between syntactic structure and prosodic structure is weight-sensitive in the English IP, but weight-insensitive in the German IP.

### **2.3. HF-effects and the head complement parameter**

In this section, I will address the question of why modifiers in the nominal domain should be subject to the HFF, but modifiers in the verbal domain fail to do so in German. German nominal projections are head initial, while verbal projections in German are head final (at least on the surface). This suggests that there is an intrinsic



connection between HF-effects and the head complement parameter. We have already noted above that making the connection in terms of a directionality parameter yields a strange picture: certain constituents, namely modifiers, are required to be head-final within the head-initial projections of N. It would be better to derive both the head complement parameter and HF-effects from a common underlying condition.

Remember that we concluded in the last section that the prosodic rendition of the HFF requires that this condition applies to all specifiers within a weight-sensitive phase. Thus, in an approach in which adjuncts are taken to be base-generated to the left of the modified head, namely in its extended projection, and in which arguments are taken to be base-generated in head-initial projections and are assumed to undergo licensing movement into functional specifiers in the extended projections of the selecting head (cf. Kayne 1994), the correlation between the appearance of HF-effects and the head-initial status of the modified head falls out naturally: heavy arguments and adjuncts will have to appear postnominally in the German DP, given that the pronominal domain is weight-sensitive, as we have shown in (8) above.

Arguments in the nominal domain in German are either realized by PPs or genitive DPs. Both types of phrases count as heavy, since they minimally comprise a head and a (filled) complement. Thus, the working of the weight condition alone predicts the postnominal occurrence of arguments, making the head-complement parameter dispensable in the prosodic account of HF-effects that is argued for in this paper.

Note, however, that there is one class of modifiers that appear prenominally in German, namely adjectival adjuncts, as is illustrated in (17). The contrast in (17) is accounted for by the condition in (5) above, since the AP-adjunct in (17a) is clearly head-final, while the PP-adjunct in (17b) is head-initial and thus violates (5).

- (17) a. der [seiner Frau treue] Mann  
           the to-his wife loyal man  
       b. \*der [auf dem Feld] Mann  
           the on the field man  
       c. der [seiner Frau **ganz** treue] Mann  
           the to-his wife entirely loyal man

In the metrical version of (5), the two phrases should differ in their prosodic weight. While the PP in (17b) unequivocally counts as heavy and is thus ruled out correctly, a question arises concerning (17a), since the AP clearly comprises a head and a

complement. Does this mean that we have to assume some kind of directionality parameter afterall?

Note, however, that the complement of the adjectival head occupies a Specifier in the extended projection of the adjective and not its complement domain, as is evidenced by the fact that complement and head are separated by a degree modifier, as illustrated in (17c). Nevertheless, we must consider the fact that there is an Agr-head (licensing the DP-argument), the complement domain of which is occupied by the adjective. The crucial point seems to be that this head is empty and thus is prosodically invisible.

A similar problem arises with respect to the examples in (18). In many accounts *too* and *more* are analysed as degree heads that take an AP/AdvP as their complement. In this case, the modifiers in (18ab) should count as prosodically heavy. One way out for the prosodic account could be to assume that these elements (are in fact heads but) occupy the Specifier of an abstract degree head, as is illustrated in (18c). Note that if a standard structure along the lines of (18d) is assumed, then also the HFF in (5) is violated, since the head of the modifying DegP is not adjacent to the modified verb. The condition in (5) would then have to be changed to the effect that it is the head of the extended projection (in the sense of Grimshaw 1991) of the modifier that needs to be adjacent to the modified category. Such a move, however, would create problems in other cases, as is illustrated in (19). In (19), the head of the extended nominal projection is adjacent to the modified verb, but the modifier in (18) nevertheless induces a HF-effect.

- (18) a. John far too often confuses left and right  
 b. He has much more carefully read the book (than Peter)  
 c. [<sub>DegP</sub> [ [far] too] Deg<sup>0</sup> [AdvP often]]  
 d. [<sub>DegP</sub> far [<sub>Deg'</sub> too [AdvP often]]]

(19) \* since John this morning met Mary

To summarize, the prosodic rendition of HF-effects in (15) actually fares better than the HFF and more complex cases point to the relevance of the generalisation given in (19) below. Considering the data in (17-19), we can further specify the definition of a heavy syntactic phrase, as given in (20).

(20) Parametric option A (Romance)

A syntactic phrase XP counts as heavy if it is branching

## Parametric option B (Germanic)

- a. A syntactic phrase XP counts as heavy if both its head X and the complement of X contain lexical material
- b. The lexical filling of the Specifier of XP is immaterial for computing its weight

The weight condition applies to all specifiers within a given domain. In the parametric option B, computation of prosodic weight is more complex. While constituents occupying specifiers in a weight-sensitive phase must not be heavy, the specifiers of these constituents do not count for computing their prosodic weight in parametric option B.

Let us now look at the interaction of the HFF and the head complement parameter in the verbal domain. In LCA-based accounts to the distinction between head-initial and head-final clauses, it is assumed that complements are base-generated to the right of the selecting head and then moved into a Specifier in the extended projection of this head for licensing purposes, as is illustrated in (21). One way to capture the pertinent distinction in the copy theory of movement is to assume that complements are spelled out in the licensing position in OV-languages, but in their base-position in VO-languages, as is indicated by underlining in (21). These spell-out options can now be derived as weight-effects, if we make the following assumptions.

- (21) a. [<sub>CP</sub> [<sub>IP</sub> DP [<sub>vP</sub> v DP ]]] OV-language (German)  
 b. [<sub>CP</sub> [<sub>IP</sub> DP [<sub>vP</sub> v DP ]]] VO-language (English)

As we have concluded in the previous section, the I-domain in English is weight-sensitive, while the I-domain in German is weight-insensitive. If we assume that the HFF applies to all constituents in a given domain (not only to modifiers), then it follows that complements that constitute heavy syntactic phrases must appear postverbally in English. More specifically, a DP or PP complement, counting as prosodically heavy, must be spelled out in the base position in order to occupy a stronger branch than the verb, when a prosodic constituent comprising verb and its complement is formed.

I propose that a phase is evaluated at the point of the derivation at which it is licensed. Therefore it holds that when an argument, which constitutes a phase, is (case) licensed, the result is evaluated prosodically. At this point a prosodic constituent comprising argument and verb is formed (cf. section 4 for details). Hence the weight condition will apply at this point of the derivation and require the postverbal spell-out of the argument in English.

Since in the German IP weight is irrelevant, spell-out must be fixed by other conditions. In Hinterhölzl (2009), I argue for a complementary interface condition on the mapping to LF, which requires that arguments and adjuncts are spelled out in their scope positions (in the I-domain).

Coming back to English, while PP-arguments always can be taken to count as heavy, since they minimally comprise a prepositional head and a complement that is lexically filled, pronominal DPs and DPs made up of only a proper name can be spelled out preverbally or postverbally, as far as prosody is concerned. The case of pronominal DPs is addressed in Hinterhölzl (2009), where a solution in terms of their special licensing conditions is given. DPs consisting of a proper name only, in short, light DPs, can then be taken to follow the spell-out pattern of light pronominal DPs.

To summarize, the correlation between the presence of HFF-effects and the placement of complements within a certain domain (standardly determined by the head complement parameter) can be captured by the same metrically motivated interface condition, if it is assumed that this condition in principle also applies to Specifiers. This conclusion is further supported by weight-effects in the verbal cluster in German to which we turn now.

#### **2.4. Head Final-effects in the German V-domain**

There is a peculiar restriction that applies in the V-domain in German. German verb clusters are predominantly left-branching, but right-branching verb clusters are possible as long as the most deeply embedded cluster is left-branching (cf. Hinterhölzl 2006b). A case in question is given in (22a). However, once a right-branching verb cluster is introduced, the verb cluster must also be right-branching at the next level up, as is illustrated by the contrast in (22b) and (22c).<sup>1</sup>

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<sup>1</sup>. Verb cluster formation is argued in Hinterhölzl (2006a) to involve XP-movement of the dependent infinitives into two different functional Specifiers in the V-domain of the selecting verb for licensing purposes. Given that the selecting verb moves into the highest head position in the V-domain, left- and right-branching verb clusters are derived by spelling out the dependent infinitives in the higher or lower Specifier in this account.

- (22) a. weil er den Text [muß [lesen können]]  
 since he the text must read can  
 ‘since he must be able to read the text’
- b. ??weiler den Text [[müssen [lesen können]] wird]  
 since he the text must read can will  
 ‘since he will have to be able to read the text’
- c. weil er den Text [wird [müssen [lesen können]]]

The contrast between (22b) and (22c) can be analysed as a HF-effect. The heavy syntactic phrase [müssen [lesen können]] has to be spelled out on a right-branch with respect to the auxiliary with which it is going to build a prosodic constituent. The crucial point here is that the dependent infinitives in (22b) occupy a Specifier, to enter into a checking relation with the selecting verb (cf. Hinterhölzl 2006a for the details). Thus, we have a strong case showing that the HFF applies to Specifiers.

The correlate in terms of the head complement parameter of the application of the HFF in the German V-domain is the postverbal realization of CP-complements which arguably are licensed in the V-domain. An empirical generalization concerning extraposition in German is that subject clauses and relative clause extrapose optionally, while complement clauses appear in extraposed position obligatorily. Subject clauses and relative clauses can appear in the middle field, but will preferentially appear postverbally the longer they are. No such length effect appears with complement clauses.

One way to capture this generalisation within the present approach is to assume that subject clauses and relative clauses are licensed in the middle field (in the I-domain) which is weight-insensitive and complement clauses are licensed in the V-domain, which we argued in (22) above to be weight-sensitive, requiring the postverbal Spell-out of CP-complements. Also the extraposition of CP-complements from complex verb clusters, illustrated in (23) can be analyzed as a HF-effect.

- (23) a. [sagen dass die Erde rund ist] wird man wohl koennen  
 say that the earth flat is will one well can
- b. \*Man wird wohl [sagen dass die Erde rund ist] koennen
- c. Man wird wohl sagen koennen [dass die Erde rund ist]

(23a) shows that the selecting verb and its CP-complement form a constituent that can be topicalised in a V2-matrix clause. (23b) shows that the selecting verb and its CP-

complement may not appear in this order in a verbal cluster. In the present analysis selecting verb and CP-complement occupy a specifier in the V-domain of the dominating modal verb which is subject to the weight condition, requiring the postverbal Spell-out of the CP-complement. I will refer the reader to Hinterholzl (2006a) for the technical details of extraposition within an LCA-based approach<sup>2</sup>.

The data in (22-23), however, is also important in another respect. Given (22-23), we cannot simply assume that the head final filter applies in the nominal domain, but fails to apply in the verbal domain in German. In other words, the application of the HFF in German cannot be determined by a syntactic categorial feature [+/- N], but must be defined phase by phase. In German, the HFF applies in the V-domain, but fails to apply in the I-domain. Thus we can assume that the HFF applies to Specifiers in general but certain Specifiers will be exempted since they happen to occupy a phase in which the mapping between syntax and prosody is weight-insensitive. This is generally the case for Specifiers in the C-domain and also holds for subjects in English, which I will argue below should be analysed as Specifiers in the T-domain, a phase that is projected by the abstract Tense predicate in the clause (cf. Stowell 1996).

In the following section, I will come back to the differential placement of event-related adjuncts. On the basis of the analysis of their syntax, I will outline and motivate a more fine-grained theory of phases that is called for by the above considerations.

### **3. The licensing of event-related adjuncts**

In this section, I will address the question of how the postnominal/postverbal appearance of adjuncts is derived in an LCA-based approach. In this paper, I will only outline the account for adjunct placement in the verbal domain and assume that the same considerations apply to the nominal domain (cf. Cinque 2005 for a similar account). The assumptions made about the definition of phases in this section will become relevant for the rules of prosodic domain formation discussed in detail in section 4 below.

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<sup>2</sup> In Hinterholzl (2006) it is proposed that movement of the dependent infinitive into a licensing position in the V-domain of the selecting verb may either pied-pipe or strand a CP-complement. If the dependent infinitive is topicalized also the pied-piping option yields valid output, if the dependent infinitive remains in the verb cluster only the stranding option will yield valid output on the surface (violating the prosodic version of the head final filter).

In the following, I present an account of the syntax of event-related adjuncts that elaborates on the initial proposal by Barbiers (1995). He proposes that the preverbal and postverbal placement of adjuncts is due to vP-intrapolation that is motivated by interpretational needs.

In the standard account to modification, it is assumed that adjuncts are adjoined to the maximal category of the head they modify. Therefore, the attachment site of the adjunct is determined by its interpretation (it minimally has to attach to the constituent it modifies). Secondly, the syntactic operation of adjunction is interpreted as set intersection that leads to the identification of the individual variables introduced by adjunct and modified head, as is illustrated in (24).

- (24) a. meet in the park  
 b.  $[_{VP} [_{VP} V(e_1) ] PP (e_2) ]$   
 c. identification:  $e_1 = e_2 >$  there is an event  $e$  such that meet ( $e$ ) & in the park ( $e$ )

In Cinque's (1999) account, adjuncts are introduced as specifiers of functional heads that are ordered according to a universal hierarchy in the extended projections of the modified head. Cinque's proposal can be taken to provide an alternative account to the question of how adjuncts are to be attached to the head they modify, but it fails to address the question of how the individual variables of adjunct and modified head are identified.

### 3.1. Adjuncts and phases

In other words, if we want to dispense with the syntactic operation of adjunction altogether, we must address the question of how an adjunct, being base-generated as the specifier of a functional head is interpreted and how, for instance, the event variable of the verb is identified with the individual variable of an adjunct that sits higher up in the tree in the specifier of a functional head, possibly separated from the verb by various heads dedicated to the licensing of the arguments of the verb.

I would like to make the following proposal. The adjunct introduced as the specifier of a functional head is interpreted as a predicate on the head it is taken to modify in the standard theory. Assuming that every predicate provides a licensing domain for its arguments, introducing an adjunct in the functional skeleton of either CP (or DP) will always involve two functional heads: the one that introduces the adjunct as an additional

predicate (called F1 in (25)) and the other that licenses the argument of this predicate (called F2 in (25)). In the course of the derivation vP moves into Spec F2 and the two individual variables are identified via predication, with the vP acting as subject of predication. In this approach, the intuition that event related adjuncts are interpreted as predicates on the verb is represented already in the syntax as a derived subject-predicate relation between vP and adjunct.

(25)  $[[_{VP} V (e_1)]F_2 [ PP (e_2) F_1 \dots[t_{VP} ]]]$

Note that in this approach the vP acts both as a predicate and as a subject. One would expect that a constituent cannot have these very different functions within the same domain. In a phase-based framework, we could assume, however, that the vP obtains these different roles in different phases in the clause. Therefore, I would like to propose that F1 and F2 in (25) constitute projections of a separate phase and are not considered as being part of the extended projection of the verb. F1 introduces an additional predicate in the clause (or DP) that has its own licensing domain, namely F2. In other words, [Spec,F2] can be compared with [Spec,IP] in the clause. vP-intrapolation, therefore, has to be considered as a case of A-movement that serves to license the adjunct as a (secondary) predicate (some evidence for the assumption that vP-intrapolation is a case of A-movement is given in Hinterhölzl 2009).

That the projections F1 and F2 and their respective Specifiers constitute separate phases follows from the following typology of phases. I propose that the main phases (the CP in the clausal domain and the DP in the nominal domain) comprise the following sub-phases: a predicate domain (roughly the vP in the clause) that introduces a predicate and its arguments, the I-domain, in which the (properties of the) arguments of the predicate are licensed and a C-domain (or completing domain) that embeds the predicate in another clause or in the relevant context. I will call these sub-phases *homorganic*, since they are projected by the same phase predicate. This is illustrated in (26).

(26) Homorganic subphases within the CP

[CP completing domain] [IP licensing domain] [vP predicate domain]

According to this typology, adjuncts comprise a predicate domain and an I-domain but lack a completing domain, which bars them from being embedded like complements. Instead of being embedded they are superimposed in the I-domain of another predicate.



To be licensed event-related adjuncts must enter into a predication relation with the vP in the clause. The subphases projected by an adjunct are non-homorganic with respect to the subphases projected by the verb in the clause. This distinction will become important, when we discuss the role of phases in the rules determining the prosodic composition of syntactic constituents in Section 4.

Since in modern approaches to temporal interpretation (cf. Stowell 1996), Tense is analysed as a predicate that locates the event time of the vP with respect to a given reference time, I propose that this temporal predicate and its projections form their own sub-phases. Since adjuncts do show HF-effects, but subjects like the Specifiers in the C-domain do not show HF-effect, I am assuming that the T-domain, contrary to adjunct-domains, is projected outside of the I-domain of the relevant verb in (27) below.

To summarize, vP-intrapolation is triggered by the licensing requirement of adjuncts. The intrapolated vP acts as subject of predication. To this end, I have proposed that the I-domain in the clause is interspersed with sub-phases that are projected by event-related adjuncts, as is illustrated in (27).

- (27) non-homorganic subphases within CP  
 [[T-domain] [I-domain [Adjunct-domain] ...[Adjunct-domain]]]

### 3.2. Against vP-intrapolation at LF

The present proposal is similar to Barbiers' (1995) account in proposing that a) vP-intrapolation is responsible for postverbal occurrences of event-related adjuncts (cf. (28ab)) and b) that vP-intrapolation is semantically triggered. In his account, vP-movement occurs to establish a qualification relation between vP and PP which requires a configuration of mutual immediate c-command between these elements. This is achieved by moving the vP into [Spec,PP], as is illustrated in (28c).

- (28) a. Jan heeft [ in de tuin] gewerkt  
 John has in the garden worked  
 b. Jan heeft gewerkt [in de tuin]  
 John has worked in the garden  
 c. Jan heeft [<sub>PP</sub> gewerkt [<sub>PP</sub> in the tuin ]] t<sub>vP</sub>

If the vP moves into [Spec,PP] in covert syntax, the non-extraposed order in (27a) is derived. In short, in Barbiers' account, vP-movement serves to establish a qualification relation, but this can be done in syntax or by movement at LF. I see one major problem with Barbier's original proposal: in his account, no interpretative differences between intraposed and non-intraposed vP are to be expected.

The problem with this LF-based account is that the intraposed and non-intraposed versions are often not identical in their readings, at least in German. The postverbal PP in (29b) cannot be interpreted as being in the scope of the adverbial *often*, as it has to be interpreted in (29a), and is interpreted obligatorily as a frame adverbial (*when he is in the coffee house, Hans often sits*).

- (29) a. weil Hans oft im Kaffeehaus sitzt  
           since Hans often in the coffee-house sits  
       b. weil Hans oft sitzt im Kaffeehaus  
           since Hans often sits in the coffee-house

Second, non-referential adjuncts are generally bad in postverbal position in German and quantified PPs lead to ungrammaticality, as is illustrated in (30). One possible explanation for the ungrammaticality of (30b) is that the quantifier in postverbal position fails to bind the variable in the vP due to lack of c-command (cf. Haider 1993).

- (30) a. weil Hans in keinem Garten arbeitet  
           since Hans in no garden works  
       b. \*weil Hans arbeitet in keinem Garten  
           since Hans works in no garden

Note that this explanation is not open to Barbiers (1995), since in the relevant qualification relation the PP c-commands the vP in his account. For sure, Barbiers' account must be revised to do justice to the German data, the question is only whether an LF-based account is appropriate for these data in the first place, since the restrictions illustrated in (29-30) are induced prosodically, as is argued in the following subsection and discussed in detail in Hinterhölzl (2009).

### 3.3. vP-intrapolation and the weight-condition

As an alternative to Barbier's account, I propose that vP-intrapolation always takes place in overt syntax with the different orders following from an elementary choice in the syntax, namely vP-extraction versus vP pied-piping.

Note that vP-intrapolation plus pied-piping of adjuncts will derive the mirror order of event-related adjuncts in English from a universal base order given in (31). A derivation of a sample English sentence is given in (32).

(31) [Temp ... [Loc ... [Manner [ SU v [ [ V DO ]]]]]]

Based on the universal hierarchy given in (31), the English sentence in (32a) is derived from the base structure in (32b) via successive intrapolation. In this derivation, first, the vP containing the verb and its arguments moves in front of the locative PP (32c), then the resulting structure is moved in front of the temporal PP (32d) and in the final step the subject is extracted to be licensed in [Spec,TP] or an appropriate Agreement position above TP, as is indicated in (32e).

- (32) a. John visited them in Vienna on Friday  
 b. [...[on Friday [in Vienna [John visited them]]]]  
 c. [...[on Friday [[John visited them] in Vienna  $t_{VP}$ ]]]  
 d. [...[[John visited them] in Vienna ] on Friday ]  
 e. [ $_{IP}$  John $_i$  [[[ $_{VP}$   $t_i$  visited them] $_k$  in Vienna  $t_k$ ] $_j$  on Friday  $t_j$ ]]]

Note that we have tacitly assumed that vP-intrapolation pied-pipes the respective adjunct at each step, in order to derive the mirror order from the underlying base order. The base order of these adjuncts is preserved in German, if vP-intrapolation strands the respective event-related adjunct at each step and there is an additional operation that moves the entire middle field in front of the verb again.

In Hinterhölzl (2009), it is proposed that the dependency relations between C and T (cf. Chomsky 2005) and between Fin and v (cf. Rizzi 1997) are embodied via XP-movement of TP and AspP into the C-domain in English and German, as is illustrated in (33). First, the extended vP (AspP) is moved into Spec,FinP and then the remaining TP is moved into Spec, MoodP above it.

- (33) a.  $[_{CP=FP} \text{ Force } [_{MP} \text{ Mood } [_{FinP} \text{ Fin } [_{TP} \text{ T } [_{AspP} \text{ V } ]]]]]]$   
 b.  $[_{CP=FP} \text{ Force } [_{MP} \text{ Mood } [_{FinP} [_{AspP} \text{ V } ] \text{ Fin } [_{TP} \text{ T } ]]]]$   
 c.  $[_{CP=FP} \text{ Force } [_{MP} [_{TP} \text{ T } ] \text{ M } [_{FinP} [_{AspP} \text{ V } ] \text{ Fin } ]]]]$

The rationale behind these movements is that different speech act (forces) are connected with different verbal moods that determine the situational and temporal anchoring of the event in TP and different verbal moods select different finite and non-finite verbal forms that are expressed in the V-domain.

On its way to the C-domain the extended vP moves into the specifier of (viewpoint) Aspect in the T-domain, as is illustrated in (34). Interface conditions will determine that the extended vP pied-pipes the containing Aspect phrase in English, while in German the extended vP extracts from the Aspect phrase when moving on into the C-domain.

- (34)  $[_{I\text{-domain}} [_{T\text{-domain}} (\text{Spec AgrS}) [_{\text{Spec PRES/PAST}} [_{vP} \text{ Asp}]]] [_{V\text{-domain}} t_{vP}]^3]$

Given this scenario, we can assume that on its way to the T-domain, the extended vP moves through all the *predication* positions introduced by modifying adjuncts in the middle field. The modifying adjuncts will remain in the original order in preverbal position, if vP is subextracted at each step, since TP-movement will then move the entire middle field anew in front of the extended vP in the C-domain. On the other hand, the adjuncts will appear in the mirror order, that is typical of VO-languages, if the extended vP at each step on its way up to the C-domain pied-pipes the respective functional projections containing the adjuncts. In this case, as is typical for VO-languages, the entire middle field will follow the verb in the C-domain, with only the subject and possibly some higher adverbs being moved via TP-movement to MoodP in front of the verb (phrase) again.

Let us now address the question of which interface condition decides whether the pied-piping or the stranding option is taken. I am assuming a phase-based framework here, where interface conditions evaluate syntactic objects at specific points in the derivation. In particular, I have proposed above that a phase is evaluated at the point of the derivation at which it is licensed.

When the extended vP moves into the licensing domain of an adjunct in the middle field, the adjunct is licensed and the entire phase can be prosodically valued.

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<sup>3</sup>. In (42), the specifier of the tense predicate contains a referential temporal argument (cf. Stowell 1996) with respect to which the event denoted by vP is situated.

The vP and the adjunct belong to non-homorganic phases and are thus mapped onto separate phonological phrases, as will be proposed in the following section. What is important for the issue of pied-piping/stranding is the fact that the adjunct occupies a right branch, yielding the prosodic pattern in (35). In (35), the metrical values have been annotated on the bracketing derived from the rules of prosodic domain formation outlined in section 4 below.

(35) w(vP) s(adjunct) <sub>IP</sub>]

In a VO-language like English, where the I-domain is sensitive to prosodic weight, a heavy adjunct occupies an optimal position, giving rise to a prosodic preference for pied-piping, while no such preference is predicted for light adjuncts.

In an OV-language like German, on the other hand, placement of adjuncts is weight-insensitive, thus there is no prosodic preference for pied-piping. This may be already sufficient for ruling out pied-piping, given that it is reasonable to assume that per default the minimal phrase containing the attracted feature is targeted by further movement, resulting in a case of vP-extraction that strands the adjuncts at each step.

What is crucial for English is the fact that a heavy adjunct is not stranded by vP-intrapolation, otherwise it will be moved by TP-movement into a preverbal position. At the end of the derivation when the phonological phrase of the verb and the phonological phrase of the adjunct are joined within the same prosodic constituent, namely the intonational phrase, the weight condition will apply to stranded adjuncts, permitting only light adjuncts to appear between the subject and the verb.

#### **4. Phases and modes of prosodic domain formation**

In this section, I will explore the issue of how this account of weight-sensitivity fits with general assumptions about the interaction between syntax and phonology. I will outline a stress-first based approach to the mapping between syntactic structure and prosodic structure and discuss how a relation-based approach to this mapping can be modified to achieve a stepwise phase-based mapping that goes in parallel with the syntactic computation.

In the literature, we find two basic types of approaches to the syntax-phonology interface: end-based accounts and relation-based account. The accounts differ in the assumption of how much syntactic information is necessary and thus visible in the

interface. End-based accounts (cf. Selkirk 1984) assume that it is sufficient for the construction of prosodic constituents, if the boundaries of syntactic constituents are visible at the interface, and define general mapping rules (called rules of alignment) that match syntactic boundaries with prosodic boundaries. This type of approach is not suited for our purposes, since we have seen above that in a weight-sensitive mapping prosody must have access to particulars of syntactic structure.

Relation-based accounts (Nespor & Vogel 1986) assume that prosodic constituents are built around lexical heads on the basis of the relations that these heads entertain to adjacent constituents. This approach serves us better, since it allows us to assume that prosodic composition starts with lexical heads, joining arguments and adjuncts in the course of the derivation, opening up the possibility of applying metrical conditions on the output of this mapping procedure at specific points in the derivation.

Furthermore, they assume that prosody must have access to syntactic structure. For instance, several researchers (Gussenhoven 1983, Krifka 1984) have pointed out that a verb can form a prosodic constituent with an adjacent argument but not with an adjacent adjunct, as is illustrated in (36). As a consequence, main stress falls on the PP-argument in (36a), but on the verb in (36b). In the following, I will use round brackets to indicate phonological phrases, square brackets to indicate intonational phrases and capital letters to indicate main stress.

- (36) a. [ (weil Hans) (im Zelt blieb) ]  
           since John in the tent remained  
       b. [ (weil Hans) (im Zelt) (RAuchte) ]  
           since John in the tent smoked

If prosody has access to the different syntactic status of complements, specifiers and adjuncts, then specific mapping rules can be formulated for the prosodic composition of a head with these constituents.

Within this general approach, Wagner (2005) proposes that there are two modes of prosodic composition, to account for the differences in prosodic phrasing between German and English, illustrated in (37). While in German the complement of the verb must form a joint prosodic constituent with the verb, verb and complement can either form separate phonological phrases or the verb can restructure with its complement in English. To account for this difference, Wagner proposes two prosodic operations, namely subordination and sister-matching which are defined directionally. In his system, subordination involves obligatory restructuring of the verb into the

phonological phrase of the *preceding* argument only, while sister matching applies to a verb and the argument to its right, allowing for optional restructuring.

- (37) a. [(weil Hans) (das Buch las)]  
           since Hans the book read  
       b. [(since John) (read the book)]  
       c. [(since John) (read) (the book)]

In the framework that I have been adopting, complements (internal arguments), subjects and modifiers all occupy Specifiers in the extended projection of the verb in OV-languages, so that prosody cannot make use of these syntactic distinctions. Also directionality parameters like those used by Wagner (2005) should be obviated in an LCA-based system.

As an alternative, I have proposed two modes of prosodic composition which are phase-based and illustrated in (38). Subordination pertains to a lexical head and its arguments – irrespective of their order – that is, to elements that belong to homorganic phases, while coordination applies to a lexical head and a modifier, that is, to elements that belong to non-homorganic phases.

- (38) Modes of prosodic composition (cf. Hinterhölzl 2009)  
       a. subordination: (DP) + V → ((DP) V)  
       b. coordination: (PP) & V → (PP) (V)

While subordination creates a single prosodic constituent, coordination simply maps these phrases into separate prosodic constituents that may be joined into a single prosodic constituent at the sentence level, that is, within one intonational phrase.

It is important to note that subordination as defined in (38a) creates recursive prosodic structures and thus violates the Strict Layer Hypothesis (cf. Selkirk 1984, Nespor and Vogel 1986). However, Ladd (1986), Selkirk (1995), Peperkamp (1997) and Truckenbrodt (1999) provide arguments for the availability of recursive prosodic structures in certain languages.

Here I propose that syntax derives an initial recursive prosodic phrasing which at a later level may be flattened by language specific rules that either delete outer or inner boundaries according to global prosodic parameters like rhythm, length and branchingness of constituents and the like.

For instance, non-branching phonological phrases independently of their phase status undergo phonological restructuring at a later point in normal speech, as is illustrated in (39).

- (39) a. *dieses alte Haus* -> (*dieses*) (*alte*) (*Haus*)  
 b. (*dieses alte Haus*)

(39a) indicates the initial prosodic structure based on the phase status of its constituents, while (39b) shows the restructured prosodic constituent comprising a single phonological phrase. In particular, I will show that obligatory restructuring between a verb and its argument is necessitated by metrical restrictions on stress assignment. Adopting a stress-first based account (cf. Ladd 1994), I assume that stress assignment applies after prosodic domain formation and assigns an accent tone to each prosodic constituent. Stress assignment and prosodic phrasing are constrained by the principle in (40).

- (40) Stress must fall on the metrically most prominent syllable in a prosodic domain

Prosodic constituents need to be headed. I assume that there are two types of heading procedures, as is illustrated in (41). Intrinsic heading is only possible if two prosodic constituents are asymmetric, as is the case in subordination. Extrinsic heading constitutes a the default procedure in which the members of a prosodic constituent assume the metrical values provided by tree geometry. This means that in the default case the heading procedure is insensitive to the metrical values of subconstituents. In the former case, prosodic constituents can be headed according to the inherent metrical values of its subconstituents. If a head and an argument are combined in a prosodic constituent, the resulting constituent can be intrinsically headed since the combination between a head and a phrase is asymmetric. The head has the status of a prosodic word, while the argument has the status of a phonological phrase. In this case, the argument counts as prosodically strong and the head as prosodically weak<sup>4</sup>, as is also illustrated in (42) below.

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<sup>4</sup>. Metrical prominence is a relational property. That the verb is analyzed as metrically weak does not imply that a prosodic constituent comprising only the verb is generally weak (cf. example (33) below). It just means that a head is prosodically weak compared to a (branching) phrasal complement.



(41) a. **Intrinsic heading:**

In the combination of a phonological phrase with a prosodic word, the phonological phrase is metrically strong and the prosodic word is metrically weak<sup>5</sup>

b. **Extrinsic heading (default value):**

In a prosodic constituent (A B), the right-hand member is metrically strong

For German, intrinsic heading must be assumed to derive the correct assignment of main stress, as is illustrated in (42). (42) shows the prosodic phrasing combined with a metrical evaluation after the syntactic derivation is completed. The phrasing of the complementizer is left unspecified in (42). It will restructure with the adjacent DP in a later stage of the derivation, in phonology proper. In (42), the most deeply embedded phonological phrase is intrinsically headed, all other phrases are extrinsically headed according to their position in the tree.

## (42) a. weil der Hans der Maria das Buch gab

since John to-Mary the book gave

b. weil ( <sup>w</sup>(der Hans) <sup>s</sup>( ( <sup>w</sup>(der Maria) <sup>s</sup>( <sup>s</sup>(das Buch) <sup>w</sup> gab ) ) ) )

These are cases of subordination. If an adjunct and a verb are combined two constituents are created which are metrically symmetric, in the sense that there is no intrinsic head determinable. In this case, the default procedure applies assigning main stress to the right-hand prosodic constituent, that is, the verb in German, as is illustrated in (43). The asterisk in (43) indicates the accent tone assigned to each phonological phrase within the intonational phrase of the sentence. The accent tone on the verb is reinforced, since it is associated with the metrically most prominent element of the clause and thus counts as main stress of the sentence.

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<sup>5</sup>. Intrinsic heading is not an ad hoc device to account for stress assignment in German, but is independently needed as a general procedure to account for stress shift in the Germanic languages. Since there is good reason to assume that any focussed constituent can receive main stress in its surface position in German, a stress first based account has to assume that a focussed constituent (a constituent carrying a Focus feature) counts as inherently strong with respect to its prosodic sister.

- \*                    \*                    \*                    \*
- (43) [<sup>w</sup>(Hans) <sup>w</sup>(hat die Maria) <sup>w</sup>(in Wien) <sup>s</sup>(beSUcht)]  
 John has the Maria in Vienna visited

The recursive bracketing in (42b) needs to be flattened in phonology proper. This can be achieved by deleting all the outer boundaries but the last one and by restructuring of weakly marked elements with an adjacent phonological phrase, as is illustrated in (44a). The crucial question now becomes what disallows the prosodic phrasing in (44c).

- (44) a. (weil der Hans) (der Maria) (das Buch gab)  
 b. (weil der Hans) (der Maria) (das Buch) gab  
 c. \* (weil der Hans) (der Maria) (das Buch) (gab)

The bracketing of (44c) is derived, if all outer boundaries is are deleted, as is indicated in (44b), and the prosodic word comprising the verb is included in a phonological phrase, as demanded by the SLH. (45) displays the pertinent phrasings of (44a) and (44c) and their metrical values.

- \*                    \*                    \*
- (45) a. <sup>w</sup>(weil der Hans) <sup>w</sup>(der Maria) <sup>s</sup>(das Buch gab)
- \*                    \*                    \*                    \*
- b. <sup>w</sup>(weil der Hans) <sup>w</sup>(der Maria) <sup>s</sup>(das Buch) <sup>w</sup>(gab)

(45a) constitutes the correct accent pattern for a wide focus sentence. Note that in (45a), the metrical labels correctly determine that main stress falls on the last phonological phrase within the intonational phrase (iP), while in (45b), main stress falls on a constituent that does not occupy the right edge of the iP. Thus, the phrasing in (45b) can be ruled out, since it violates a natural requirement on the headedness of prosodic phrases, given in (46).

(46) Head Peripherality Principle (HPC):

Main stress must fall on the right most phonological phrase within iP

On the other hand, no problem arises in this respect in English, since in either case main stress falls on the metrically strong complement in clause final position. I thus conclude that subordination is not directionally limited, but independent factors, namely the

complex interaction between prosodic phrasing, metrical structure and stress assignment, require that the verb in clause final position always forms a prosodic constituent with an adjacent argument.

To conclude, prosodic domain formation can be thought to proceed in a bottom up fashion, in parallel with the syntactic derivation, starting with the lexical heads V, N, A and adverbs and joining arguments, adjuncts according to their phase status. In this stepwise process, guided by phases, prosodic conditions may apply to the current output of the syntactic computation, in the sense that spell-out options as well as pied-piping/stranding options can be fixed, as we have argued for in section 2.3 and section 3 above.

## **5. Conclusion**

In this paper, I have shown that the main word order differences between German and English can be explained by resorting only to prosodic properties. Directionality parameters and adjacency filters can be dispensed with, if prosodic conditions can apply to syntactic structures at various points in the derivation, as defined by a more fine-grained notion of phases. Most importantly, the HFF and the workings of the head complement parameter fall out in this approach as natural extensions of metrical properties of syllable structure onto syntactic structure.

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# Latin Restructuring Structures with Modal and Aspectual Verbs

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## 0. Introduction and aims

The Latin infinitival inflection shows an articulation in three tenses<sup>1</sup> (present, perfect and future) and in two diatheses (active and passive<sup>2</sup>), as in Table 1:

Table 1

<i>Active</i>	present	<i>laudare</i>
	perfect	<i>laudavisse</i>
	future	<i>laudatur-um (-am, -um; -os, -as, -a) esse</i>
<i>Passive</i>	present	<i>laudari</i>
	perfect	<i>laudat-um (-am, -um; -os, -as, -a) esse</i>
	future	<i>laudatum iri</i>

This morphological richness promotes a large use of the infinitive in the so called

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<sup>1</sup>. Following Reichenbach (1947: 287-298), “the tenses determine time with reference to the time point of the act speech”. In particular, he individuates three elements in order to give a complete analysis of the verbal tenses: the “point of speech”, the “point of the event” and the “point of reference”. An event, in fact, can be anterior, contemporary, and posterior with respect to the point of speech or to the point of reference. In this sense, a past tense can also be anterior, while a future tense, posterior.

<sup>2</sup>. Latin also has “deponent verbs” that have passive voice form but active voice meaning.

“infinitival structures”. Under this label it is possible to distinguish, at least, five different structures:

- (1) **Accusativus cum Infinitivo** (AcI): [*Dico* [<sub>CP</sub>  $\emptyset_C$  [<sub>IP</sub> *illum venire*]]] (I say that he comes);
- (2) **Raising structures**: [<sub>NP</sub> *flamma* [<sub>IP</sub> *videtur ardere*]] (The flame seems to burn);
- (3) **Control structures**: *Galli<sub>i</sub> intermiserant* [<sub>IP</sub> *PRO<sub>i</sub> obsides Caesari dare*] (The Welsh stopped giving hostages to Caesar);
- (4) **Simple infinitives**: *Ridiculum est* [<sub>IP</sub> *currere*] (Run it is ridiculous);
- (5) **Restructuring structures**: *Audeo* [<sub>IP</sub> *dicere hoc*] (I dare to say this)

This paper deals with restructuring structures (5) (henceforth RSs)<sup>3</sup>, parallel to recent studies<sup>4</sup> and suggests an analysis of the RSs with modal and aspectual verbs in archaic and classical Latin. In particular, I will extend Zennaro’s (2004) analysis of *possum*, *debeo*, *incipio*, *desino* and Costantini and Zennaro’s (2005) analysis of *verba voluntatis*, giving some examples to demonstrate that Latin modal and aspectual verbs enter RSs. Furthermore, I will discuss some of their properties in relation to Cinque’s (1999; 2004) theory on the hierarchy of functional projections. I will show that the syntactic behaviour of each of the modal and aspectual verbs depends on the kind of modality or aspectuality they express, that is, on the functional projection they occupy with respect to the others, and to the Past Tense in particular.

A corpus of authors from earliest times to the 2<sup>nd</sup> century A.D. was collected using the *B(ibliotheca) T(eubneriana) L(atina)*. During this period, Latin shows an interesting syntactic homogeneity.

The paper is organized in the following way: section 1 is devoted to a quick description of the framework which inspired the present approach to the syntax of the Latin RSs, while section 2-3 give a brief overview of the main properties of the Latin RSs with

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<sup>3</sup>. About the constructions in (1)-(4) cf. Oniga (2007).

<sup>4</sup>. Cf. Cecchetto and Oniga (2002), Zennaro (2004), Costantini and Zennaro (2005), Oniga (2007).

modal and aspectual verbs; finally, section 4 proposes a syntactic analysis of the RSs with modal and aspectual verbs.

### 1. The framework and the data

As argued by Rizzi (1976), Burzio (1986) and Cinque (2004), the term “restructuring” is used to refer to a syntactic structure in which an infinitive is contained within a monoclausal structure with the main verb of particular verb classes, namely, modal (i.e. *to want, can, to seem*), aspectual (i.e. *to finish, to stop, to continue*) and motion verbs (i.e. *to come*), as in the following Italian and English sentences:

- (6) a. Gianni [*vuole rientrare tardi la sera*]<sub>VP</sub>  
 b. John [*wants to come back late in the evening*]<sub>VP</sub>

Rizzi (1976, 1978) notes that modal, aspectual and motion verbs (unlike other verbs) show some particular properties and proposes three tests in order to identify RSs:

- Clitic climbing
- Auxiliary change
- Object raising in connection to the impersonal *si* (Long Object Preposing in Burzio 1986)

The following examples (respectively from Cinque (2004: 132) and from Vanelli and Salvi (2004: 231) illustrate this pattern:

- (7) *Clitic climbing*
- a. **Lo** volevo vedere **t** subito  
 b. Volevo veder**lo** subito  
 “I wanted to see him immediately”  
 c. \***Lo** preferisco vedere **t** in quello stato  
 d. Preferisco veder**lo** in quello stato  
 “I detest seeing him in that state”



(8) *Auxiliary change*

- a. Piero **è** voluto partire prima
- b. Piero **ha** voluto partire prima  
“Piero wanted to leave earlier”
- c. \*Piero **è** preferito partire prima
- d. Piero **ha** preferito partire prima  
“Piero preferred leave earlier”

(9) *Long Object Preposing*

- a. Si vorrebbero dare dei pasticcini a Maria
- b. Si vorrebbe dare dei pasticcini a Maria  
“One would like to give some cookies to Maria”
- c. \*Si preferiscono dare dei pasticcini a Maria
- d. Si preferisce dare dei pasticcini a Maria  
“One prefers to give some cookies to Maria”

The above examples demonstrate that in Italian, in the presence of a modal verb<sup>5</sup>, the three tests give grammatical results and this suggests that the main predicate and the embedded one can give rise to a monoclausal structure, in which the two predicates are part of the same clause. In (7a), (8a) and (9a), in fact, phenomena like clitic placement, auxiliary selection and use of the impersonal *si*, which are generally clause-bound, are able to span over two clauses in the presence of modal, aspectual and motion verbs (cf. footnote n.5). However, the grammaticality of the sentences in (7b), (8b) and (9b) suggests that these verbs allow two distinct possibilities: they can be either functional verbs - inserted in the head position of the corresponding functional projection - or lexical verbs<sup>6</sup>. On the other hand, a verb like *preferire* (7c-d)-(9c-d) in Italian does not

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<sup>5</sup>. Finding certain phenomena, such as Clitic Climbing (and other “trasparency effects” cf. Cinque: 2004), in complex predicates in which the main verb is not only a modal, but also an aspectual or a motion verb can account for considering them monoclausal structures. Cf. *lo volevo vedere subito* ‘(I) him wanted to see immediately’ (modal); *lo finisco di vedere domani* ‘(I) it finish to see tomorrow’ (aspectual) and *lo vengo a prendere domani* ‘(I) it come to fetch tomorrow’ (motion).

<sup>6</sup>. Cinque (2004) suggests that restructuring verbs are always functional. “This has the conceptual advantage that such verbs do not need to be marked in the lexicon as either lexical or functional” (pgg. 153-154).

show the same properties, so it constitutes a predicate regardless of the infinitive.

Cinque (2004) analyses RSs within his theory on the hierarchy of the functional projections, proposed in Cinque (1999), and claims that they are rigidly ordered in the following hierarchy:

### Cinque's (2004) hierarchy

MoodP<sub>speech act</sub> > MoodP<sub>evaluative</sub> > MoodP<sub>evidential</sub> > ModP<sub>epistemic</sub> > TP (Past) > TP (Future) > MoodP<sub>irrealis</sub> > Mod<sub>alethic necessity</sub> > AspP<sub>habitual</sub> > AspP<sub>repetitive(I)</sub> > TP (Anterior) > AspP<sub>terminative</sub> > AspP<sub>continuative</sub> > AspP<sub>retrospective</sub> > AspP<sub>proximative</sub> > AspP<sub>durative</sub> > AspP<sub>durative</sub> > AspeP<sub>generative/progressive</sub> > AspP<sub>prospective</sub> > ModP<sub>obligation</sub> > ModP<sub>permission/ability</sub><sup>7</sup> > AspP<sub>completive</sub> > VoiceP > AspP<sub>celerative(II)</sub> > AspP<sub>repetitive(II)</sub> > AspP<sub>frequentative(II)</sub>

In particular, Cinque (1999) suggests that the adverbs are generated in the specifier of each functional projection. This theory of adverbs is also useful to understand the restructuring phenomenon: Cinque (2004), in fact, proposes that the verbs which give rise to a monoclausal structure are generated in the head of a functional projection depending on their semantics. The fact of being generated in functional projections justifies their definition as “functional verbs”. In this perspective, a Latin modal verb like *queo* (*I can*) is merged in the head of the functional projection ModP<sub>permission/ability</sub>, while an aspectual verb like *soleo* (*I am used to*) is merged in the head of the functional projection in AspP<sub>habitual</sub>.

Concerning the Latin infinitival structures with modal and aspectual verbs, I consider the verbs included in Table 2:

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<sup>7</sup>. In Cinque (1999: 79-81) ModP<sub>obligation</sub> > ModP<sub>permission/ability</sub> are unified under the label of ModP<sub>root</sub>.

Table 2

Modal Verbs	
<i>Audeo</i>	I dare
<i>Debeo</i>	I must
<i>Exopto</i>	I desire
<i>Malo</i>	I prefer <sup>8</sup>
<i>Nequeo</i>	I cannot
<i>Nolo</i>	I do not want
<i>Possum</i>	I can
<i>Queo</i>	I am able to
<i>Volo</i>	I want
Aspectual Verbs <sup>9</sup>	
<i>Aggredior</i>	To be about to
<i>Cesso</i>	I stop
<i>Coepi/Incipio</i>	I start
<i>Conor</i>	I try
<i>Cunctor</i>	I wait
<i>Curo</i>	I make effort to
<i>Desino</i>	I leave out
<i>Festino</i>	I speed up
<i>Maturo</i>	I accelerate
<i>Persevero</i>	I continue
<i>Soleo</i>	I usually...

<sup>8</sup>. In Latin the verb *malo* “to prefer”, differently from English and Italian, enter RSs. This peculiarity demonstrates the great variability which can be found among languages from this point of view. It also suggests reexamination of aspectual verbs cross-linguistically, with a closer attention to differences among aspectual verbs in terms of their syntactic distributions and semantic properties, as argued in studies such as Newmeyer (1975), Lamiroy (1987), Rochette (1999), and Cinque (2003).

<sup>9</sup>. Although there are other verbs that show similar characteristics, we focus on these aspectual verbs because they are some of the most frequently attested in Latin and they represent basic aspectual specifications.

## 2. The Latin RSs with modal verbs

### 2.1 The Latin weak pronouns

According to Costantini and Zennaro (2005), the three tests (Clitic Climbing, Auxiliary Change and Long Object Preposition) proposed by Rizzi (1976, 1978) and Cinque (2004) are not applicable to Latin, since Latin misses clitic pronouns, auxiliary selection and *si* constructions. However Salvi (2004) shows that Latin has strong and weak pronouns, as put forward by Cardinaletti and Starke (1999). In particular, Salvi (2004: chap. IV and V) argues that, although there is only one pronominal morphological form in Latin, in some cases strong pronouns can be distinguished from weak ones on the basis of syntactic and pragmatic evidence. Strong pronouns can occupy any position in the sentence and can be substituted by nouns, unlike weak pronouns, which only have anaphoric reference and occupy the position after the first element of the sentence (“Wackernagel’s position”), independently of their syntactic function<sup>10</sup>. This is shown in the following example (from Salvi (2004: 126)), in which the pronoun *me* is placed in Wackernagel’s position:

(10) *Caninius noster me tuis verbis admonuit*

Our friend Caninius gave me your message.

(Cic., *epist.*, 9,6,1)

Salvi (2004) uses pronoun collocation in Wackernagel’s position as a test of monoclausality and, following this idea, Costantini and Zennaro (2005) demonstrate that the presence of a weak pronoun in the Wackernagel’s position involves the verb *possum*, and the *verba voluntatis*. In the following examples, they show that the first and second person pronouns occur in the second position after the first syntactic unit, namely in the matrix clause, even if they are arguments of the embedded verb:

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<sup>10</sup>. As Salvi (2004) notes, “gli elementi baritonici (enclitici) si collocano nella seconda posizione della frase, ma ci sono eccezioni. [...] Studi successivi hanno precisato il significato di *seconda posizione* come *dopo la prima parola o costituente di frase*. Nonostante questo sono rimasti vari punti poco chiari, come la definizione precisa del dominio di frase (*sentence* o *clause*), l’eventuale distinzione di più tipi di elementi enclitici, la definizione fonologica o sintattica della legge stessa” (pg. 133). For an overview on the Wackernagel’s law cf. Janse (1990, 1993; 1994); for the application of the law to Latin cf. Adams (1994a, 1994b).

- (11) *Quid mihi nunc invideri potest?*  
What can one envy me about, now? (Cic., *epist.*, 9,16,6)
- (12) *Huc te e balneo, prius quam accumberes, ducere volebat.*  
To this place he wanted to lead you from the bath, before you lay down.  
(Cic., *Deiot.*, 17)
- (13) *Si Carpinatius mihi tum respondere noluit, responde tu mihi nunc.*  
If Carpinatius would not answer me then, do you, answer me now.  
(Cic., *Verr.*, 2,190)  
(from Costantini and Zennaro 2005: 4-5)

In this sense, I will show that RSs can be found with all modal verbs, as can be seen in the following examples regarding *queo*, *nequeo*, *debeo* and *audeo*:

- (14) *Neque eam queo locare cuiquam*  
I cannot give her in marriage to anyone. (Varro., *ling.*, 5,2)
- (15) *Sed<sup>11</sup> ego hoc nequeo mirari satis*  
But I can't marvel enough at this. (Plaut., *Trin.*, 1132)
- (16) *Quae ipsi debeo huic libro libenter inserui*  
For him I gladly have to insert these things in this book. (Stat., *Silv.*, 2,21)
- (17) *Nondum id quidem audeo dicere*  
On that point I do not yet dare to speak (Cic., *fin.*, 4,1,1)

The above examples demonstrate that not only *possum*, *debeo* and the *verba voluntatis*

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<sup>11</sup>. As for the difficulties in precisely define the “second position of the sentence”, cf. Salvi (2004: 133 ff.). He also adds that “in latino la relazione tra l’elemento debole e il primo costituente del dominio sintattico è tutt’altro che stretta” (pg. 180). In this particular case, we can affirm that the presence of *sed* is not a problem for considering *hoc* in second position. Also in German, for example, in a sentence like *Aber John ist dann zu uns gekommen*, the presence of *aber* does not prevent for considering *ist* collocated in V2 position. I thank Marco Coniglio for the discussion on this example.

can enter RSs, but other modal verbs can do so too, constituting a homogeneous class from the syntactic point of view.

## 2.2. The (un)marked word order in the Latin clause

A second test proposed by Salvi (2004: 43) for RSs regards the position of the infinitive and the restructuring verb. Salvi (2004) affirms that the unmarked word order in Latin is that with the verb in the final position in the clause, as in the following example<sup>12</sup>:

(18) *Neque ego ad te his duobus mensibus scripseram*

And I have not written to you for the last two months. (Cic., *epist.*, 8,9,1)  
(from Salvi 2004: 43)

Salvi (2004: 47-48) also notes that in sentences with two predicates, namely finite verb plus infinitive, the former follows the latter, at least in the unmarked order:

(19) *Hoc tempore Catilinam, competitorem nostrum, defendere cogitamus*

At the present time I am thinking about defending my fellow candidate Catiline.  
(Cic., *Att.*, 1,2,1)  
(from Salvi 2004: 47)

However, Salvi (2004: 47) adds that the unmarked SOXV (S-O-infinitive-finite verb) order above can change into SOVX (S-O-finite verb-infinitive), if the verb (V) and the infinitive (X) form a unit:<sup>13</sup>

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<sup>12</sup>. This is also confirmed in Devine-Stephens (2006: chap. 2). Nevertheless, they specify that, even if Latin has “the verb in the default clause final position [...], however you don’t have to look for in a text of Cicero to find sentences in which the verb is not final. [...] There are good grounds for assuming that the verb has moved to a higher position in the clause” (pg. 146).

<sup>13</sup>. “Quando il verbo e la parola che lo precede formano un’unità relativamente stretta, l’ordine dei due elementi può essere invertito. Questo avviene nel caso delle costruzioni participio+ausiliare, gerundio+ausiliare, infinito+verbo e oggetto+verbo in una costruzione idiomatica” (Salvi: 2004: 47).

- (20) *Si haec mala fixa sunt, ego vero te quam primum, mea vita, cupio videre*  
 If these ills can never be removed, I assure you, my dears, that my desire is to see  
 you as soon as possible. (Cic., *epist.*, 14,4,1)  
 (from Salvi 2004: 48)

According to Salvi (2004), the verb position at the end of the clause, the infinitive-finite verb order with lexical verbs and the inversion of that order in the case of functional verbs constitute an important tendency which can be found in archaic and classical Latin. However, as noted in Devine-Stephens (2004: chap. 5), in addition to this, there is a wide range of options in the placement of the verb (or of the verbal group) and of the other elements of the sentence. Let us consider the following examples:

- (21) *Audeo dicere hoc*  
 I dare to say that. (Liv., 2,34,11)
- (22) *Is tamen hanc causam ab illa debet seiungere*  
 He ought none the less to make a distinction between that case and this.  
 (Cic., *Cluent.*, 96)
- (23) *Te ipsum mihi iam dudum exoptabam dari*  
 I've been hoping to run into you for a while. (Ter., *Heaut.*, 758)
- (24) *Proditorem nolo dicere, certe speculatorem habemus in sinu*  
 I do not want to say a traitor, but we have in our bosom at least a spy.  
 (Liv., 40,5,12)
- (25) *Mavult dicere voluptatem quam vacuitatem doloris*  
 He prefers to talk of the pleasure than of the absence of the pain. (Cic., *fin.*, 2,16)
- (26) *Quid istuc sit [...] nequeo noscere*  
 I cannot know that's the place you mention. (Plaut., *Asin.*, 36)
- (27) *Sed tamen hoc queo dicere*  
 But still I can say this much. (Cic., *Cato.*, 32)

Sentences from (21) to (27) confirm that in the case of a complex predicate, the infinitive generally follows the finite verb. As noted in Costantini and Zennaro (2005) for *debeo*, finding this property in predicates, especially those involving modal verbs, constitutes an important piece of evidence for the hypothesis that modal verbs form a single predicate with the infinitive. Nevertheless, the above examples show that, even if the verbal group is generally placed in the final position in the sentence (22), (23), (26), (27), this is not the only possibility. In (21) and in (25), for instance, the predicate precedes the object, while in (24) the verbal group *nolo dicere* is contained within a complex object (*proditorem nolo dicere, certe speculatorem*), which regularly precedes the main verb.

Although in archaic and classical Latin there is a great variability in word order, the sentences above show that it is possible to find some regularities and that the disposition of the elements in the sentences is changeable, but it is not unrestricted. In particular, the data show that, from a quantitative point of view, the unmarked order between a modal verb and the infinitive is that in which the former precedes the latter, even if the complex predicate can occur in different positions in the sentence, as shown in (21)-(27). This is confirmed on considering a larger number of occurrences. Taking into account the verbal structures with a modal verb plus an infinitive found in a corpus of Latin texts available in the BTL, the situation is the following in archaic and classical Latin<sup>14</sup>:

- (28) a. *Audeo dicere* 24 vs *dicere audeo* 3  
 b. *Debet seiungere* 1 vs *\*seiungere debet*  
 c. *Exoptabam dari* 1 vs *\*dari exoptabam*  
 d. *Nolo dicere* 4 vs *\*dicere nolo*  
 e. *Mavult dicere* 3 vs *\*dicere mavult*  
 f. *Nequeo noscere* 2 vs *\*noscere nequeo*  
 g. *Queo dicere* 5 vs *\*dicere queo*

From these data it is clear that, independently of the collocation of the verbal group in the sentence, in the presence of RSs, the only possible word order in many cases is that in which the infinitive follows the finite verb to which it is adjacent. The only three

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<sup>14</sup>. The data presented in (28) refer to the unmarked word order. As also shown in a large number of examples discussed here, it is frequent to find the inversion of the order for independent reasons, especially in poetic texts for stylistic motivations and in particular informational contexts.



cases of classical texts in which the (statistically irrelevant) infinitive-finite verb order is attested can be accounted for when considering their information structure:

(29) [<sub>TOP</sub> *Rem a nostris positam*] [<sub>FOC</sub> *nec dicere* [<sub>IP</sub> *audeo* [<sub>t<sub>TOP</sub></sub> [<sub>t<sub>FOC</sub></sub> ]]]], *quia infirma uidetur, nec praeterire*

I am afraid to mention a theory established by our (Stoic friends), because they seem to be weak. I am also afraid to be silent about them. (Sen., *nat.*, 4b,5,1)

(30) *Tum ille vere vertens annus appellari potest; in quo* [<sub>FOC</sub> *vix dicere* |[<sub>IP</sub> *audeo* [*quam multa hominum saecla teneantur* [<sub>t<sub>FOC</sub></sub>]]]

In that case the passage of the year can be explained. I hardly dare to say how many generations of men are contained within such a year. (Cic. *rep.* 6,23)

(31) *Id quod adversus hunc dicere audeo magis auderem adversus nutricem dicere*

What I dare to say against him I should dare all the more to say against the foster mother. (Quint., *decl.*, 338,24)

In (29) the infinitive *dicere* is a Focus: its emphasis is due to the fact that it is in contrast to the other complex predicate “*nec praeterire (audeo)*”, with which it shares the same main verb; in (30) the infinitive *dicere* expresses new information, so it is a Focus and regularly precedes the finite verb; finally, in (31) Quintilianus creates a particular stylistic effect using *dicere audeo* [...] *auderem* [...] *dicere* in the same sentence in a chiasmic construction.

### 3. The properties of the aspectual verbs

The two tests used to individuate a monclausal structure with modal verbs - namely weak pronoun dislocation in the Wackernagel’s position (§2.1) and inversion of SOinfV + restrV into SO restrV+inf.V order (§2.2) - also provide good results with aspectual verbs. This evidence confirms that aspectual verbs constitute another class of restructuring verbs. Let us consider the following three examples, which demonstrate the presence in Wackernagel’s position of weak pronouns as the object of the embedded verb:

- (32) *In vobis hoc maxime admirari soleo*  
I usually admire especially this in you (Cic., *Orat.*, 2,126)
- (33) *Priusquam illa<sup>15</sup> conor attingere quibus orationem ornari atque illuminari putem*  
Before attempting to deal with the qualities that seem to me to give ornament and  
brilliance to a discourse. (Cic., *de orat.*, 3,25)
- (34) *Ille mihi risum magis quam stomachum movere solet*  
He excites my laughter rather than my rage (Cic., *Att.* 6,3,7)

As in the above examples from (21) to (27), also in those from (32) to (34) it is possible to note a variability in the order of the elements in the sentence. In particular, there is evidence that pronoun collocation in Wackernagel's position is always found, while the verbal group can be placed in the final position in the sentence (32) or in the last position of the matrix clause, before the relative clause (33); finally the verbal group can also be attested in the unexpected order with the infinitive preceding the finite verb (32); (34). Nevertheless, the following examples illustrate that the unmarked order with the aspectual verbs is one in which the infinitive follows the finite verb (as for the modal verbs):

- (35) *Audi, antequam ego incipio secedere*  
Hear, before I start to live apart (Sen., *Epist.*, 17,4)
- (36) *Haec illi soleo praecipere*  
I am accustomed to give him advice. (Cic., *Planc.*, 59)

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<sup>15</sup>. The possibility for *ille, illa, illud* of being considered a weak pronoun is quite controversial. However, if so, such a weakening could have favored the rise of the article in Romance languages from the demonstrative *ille, illa, illud* (cf. Renzi: 1976; Giusti: 1998). Nevertheless, some evidence of this process can also be observed in classical Latin, in which nominal expression of the type N+*Ille*+Predicative Adjective are frequently attested. A Latin nominal expression such as *Chilo ille sapiens*, for instance, can be translated in Italian not only with a demonstrative *Chilone, quello sapiente* (*Chilon, the sapient one*), but also with a relative pronoun *Chilone che è sapiente* (*Chilon who is sapient*) or with an article *Chilone il sapiente* (*Chilon the sapient*). In this construction *ille, illa, illud* can be considered a morphologically rich determiner, which, together with the adjective, gives rise to an appositive DP (cf. Iovino: 2011).

- (37) *Non iis libentissime soleo respondere quos mihi videor facillime posse superare*  
 I do not find the greatest pleasure in refuting those persons whom, I think, I can easily defeat. (Cic., *Sull.*, 46)

- (38) *Effigem conor efficere*  
 I am endeavouring to draw an immortal picture. (Plin., *epist.*, 3,10,6)

In addition to this, even though, generally speaking, the corpus only contains a few examples in which the aspectual verbs *incipio*, *soleo* and *conor* occur with an infinitive, the only possible word order is that in which the infinitive follows the finite verb:

- (39) a. *Incipio secedere* 1 vs \**secedere incipio*  
 b. *Soleo praecipere* 1 vs \**praecipere soleo*  
 c. *Soleo respondere* 1 vs *respondere soleo* 1  
 d. *Conor efficere* 1 vs \**efficere conor*

The single case in which the unexpected word order between the infinitive and the aspectual verb is found can be explained in terms of information structure:

- (40) *Ego respondere soleo meis consiliis, periculis, laboribus patriam esse servatam, non tam sum existimandus de gestis rebus gloriari quam de obiectis confiteri*  
 I am in the habit of replying that it was by my forethought, at my risk, and through my exertions that my country was saved; it must be considered that I am not so much boasting of my own exploit, as stating facts in answer to charges. (Cic. *dom.*, 93)

It is quite clear, in fact, that in (40) *respondere soleo* is a contrastive Focus. Cicero creates, in fact, an opposition between two highly emphatic verbal groups by the preposing of the infinitive with respect to the finite aspectual verb and of *sum* with respect to the gerundive: “*ego respondere soleo [...] non tam sum existimandus*”<sup>16</sup>. The correspondences between the features of the modal and aspectual verbs confirm the hypothesis that together they belong to the class of restructuring verbs and constitute the class of the restructuring verbs.

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<sup>16</sup>. In the unmarked order the auxiliary generally follows the gerund, the gerundive, the participle and the infinitive. Cf Salvi (2004) and footnote n. 13.

#### 4. Syntactic analysis of the RSs with modal and aspectual verbs

In this section, I suggest a syntactic configuration for RSs based on Cinque's (1999; 2004) framework. I will show that the syntactic behaviour of each of the functional verbs depends on the functional projection it occupies with respect to that of the Past Tense.

##### 4.1. Syntactic analysis of RSs with modal verbs

Let us consider the following two examples, in which there is a modal verb (*queo*, *possum*) (*I can*) plus an infinitive:

(41) *Non queo durare*

I cannot tolerate it.

(Plaut., *Asin.*, 907)

(42) *Nec tecum possum vivere, nec sine te*

I cannot live with or without you.

(Mart., *epigr.*, 12,46)

From a semantic point of view, one notes that the two infinitives *durare* and *vivere* are two monoargumental verbs which should express a subject, but in these contexts the respective subjects are non-overt. At first glance one might think that the subject of the infinitive must be a PRO<sup>17</sup>; such an analysis, however, creates at least two problems. First of all, PRO needs a “controller” element which is absent in predicates with modal (and aspectual) verbs; these are, in fact, “light verbs” which do not project any argument structure, in the same way as auxiliary verbs do<sup>18</sup>. Furthermore, Cecchetto and Oniga (2002) demonstrate that, also in Latin, PRO is not compatible with a past infinitive:

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<sup>17</sup>. The Generative Grammar defines PRO the covert subject of an infinitive clause. Cecchetto and Oniga (2002: 153–155) observe the following properties of PRO: it is phonologically silent; it is in complementary distribution with other pronouns; it cannot be found in a position in which case is assigned (*He<sub>(NOM)</sub> invited John* vs. \**He invited PRO<sub>(ACC)</sub>*); it cannot have referents out of the linguistic context (unless it receives an arbitrary interpretation *He went* vs. *PRO to go is stupid*), but it must be bound by a controller.

<sup>18</sup>. Cf. Pollock (1989) and Cinque (2004: 142), who suggests that “the functional verbs [...] like auxiliaries should have no thematic roles to assign, and hence no arguments of their own”.

while in (43) and in (44) the subject is overtly realized so the infinitive can be present or future, in (45) no lexical subject is visible and PRO must be assumed. The presence of PRO forces the infinitive to be [-T]:

- (43) *Promittebas te os sublinere meo patri.*  
 (You) promised you would make fun of my father. (Plaut., *Merc.*, 621)
- (44) *Fac quod facturum te promisisti mihi.*  
 Do what you promised that you would do. (Plaut., *Poen.*, 421)
- (45) *(Ego)<sub>i</sub> promisi [PRO<sub>i</sub> ei dolium vini dare].*  
 I promised that I would give him a jar of wine. (Plaut., *Cist.*, 541)  
 (from Cecchetto and Oniga 2002: 167)

Nevertheless, modal verbs in Latin can occur with a past infinitive, as in examples (46)-(49). Also in these sentences, the order of the element shows variability: in (46) and in (48) the finite verb precedes the infinitive, but it is not adjacent to it and in (47) and in (49) the order between the finite verb and the infinitive is not the expected one:

- (46) *Nequeo nil commisisse nefandum*  
 I cannot now undo the wrong that I have done. (Ov., *Met.*, 9,626)
- (47) *Tametsi statim vicisse debeo*  
 Although I must have immediately won. (Cic., *S. Rosc.*, 73)
- (48) *Fortuna, sepulchrum/dicere Pompei, quo condi maluit illum/quam terra caruisse socer?*  
 Is it the will of Fortune to call this the grave of Pompeius, this grave which Caesar preferred for his son-in-law to no burial at all? (Lucan., 8,793-795)
- (49) *Non discere debemus ista, sed didicisse*<sup>19</sup>  
 We ought not to be learning such things; we should have done with learning  
 (Sen. *epist.* 88,2)

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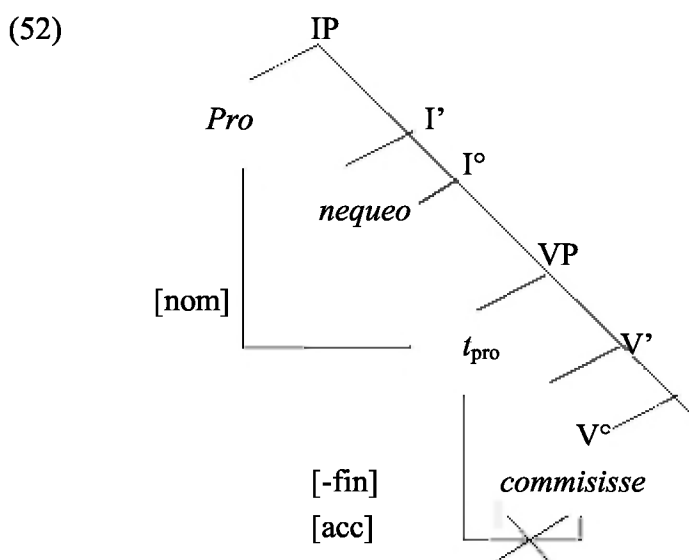
<sup>19</sup>. I thank Imre Szilágyi for this example.

The same compatibility of a modal verb with a past infinitive can also be found in Italian and in English:

(50) Io (non) posso/voglio/devo farlo  
I can(not)/(do not) want/must (not) do it.

(51) Io (non) posso/voglio/devo averlo fatto  
I can(not)/(do not) want/must (not) have done it.

According to Cecchetto and Oniga (2002), the presence in all these examples of a past infinitive confirms that PRO is excluded from predicates with modal verbs. This evidence suggests that, in order not to violate the Thematic Criterion, the argument realized as the subject of the modal verb must be the argument of the infinitive, namely of the one verb which projects its argument structure (given that the modals are light verbs). The subject cannot receive case in its merge position (SpecVP of the infinitive), so it moves to the SpecIP of the matrix clause, the only position in which a finite verb can assign nominative case to it. This is shown in (52), which is the structure of (46):



Although there is a large number of modals compatible with a past infinitive (*volo*, *nolo*, *malo*, *queo*, *nequeo*, *possum*, *debeo*), the corpus offers two modals, namely *exopto* and *audeo* respectively attested in sentences (23) and (17), which cannot occur with a past infinitive, but only with an infinitive in the present tense. The corresponding Italian and English data show the same distinctive feature:

- (53) *Io ti esorto a farlo* vs. \**Io ti esorto ad averlo fatto.*  
 I exhort you to do this vs. \*I exhort you to have done this.

- (54) *Io oso guardarti negli occhi* vs. \**Io oso averti guardato negli occhi.*  
 I dare to look in your eyes vs. \*I dare to have looked in your eyes.

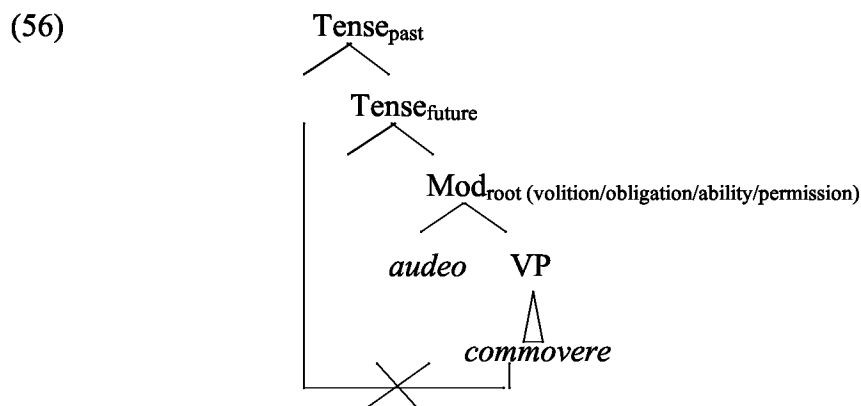
Semantic and syntactic motivation can explain this evidence: from a semantic point of view, “exhortation” and “daring”, unlike “possibility”, “impossibility”, “duty” and “preference”- are conceptually incompatible with the past. From a syntactic point of view, following Cinque (1999; 2004), I suggest that, in general, the problem of the compatibility or incompatibility of modals with a past infinitive is due to the existence of different classes of modal verbs, merged in different structural positions with respect to Tense merge position. As regards the above examples in which a modal occurs with a past infinitive, we note that they express different kinds of modal meanings. In particular, in the case of *nequeo commisisse* (46), the linguistic context favours an epistemic meaning, so the sentences in which it occurs could be explained by an expression such as: *I cannot have done such a thing, because generally it is not the kind of thing I would do.* On the other hand, as regards *vincisse debeo* (47), the linguistic context suggests that there is some evidence confirming the triumph to which Cicero refers. In his hierarchy, Cinque (1999; 2004) proposes that these two kinds of modalities correspond to specific functional projections merged in a structural position higher than Past Tense. This accounts for their compatibility with a past infinitive, as is shown in the following structure which illustrates the possibility for the infinitive to move in order to check Tense without any violation of the head movement constraint:

- (55)
- 
- ```

graph TD
    Mood_evidential --> debeo
    Mood_evidential --> Mod_epistemic
    Mod_epistemic --> nequeo
    Mod_epistemic --> Tense_past
    Tense_past --> vincisse
    Tense_past --> commisisse
    commisisse --> VP
    VP --> t
  
```

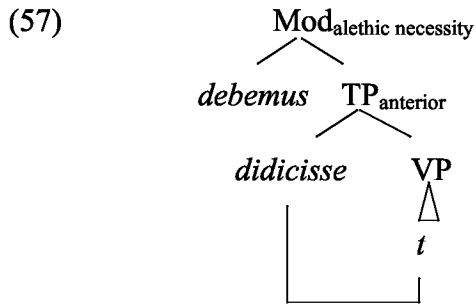
In contrast, the modals occurring with a present infinitive express neither evidential nor epistemic meaning: the examples found in the corpus which show modal verbs only

occurring with a present infinitive express, in fact, **volition** – *volo* (*ducere volebat* (12)), *nolo* (*respondere noluit* (13))), *exopto* (*exoptabam dari* (23)) -, **udition** – *debeo* (*debet seiungere* (22)) – **ability** *nequeo* (*nequeo noscere* (26) *nequeo mirari* (15)), **permission** – *queo* (*queo locare* (14)), *udio* (*udio dicere* (17)). Cinque (1999) includes these semantic values under the label of “root modality” and merges its functional projection below Tense. In this perspective, it is possible to explain the incompatibility of root modals with a past infinitive. In these cases, the infinitive cannot escape its position in order to check Tense without violating the locality constraints. In the following structure the infinitive *commovere* cannot check Tense without re-merging across the modal verb:



As regards root modals, the corpus offers an interesting example in which *debeo* occurs with the past infinitive *didicisse* (49); this, however, does not represent a counterexample. The linguistic context suggests, in fact, that such a sentence is highly emphatic. As a matter of fact, it is clear that what is involved is the contrast between Seneca’s declaration that we must not study now because we should have already *finished* studying. Such an observation suggests that the semantics of the modal verb is compatible with an idea of necessity, while that of the past infinitive is more aspectual than temporal. Thus, in this case, it is possible to merge the first in the functional projection  $\text{Mod}_{\text{alethic necessity}}$  and to move the latter to  $\text{TP}_{\text{anterior}}$ . This is displayed in the following structure which accounts for the possibility for the infinitive to move in order to check  $\text{TP}_{\text{anterior}}$ :





#### 4.2. Syntactic analysis of restructuring structure with aspectual verbs

With respect to aspectual verbs, the corpus shows that they are only compatible with a present infinitive. Let us consider the following examples:

- (58) *Non ego laudari curo*  
I am not interested in being praised. (Tib., 1,1,57)
- (59) *Ergo ego, ne scribam, digitos incidere cunctor?*  
Do I then hesitate to cut my fingers that I may not write? (Ov., *Pont.*, 4,14,19)
- (60) *Hostis vivos rapere soleo*  
I am used to capturing the enemies alive. (Plaut., *Pseud.*, 655)
- (61) *De rerum natura pangere conor*  
I am about to fashion touching the Nature of Things. (Lucr., 1,25)
- (62) *Iniuriam facere fortissime perseverat*  
[Dolabella] most manfully persevered in acting wrongfully. (Cic., *Quinct.*, 8)
- (63) *Maturat ab urbe proficisci*  
[Caesar] hastens to leave Rome. (Caes., *Gall.*, 1,7,1)
- (64) *Quem equidem cruci adfixum videre festino*  
A man whom I, from my part, am in haste to see nailed to a cross. (Curt., 6,3,14)

(65) *Orbis situm dicere aggredior*

I start to talk about the site of the city.

(Mela., 1,1)

(66) *De re publica dicere incipio*

I begin to speak on public affairs.

(Cic., *Phil.*, 1,11)

As for the intrinsic variability of word order in archaic and classical Latin data, the examples from (58) to (66) show that it is less predictable in the presence of an aspectual verb than in the presence of a modal verb. In the above cases, in fact, the infinitive precedes the finite verb and the verbal group is regularly placed in the final position in the sentence, except for (63) in both respects. Comparing the Latin with the Italian and English data, it can be noticed that, also in these languages, aspectual verbs always occur with a present infinitive, as shown in the sentences from (67) to (75), which are the translation of those from (58) to (66):

(67) a. ?Non mi interesso di essere stato lodato.

b. \*I am not interested in having been praised.

(68) a. \*Esito a essermi tagliato le dita per non scrivere.

b. \*I hesitate to have cut my fingers that I may not write.

(69) a. \*Sono abituato ad aver preso i nemici vivi

b. \*I am used to have captured the enemies alive.

(70) a. \*Mi accingo ad aver scritto sulla natura delle cose.

b. \*I am about to have written about the nature of things.

(71) a. \*Continua audacissimamente ad aver commesso un'ingiuria.

b. \*He perseveres in have acted wrongfully.

(72) a. \*Si sbriga ad aver lasciato Roma.

b. \* He hurries to have left Rome.

(73) a. \*Certamente io ho fretta di averlo visto appeso alla croce.

b. \*Of course I haste to have seen him nailed to a cross.

- (74) a. \*Esordisco con l'aver parlato del sito della città.  
 b. \*I start to have talked about the site of the city.
- (75) a. \*Inizio ad aver parlato della Repubblica.  
 b. \*I begin to have spoken on public affairs.

The absence of Latin, Italian and English sentences constituted by an aspectual verb occurring with a past infinitive can be explained by considering that an aspectual verb specifies an event taking place from an aspectual point of view, expressed by the infinitive. It implies that, in order to be aspectually specified, the event denoted by the infinitive cannot be accomplished, so it has to be realized in the present tense (namely in the imperfective stem). Such semantic intuition appears to find confirmation from Cinque's (1999; 2004) perspective. In his hierarchy, the aspectual verbs are merged in a functional projection lower than Tense. Like the root modals, the infinitive cannot escape its merge position to check tense.

## 5. Conclusions

In this paper I have put forward a syntactic analysis of infinitive structures with modal and aspectual verbs. First of all, following Rizzi (1976, 1978) and Cinque (2004), I provided further evidence in favour of the idea that such infinitive structures are instances of RSs. In addition, I explained the problem of the (in)compatibility of modal and aspectual verbs with a past infinitive in the light of Cinque's (1999) theory on functional projections.

The different merge position of modal and aspectual verbs can account for this (apparent) idiosyncrasy. In this sense, the  $\text{Mod}_{\text{epistemic}}$  and the  $\text{Mood}_{\text{evidential}}$ , being generated above Tense, can occur with a past infinitive, while the  $\text{Mod}_{\text{root(volition/obligation/ability)}}$  and all aspectual verbs, being generated below Tense, cannot. In order to check Tense, these would have to escape their position and re-merge across the head of the matrix verb, violating the head movement constraint.

A syntactic analysis of the RSs also sheds light on the problem of Latin word order, at least in the period taken into account in the present research. The data demonstrate that in the unmarked order the predicate is placed at the end of the clause; furthermore, in the presence of a complex predicate, the unmarked order is that of "finite verb-infinitive". These are both, in fact, statistically prevalent. These data allow us to

conclude that also in Latin, it is necessary to distinguish an unmarked word order which is predominant from a quantitative point of view.

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# **On the syntax of the Bulgarian adverbial clauses**

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## **0. Introduction\***

This paper has been largely inspired by Haegeman's work on adverbial clauses, more precisely, by the attempt to distinguish between two types of adverbial clauses – central adverbial clauses, also called event adverbial clauses and peripheral, or premise, clauses. It is an attempt to compare the behaviour of Bulgarian adverbial clauses with that of the adverbial clauses in English, mainly on empirical grounds. The data seem to suggest that, as far as the external syntax of adverbial clauses is concerned, Bulgarian data are consistent with the idea about the different merging positions of central and peripheral adverbial clauses. As to the internal syntax, the structure of the Bulgarian adverbial clauses seems to be quite different from that of the English adverbial clauses, both in terms of the position of the conjunction and in terms of the possibility to have Top and Foc in central adverbial clauses.

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## 1. Theoretical background

### 1.1. Haegeman's theory of adverbial clauses

Haegeman (2002) and subsequent work put forward the proposal that there exists a systematic distinction between two types of adverbial clauses. To the first type belong those clauses which modify the event of the matrix clause. The following example is taken from Haegeman (2002:117):

- (1) If it rains we will all get terribly wet and miserable.

In (1), the relation between the two clauses is defined by Haegeman as a “sequential relation” in which the event of raining causes the event in the main clause.

To the second type of adverbial clauses belong the clauses of which the author suggests that they structure the discourse, rather than the main clause event. Consider example (2), (Haegeman 2002:117).

- (2) If [as you say] it is going to rain this afternoon, why don't we just stay at home and watch a video?

Haegeman calls the clauses belonging to the first type “central adverbial clauses” and the ones belonging to the second type “peripheral adverbial clauses”. Applying various tests, the author highlights the existing internal and external syntax distinctions between the two types. She tries to account for the external syntax distinctions in terms of difference in the position of merge. While central adverbial clauses can be argued to be merged in a position internal to the matrix clause, peripheral clauses, as she suggests, appear above the entire CP of the matrix clause.

In Haegeman (2002), the author puts forward an account for the internal syntax differences, which, gets revised in her later work. In Haegeman (2002) it has been observed that peripheral adverbial clauses do and central adverbial clauses do not allow for argument fronting. This observation is tightly related to Emond's (1969) distinction between root and structure preserving transformations. The distribution of root transformations is further analyzed in Hooper and Thompson's (1973) work. It has been suggested that Topic and Focus (among others) are Root transformation, which cannot be present in all embedded contexts. Haegeman suggests therefore that central adverbial clauses create a context in which MCP are not allowed and therefore Topic and Focus



are excluded there. Furthermore, the author suggested that the impossibility to have argument preposing in central adverbial clauses is tightly related to the absence of an independent illocutionary force. She argues that, for the lack of an independent illocutionary force, central adverbial clauses have a truncated structure of the left periphery, in which the projections of Top and Foc are missing. Therefore argument preposing is not allowed in these contexts.

The more recent proposal (Haegeman 2010) tries to explain the differences between the two types of clauses in terms of the presence versus absence of an operator movement.

Timpli, Papadopoulou and Mylonaki (2010) suggest that neither of Haegeman's proposals can explain the data from Greek, which present a totally different picture.

In this work, I am going to present data from Bulgarian, which, similarly to the Greek data, cannot, at first sight, be accounted for by either of Haegeman's syntactic proposals. I suggest, however, that this does not contradict the basic observation – that the distinction between the two types of clauses is based on the allowed (in peripheral adverbial clauses) vs. disallowed (in central adverbial clauses) presence of MCP.

## **1.2. Haegeman's analysis and the adverbial clauses in Greek**

Analyzing Greek adverbial clauses, Timpli, Papadopoulou and Mylonaki (2010), observe that Greek data come in support of Haegeman's proposal about the way in which adverbial clauses differ in terms of their external syntax. They claim, however, that Haegeman's proposal about the structure of the left periphery of adverbial clauses cannot at all accommodate Greek data. Timpli et al. show that Greek data can be accommodated only if we propose two different positions for the conjunction – a higher one for the conjunction introducing peripheral adverbial clauses and a lower one for the connective introducing central adverbial clauses. The authors place the higher connective in Force and the lower in Fin. The different positions are motivated by the possibility of peripheral adverbial clauses to host CLLD and Foc both in front and after the connective. Central adverbial clauses, on the other hand, allow for Top and Foc to occur only to the left of the conjunction. As to the structure of the left periphery, Timpli et al. follow Roussou's proposal about the presence of a third C head above Force. In a footnote, Timpli et al. suggest that they assume a structure in which Top and Foc are available both below and above Force, i.e. both between Force and Fin and between Force and the highest C head. The proposed analysis agrees with Haegeman that Topic and Focus cannot occur in the structure of central adverbial clauses.

In the next section I will show that Bulgarian temporal and premise adverbial clauses, in particular the ones introduced by the conjunctions *kato*, *!tom* and *kogato*, which I will discuss in more detail in the following sections, illustrate the distinction between central and peripheral clauses. I will do this by applying some of Haegeman's tests.

## 2. Central adverbial clauses versus peripheral adverbial clauses

In Haegeman (2002) and subsequent work, the author offers various tests that illustrate the syntactic distinction between central and peripheral clauses. Some of them, when applied to Bulgarian, show that the temporal clauses belong to central clauses and the premise clauses can be classified as peripheral clauses.

### 2.1. Epistemic modality

As Haegeman reports, it has been noticed in the literature (Declerck and Reed 2001) that central clauses cannot express epistemic modality, while peripheral clauses can. Bulgarian data seem to be consistent with this proposal. Consider the following sentences.

- (3) \***Kogato** Maria *verojatno* dojde, !te i razka"em kakvo se slu#i.  
 when Maria probably comes will (we) her tell what happened
- (4) Ne moga da si po#ivam, **kogato** vsi#kite mi kolegi *verojatno* rabotjat denono!tno.  
 Neg can DA take a rest when all my colleagues probably work day and night  
 "I can't permit a rest if all my colleagues work probably day and night."

Haegeman interprets these facts as supporting the idea that central adverbial clauses are within the scope of the modal operators of the main clause and therefore cannot express their own epistemic modality.

## 2.2. Negation scope

Another test illustrating the different behaviour of central and peripheral clauses concerns the scope of negation. Central and not peripheral clauses can enter into the scope of the negation of the matrix clause.

- (5) Ivan niama da zamine za Milano, !tom tja !te pristiga.  
 Ivan NEG DA leave for Milan if she will arrive.  
 “Since she arrives, Ivan will not leave for Milan.”
- (6) Malinata njama da tr\$gne !tom ja razklati!, a !tom natisne! kop#eto.  
 Machine-the NEG DA start if it (you) shake but if (you) press bottom-the  
 “The machine will start working not if you shake it but if you press the bottom.”
- (7) \*Ivan niama da zamine za Milano !tom Maria !te pristiga, a !tom Ivan go izvika.  
 Ivan NEG DA leave for Milan since Maria will arrive but since Ivan him called  
*Intended reading:* Ivan will not leave for Milan because Maria will arrive but because Ivan called him.

In 0, we see a matrix clause containing negation and a premise clause. In 0, what we see is a matrix clause which contains negation and a temporal embedded clause, which is actually in the scope of that negation. In 0 we see that if the adverbial clause is a premise adverbial introduced by *!tom*, the possibility to put the *!tom* clause under the scope of the matrix negation no longer exists. Therefore, we can conclude that premise clauses belong to the peripheral type of clauses, which are not as embedded as the temporal/conditional ones.

## 3. The internal syntax of the Bulgarian adverbial clauses

In this section, I analyse the internal syntax of adverbial clauses with a focus on three conjunctions. I will suggest that, as far as central clauses are concerned, the conjunction could be placed not only in CP but also in IP. This proposal will be based on the behaviour of the conjunction *kato* “after”, “as soon as”, “since”, which, in central clauses, seem to occupy a very low position, i.e. a position inside the IP. In peripheral

adverbial clauses, on the other hand, it exhibits completely different syntactic properties which show that, in that case, it is found in CP. Other two conjunctions will be analyzed as well – *!tom* “as soon as”, “since” and *kogato* “when”. Both of these are found in CP in peripheral and in central clauses. I will suggest that in central clauses, *!tom* can also be found in IP, similarly to *kato*. While the presence of more than one position for the conjunction can be due to cross-linguistic variation, another fact requires an explanation, namely that, *!tom* and *kogato*, allow for Top (in the form of CLLD) and Foc to appear in a position lower than the connective in central clauses, something which is neither possible in English nor in Greek.

### 3.1. The conjunction *kato*

#### 3.1.1. Temporal meanings

From a morphological point of view, the initial letter “k” makes the conjunction *kato* similar to a *wh*- element. Still, we are going to argue that *kato*, in its temporal readings is not part of the CP layer.

As to its semantics, *kato* can have two distinct temporal meanings depending on the aspect of the verb in the adverbial clause.<sup>1</sup> If the verb is perfective, *kato* expresses the meaning “after” or “as soon as”, as illustrated in the following example.

- (8) Ivan **kato** zv\$onna, Maria otvori vratata.  
 Ivan **kato** rang Maria opened the door  
 “As Ivan rang the bell, Maria opened the door.”

If the verb of the embedded clause is imperfective *kato* has the temporal meaning of “while”, as in 0.

- (9) **Kato** otivah na u#ili!te sre!tnah Maria.  
**kato** wentIMPERF to school met Maria  
 “As I was going to school I saw Maria.”

What is peculiar about this conjunction is that very few elements can appear in the slot between it and the verb of the embedded clause. When one of the temporal meanings is

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<sup>1</sup>. Bulgarian, as a Slavic language, marks the aspect directly on the verb form.

expressed, there is a ban on the subject. The subject can either precede *kato* as in 0, or follow the verb as in 0, but can never appear between these two elements.

(10) **Kato** zv\$na Ivan, Maria otvori vratata.  
 kato rang Ivan Maria opened the door  
 “As Ivan rang the bell, Maria opened the door.”

(11) \***Kato** Ivan zv\$na, Maria zatvori vratata.  
 kato Ivan rang Maria opened the door

“Kato” can be followed neither by a CLLD-ed element nor by a focalized element, as shown by the following two examples.

(12) \***Kato** knjigata ja iznesoh ot bibliotekata, zabeljazah, #e e #isto nova.  
 kato the book it took out of the library noticed that is brand new

(13) \***Kato** KNIGATA iznesoh ot bibliotekata, zabeljazah, #e e mnogo kâsno.  
 kato the book took out of the library noticed that is very late

Notice, however, that Foc and Top can precede *kato*.

(14) Knigata **kato** ja iznesoh ot bibliotekata,  
 the book kato it took of from the library  
 zabeljazah, #e vsjaka edna ot stranitsite e sk\$šana.  
 noticed that each one of the pages is torn  
 “As I took the book out of the library, I noticed that each one of the pages was torn.”

(15) KNIGATA **kato** iznesoh ot bibliotekata, zabeljazah, #e e k\$šno.  
 The book kato took out of the library noticed that is late  
 “It is the book that I took out of the library when I noticed that it was late.”

The slot between *kato* and the verb can host all kinds of clitics. This is shown in 0.

- (16) **Kato** s\$*m* mu go podaval, ne!to e izpadnalo ot plika.  
 kato AUX him it passed something has fallen out of the envelope  
 “As I was passing it to him, something has fallen out of the envelope.”

Notice also that some very low adverbs, like *izcjalo* “completely” can fit in this position.

- (17) Kato *izcjalo* ja proceta, !te ti ja v\$*r*na.  
 kato completely it read will(I) you it give back  
 “When I read it all, I will give it back to you.”

Notice that the position between *kato* and the verb is not the only admissible position for the adverb *izcjalo*. Actually, its unmarked position is the post-verbal one.

- (18) Kato ja proceta *izcjalo*, !te ti ja v\$*r*na.  
 kato it read completely will(I) you it give back  
 “When I read it all, I will give it back to you.”

It is also allowed in front of *kato*, as in the following example.

- (19) *Izcjalo* kato ja proceta, !te ti ja v\$*r*na.  
 completely kato it read will you it give back  
 “When I read it all, I will give it back to you.”

It is important to notice that the positions of the adverb before *kato* and between *kato* and the verb are marked but do not need to be strongly focalized. Now notice that, if we add a subject and place the adverb in front of it, the example sounds acceptable only if the adverb is very strongly focalized. Indeed, it seems that we are dealing with a contrastive focus because, in case *izcjalo* precedes the subject, the example sounds best if we add *togava* “then” in the main clause, as shown below.

- (20) *Izcjalo* profesor\$*t* kato ja pro#ete, togava !te ti ja v\$*r*ne.  
 completely professor-the kato it read then will to you it give back  
 “The professor will give it back to you only when he reads the whole of it.”

I take the presence versus absence of a focalized reading as a significant piece of data distinguishing between two cases – the one in which the adverb precedes *kato* but is still inside the IP (since the adverb is not focalized) and the other, in which *kato* precedes the subject, in which case it is clearly found inside the left periphery, as suggested by the strong contrastive focus on the adverb.

Notice that the adverb *slu"ajno* “occasionally”, a presumably higher adverb, behaves in a different way. It can either precede or follow the subject (in this case occurring between the subject and *kato*). It does not need to be focalized in either of these cases. This adverb, however, can hardly occur between *kato* and the verb.

(Ivan has been very irritated these days, even when we go for a walk.)

(21) Slu#ajno njakoj kato go bl\$ne taka se iznervja, che zapo#va da vika.

Accidentally someone when him jostles so much gets nervous that starts crying

“As someone accidentally jostles against him, he gets so angry that he starts crying.”

(22) Njakoj slu#ajno kato go zagovori, !te izpolzvam momenta da si vidja SMSa.

someone accidentally when with him starts talking (I) will see my SMS

“When he accidentally starts a conversation with someone, I will see my SMS.”

(23) \* Njakoj kato slu#ajno go blasne, mnogo se iznervja.

someone when accidentally him jostles against very much gets nervous

Actually, to construct a test with an overt subject is not an easy task, since it is quite difficult to establish whether the subject DP is in the subject position or in a Topic position. Therefore I used the pronoun *njakoj* “someone” in a context in which no person is supposed or expected to be referred to (cf. Kawasaki 1993 e Landau 2000). The last test may be interpreted in support of the claim that only very low adverbs can appear in the slot between *kato* and the verb, which shows that *kato* is in a low position inside the IP.

Maybe the following test might also be a help to show that, in any case, *kato* is lower than the subject. The context of this example is the following: Maria is inside an apartment, the door is locked and she cannot go out. Her friend, who does not know about this, is desperately persuading her to go out, asking her when she will finally go out. It is possible to give the following sentence as a short response:

- (24) (Ami), njakoj kato mi otvori.  
 well someone kato to me opens  
 “When someone opens the door for me.”

It is also possible to place *njakoi* “someone” after the verb but not between *kato* and the verb.

- (25) (Ami), kato mi otvori njakoj.  
 Well kato to me opens someone  
 “When someone opens the door to me.”

- (26) \*(Ami), kato njakoj mi otvori.  
 well kato someone to me opens  
 “When someone opens the door to me.”

It is rather improbable that *njakoj* “someone” is in Top position in this example because there is absolutely no intended or implied person. Therefore this example might be interpreted as a further piece of evidence that *kato* is lower than the subject and is not in CP.

In sum, the data presented above, in particular the subject restriction and the distribution of the adverbs suggest that *kato* in temporal adverbial clauses is a very low conjunction, which seems to stay inside the IP, rather than in the CP.

### 3.1.2. The “premise” meaning of *kato*

The temporal meaning is not the only possible meaning of *kato*- clauses. The latter may also be interpreted as a “premise” to the event of the matrix clause. The relevant piece of data is the fact that, in their premise meaning, *kato*- clauses have an entirely different syntax. To begin with, no restriction is imposed on the subject, which can freely occur between *kato* and the verb.

- (27) Kato ti si mu go obel'tal, ti !te mu go nameri!.  
 Since you AUX him it promised you AUX.FUT him it find  
 “If you promised it to him, you must find it for him.”



Moreover, premise *kato*- clauses, unlike their temporal counterpart, allow for a Top to occur between the conjunction and the verb.

- (28) Ne razbiram zashto prodalzhavash da nastojavash kato knigata veche sa ja prodali.  
 Neg understand why continue (you) DA insist since the book already Aux it sold  
 “I don’t understand why you keep on insisting if the book has already been sold.”

This type of clauses allow also for the Foc to appear between the conjunction and the verb.

- (29) Ne razbiram za!to prod\$! "ava! da nastojava! kato NOVITE PRAVILA  
 Neg understand why continue (you) DA insist if the new rules  
 ve#e opredeljat koj da ostane na rabota i koj da si otide (a ne starite).  
 already determine who DA remain at work and who DA leave (and not the old ones)  
 “I don’t understand why you keep on insisting if the new rules are the ones that determine who will remain at work and who will leave.”

The examples illustrating the syntactic behaviour of premise *kato*- clauses seem to show that, on this interpretation, the conjunction is definitely part of the CP layer.

In the next section, I am going to present another conjunction – *!tom* “as soon as”, “since”. I am going to compare its syntactic behaviour to that of *kato*.

## 3.2. The conjunction *!tom*

### 3.2.1. Temporal meaning

Similarly to *kato*, this conjunction may have both a temporal and a premise interpretation. Its temporal meaning is “as soon as”. While *kato* can have two temporal interpretations, depending on the aspect of the verb, *!tom* can only have one. It is also dependent on the aspect of the verb in the embedded clause but in the sense that the temporal meaning is only available with perfective verbs. With imperfective verbs, *!tom* can only have a premise interpretation. This is shown in the examples below.

- (30) **!tom** prekra#ih praga na magazina, policajat me povika.  
 As soon as (I) crossed the threshold of the shop the policeman called me  
 “As soon as I crossed the threshold of the shop the policeman called me.”

- (31) **!tom** Maria spi zna#i Ivan e izljaz\$.  
 If Maria sleeps, it means Ivan has gone out  
 “If Maria is asleep, Ivan has gone out.”

There are several crucial differences distinguishing the syntactic behavior of *kato* from that of *!tom* in temporal adverbial clauses. First, *!tom* does not impose any restriction on the subject of the embedded clause. The latter can freely appear between the conjunction and the verb, as shown below.

- (32) **!tom** Maria izleze ot stajata, Ivan zatvori vratata.  
 As soon as Maria went out of the room, Ivan closed the door  
 “As soon as Maria went out of the room, Ivan closed the door.”

CLLDed noun phrases cannot follow *kato* but can follow *!tom*.

- (33) **!tom** vratata ja otvoriha, decata huknaha da izlizat.  
 As soon as the door it (they) opened the children rushed to go out  
 “As soon as they opened the door, the children rushed out.”

Neither can focused elements appear after *kato*. The latter can freely follow *!tom*.

- (34) **!tom** PLIKA vzeme trjabva da reagira!. (a ne ne!to drugo)  
 As soon as the envelope takes (you) must do something  
 “The moment she takes the envelope, you must do something.”

There is one similarity between the two elements and it lies in the fact that focused and left-dislocated elements can precede both of them.

- (35) Plika **"tom** go otvorihme, razbrahme, che ..  
 the envelope as soon as it (we) opened understood that...  
 “As to the envelope, the moment we opened it, we understood that...”

- (36) PLIKA 'tom otvorihme razbrahme, #e  
 the envelope as soon as (we) opened understood that...  
 “It is when we opened the envelope that I understood that..”

The above presented data suggest that, unlike *kato*, *!tom* is an element of CP layer. There is, however, more to it than this. I will suggest that a low position, like the one in which *kato* is found is available also for the conjunction *!tom* as well as for the conjunction *ako* “if” (a conjunction which I will not analyze in detail here). I will argue that these conjunctions can use both the high and the low positions. *Kato* is the odd element in that it is restricted only to the low position. The following examples show that *!tom* and *ako*’s behaviour with respect to the above discussed adverbs is very similar to that of *kato*.

- (37) *Izcjalo* !tom ja pro#eta, !te ti ja v\$rna.  
 completely as soon as it read will(I) you it give back  
 “When I read it all, I will give it back to you.”

Notice that the adverb *izcjalo* may not be focused. If we add a subject, however, this is no longer possible.

- (38) ?*Iztjalo* profesorat !tom ja pro#ete, togava !te ima! negovoto mnenie.  
 completely the professor as soon as it read then will (you) have his opinion  
 “Only when the professor reads it to the end, will you have his opinion.”

Apart from the fact that the sentence sounds odd, a Foc on the adverb is needed in order to interpret it. The following example shows the same behaviour about *ako*.

- (39) *Izcjalo* ako go pro#eta do pet\$ka, !te ti se obadja.  
 completely if it read (I) by Friday, will (I) call you  
 “If I finish reading it by Friday, I will call you.”

- (40) *Izcjalo* ako njakoj ti go pro#ete do pet\$ka, samo togava !te polu#i! rezultat.  
 completely if someone it read by Friday, only then will receive result  
 “Only if someone reads it completely by Friday, will you receive any feedback.”

Notice that the following sentence is also possible.

- (41) *Njakoj izcjalo ako go pro#ete, mo"e idejata ti da mu se haresa.*  
 someone completely if it read may idea your DA him appeal  
 "It may be that your idea appeals to someone who reads it to the end."

In this case *njakoj* does not refer to an individual which is implied or supposed to read the work. Therefore it is quite improbable that it is found in a Top position. In this case, again, the low adverb which precedes *ako* may not be focalized. The same sentence is not felicitous if the adverb is placed in front of the subject without being Focalized.

### 3.2.2. Premise meaning

In its premise meaning *!tom* can be followed either by a Top or a Foc, as illustrated below.

- (42) *%tom knjigata si ja pro#ela, zna#i poznavaj javlenieto.*  
 if the book it read (you) means know (you) the phenomenon  
 "If you have read the book, this means that you know this phenomenon."
- (43) *%tom PISMOTO e pro#ela, zna#i znae za slu#aja, (a ne ot bele"kata).*  
 Since THE LETTER has read means knows (she) about the case (and not from the notice)  
 "Since she has read the letter, she knows about the case."

Top and Foc can also precede premise *!tom*.

- (44) *Ne bele"kata, ami PLIKA !tom e vzela, zna#i znae ne!to.*  
 Neg the notice but the envelope if has taken means knows (she) something  
 "Since she has read the letter, she knows about the case."
- (45) *Plika !tom go e vzela, zna#i znae za slu#aja.*  
 the envelope if it has (she) taken means knows (she) about the case  
 "If she has taken the envelope, she knows about the case"

These data show that temporal and premise *!tom*- clauses do not differ significantly in terms of their internal syntax. In the next section I turn to the conjunction *kogato* “when”.

### 3.3. The conjunction *kogato*

#### 3.3.1. Temporal meaning

The conjunction *kogato* “when” differs from the other three conjunctions in that it cannot appear in a position inside the IP. Low adverbs can appear in front of *kogato* only if contrastively focused, if at all.

- (46) *Vnimatelno/Izcjalo* kogato go procheta togava shte ti go varna.  
 carefully/completely when it (I) read then (I) will give it back to you.  
 “As I read it to the end/carefully, I will give it back to you.”

Moreover, while it is possible to place *njakoj* “someone” as a subject of a clause which contains *kato* in an IP position, it is not possible to use *kogato* in the same way.

- (47) *Njakoi* kato/\*kogato te popita za hobito ti ti kakvo otgovariash?  
 someone kato/\*kogato you asks about hobby your you what respond  
 “When someone asks you about your hobby, what do you respond?”

As to the use of Top and Foc, I will simply mention that *kogato* behaves the same way as *!tom* – it allows both to Top and Foc either to precede it or to follow it. Therefore we conclude that this element can only occur as part of the CP layer and cannot have a low variant.

#### 3.3.2. The premise meaning

*Kogato* can also have a meaning different from the temporal meaning discussed above. In order to keep the same pattern, I will refer to it as a “premise” meaning, though this label may not be the most precise one. The following sentence is ambiguous.

- (48) Ne moga da si po#ivam, **kogato** vsi#ki moi kolegi rabotjat tolkova us\$rdno.  
cannot (I) DA take a rest when all my colleagues work so assiduously  
“I cannot permit myself a rest if all my colleagues work so assidueously.”

This sentence can have both a temporal reading and a premise reading. In its temporal reading, *kogato* refers to time, while in its premise meaning, the conjunction has the meaning “given that”, “since”.

In its premise meaning *kogato*, can be followed both by a Top and a Foc.

- (49) Ne moga da sam spoken kogato kole"kata mi ja uvolniha taka bez pri#ina.  
Cannot be DA be calm if colleague my her released from work without a reason  
“I can’t stay calm it they released my colleague without any reason.”

- (50) Ne moga da sam bezu#asna, kogato MOITE POD&INENI sa horata,  
Cannot be DA be indifferent if my dependents are the people  
koito trjabva da otgovarjat za !tetite a ne tvoite.  
who must DA take the responsibility for the damages and not yours  
“I can’t be indifferent if the people who have to take the responsibility for the damages are my dependents and not yours.”

Since premise clauses with *kogato* are rather rare, it is difficult to form sentences with a Foc or a Top preceding the conjunction.

The data illustrating the position of the three conjunctions inside the embedded clause as well as the positions of Top and Foc with respect to the conjunctions can be summarized as follows: In the temporal interpretation, conjunctions *!tom* and *kato*, as well as the conjunction *ako*, can be placed both in CP and in IP. *Kogato*, on the other hand does not seem to have an IP variant.

To account for these data, a possibility would be to accept Tsimplify et al’s approach in assuming Roussou’s (2000) model of the three C position structure of the left periphery. While this might be a solution considering the syntactic places of the conjunctions, and of Top and Foc, the problem concerning the presence itself of the Focus in central adverbial clauses remains unresolved. I tackle this problem in the next section.

#### 4. The position of Foc in central adverbial clauses in Bulgarian

As we have seen above, in Bulgarian central clauses introduced by *kogato* and *!tom*, Focus and CLLD can either precede or follow the conjunction. I will try to explain this piece of data by suggesting that neither CLLD nor Focus seem to be MCP in Bulgarian. If this is true the deviation from Haegeman's proposal about the internal structure of the adverbial clauses will be reduced to cross-linguistic variation. Thus Bulgarian data will not contradict the idea about the different distribution of MCP in adverbial clauses.

Hooper and Thompson (1973) notice that some verbs take complements that are asserted while others take complements that are presupposed. A very clear example of the latter type of verbs is the group of factive verbs – *regret, be sorry, be surprised, be strange, be interesting*, etc. Another claim that Hooper and Thompson make is that Root transformations can only occur in contexts which are asserted. Therefore, as we would expect that complements of factive verbs would never allow root transformations. This explains why, in English, we may never have focalization in a complement of a factive verb. As far as Bulgarian is concerned, however, this rule no longer holds. Consider the following example.

(51) Ne tolkova za knjigata, stranno e/u#udvam se, #e &ANTATA si e zabravit.

Not so much about the book, strange is/I am surprised that THE BAG has (he) forgotten

“It is not so surprising that he forgot his book but that he forgot his bag.”

Since we would not expect that the semantic characteristics of the Bulgarian correspondents of English factive verbs could differ in a way to allow for asserted complements, it would be more reasonable to propose that the focalization in Bulgarian does not have the status of a MCP. Notice that the same holds true for the CLLDed noun phrases.

(52) Stranno e/u#udvam se, #e knjigata sa mu ja otkradnali.

It is strange/I am surprised that the book (they) have to him it robbed of

“It is strange/I am surprised that they have robbed him of his book.”

This would explain why, in Bulgarian, focus and CLLD can freely occur in central adverbial clauses, while in English they cannot.

Now I would like to consider one more piece of data. The following examples show that tag questions can be formed only to peripheral and not to central (temporal) adverbial clauses.

(peripheral)

- (53) Ivan raboti varhu teorijata, dokato Maria podgotvja dannite, nali?  
 Ivan work on the theory while Maria prepare the data, doesn't she?  
 "Ivan works on the theory while Maria prepares the data, doesn't she?"

(temporal)

- (54) \*Ivan raboti varhu teorijata, dokato Maria podgotvja dannite, nali? (as a tag to the temporal clause)  
 Ivan works on the theory while Maria prepares the data, doesn't she?

The distribution of tag questions may be interpreted as a signal that the distinction between the two types of clauses has to do with the presence versus absence of illocutionary force, as suggested in Haegeman (2002).

## 5. Conclusion

This paper was an attempt to describe the structure of the Bulgarian adverbial clauses in the light of Haegeman's proposal about the distinction between central and peripheral adverbial clauses. We have seen that Bulgarian data comply with Haegeman's distinction between central and peripheral clauses in view of the external syntax of adverbial clauses. As to the internal syntax, we have seen that Bulgarian offers a very different picture both in comparison with the English data and in comparison with the Greek data. First of all we have seen that certain conjunctions introducing central adverbial clauses can appear both in CP and in IP. The data discussed in this work point to the conclusion that, when the conjunctions are found inside the CP layer, in Bulgarian, the distinction between central and peripheral clauses is syntactically not so obvious. It was tentatively suggested that the three C model of the left periphery, suggested by Roussou (2000), could be a way to solve the problem with the two Top and Foc positions occurring in the adverbial clauses. Finally, it was suggested that CLLD and Foc do not seem to behave as MCP in Bulgarian, given that they are allowed in presupposed contexts. With these considerations in mind we can conclude that,



though the internal structure of Bulgarian adverbial clauses seems to be quite different from that of English adverbial clauses, Bulgarian data do not seem to contradict the idea about the distribution of MCP.

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## Psych-verbs: A locative derivation

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### *Abstract*

This paper is concerned with Italian psychological verbs (henceforth psych-v) and their syntactic behaviour. After having briefly introduced the topic, I will consider the analysis given by Belletti and Rizzi (1988, henceforth B&R). In order to provide a new possible analysis of the Italian psych-v I have decided first to classify all of them following the B&R tripartition. After this, I further analyzed the psych-v of the *preoccupare* (worry) class (henceforth the *preoccupare* psych-v) in relation to nominalization, the present participle, the intransitive use, and finally the passive form. The data show that the B&R unaccusative analysis is no longer feasible, at least not entirely; that is, not all arguments of the psych-verbs are internal, only the experiencer, and all the three B&R subclasses have the same VP structure which resemble the one proposed by Larson (1988) for the double object (DO) verbs.

I will also show that the *preoccupare* psych-v class is far from being homogeneous, namely not all the *preoccupare* verbs behave in the same way with respect to the same diagnostics (nominalization, intransitive use, present participle, passivization and prepositional selection). In order to explain all these differences, a new VP analysis, a composed/split one, will be given too.

To sum up, the aim of this work is two-fold: first I want reanalyze the B&R tripartition in the light of new data and see how much of the B&R analysis is on the right track; secondly, give a new account of the Italian psych-v.

## 1. Introduction

Psych-v are special predicates. They describe something that is not visible, that is something that doesn't happen in the real/physical world but inside people's mind. Hence, psych-v describe **mental states**, the feelings or reactions of someone to something that happened in the real world. We will see later on that this characteristic is not a trivial one.

Hence, psych-v are mainly about inner feelings that an animate participant (the Experiencer, henceforth Exp) experiences in response to some kind of **external stimulus**, whatever it is. Another important fact worth remembering is that, contrary to the Exp constraint, namely that it must be animate, everything, even an inanimate object, can provoke some kind of emotion, intentionally or unintentionally; that's the reason why we can't actually refer to the other participant as the Agent but as the **Theme**. But that cannot be the whole story. Let's see why.

All linguists that have worked on the topic have noticed that psych-v have other special properties, for instance the possibility for the Exps to be lexicalized either as the subject or as the object of the sentence<sup>1</sup>. Following Pesetsky (1995), we can in fact divide psych-v into two subclasses: Subject-Experiencer psych-v (henceforth SubjExp) and Object-Experiencer psych-v (henceforth ObjExp). Unfortunately, this first subdivision is not complete. In fact, it does not take into consideration the different Case-marking possibilities within the ObjExp class, that is we have to tell ObjExp that assign ACC from the ones that assign DAT to their objects.

This paper is organized in the following way: the first section is devoted to a brief description of the psych-v and the main analyses given in the literature. In the second I try to look and analyse Italian psych-v from a different perspective, with respect to that given in B&R.

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1. See also Giorgi (1984) for an analysis of the role of the experiencer in the psych-verbs and its properties with respect to binding.

## FIRST PART

### 2. Psych verbs and !-Theory (B&R)

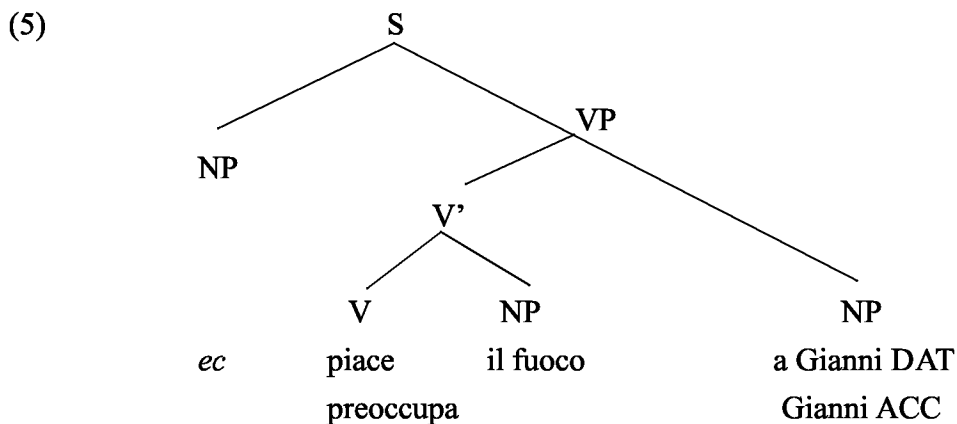
B&R by means of !-role and Case assignment tests divide psych-v in three subclasses, the *piacere* (appeal) (1), *preoccupare* (worry) (2), and *temere* (fear)(3) psych-v: *temere* psych-v subcategorise with NOM Exp and ACC object; *preoccupare* psych-v subcategorise with NOM Theme and ACC Exp, and *piacere* psych-v subcategorise with NOM Theme and DAT Exp. In Italian these two types of verbs have different word-order possibilities (1a), (2a), (3a) and select different AUXs with respect to compound past tenses (1b), (2b), (3b):

- (1) a. Gianni teme il suo capo.  
Gianni fears his boss  
b. Gianni ha sempre temuto il suo capo.  
Gianni has always feared his boss
- (2) a. Il rendimento scolastico di Luca preoccupa sempre tutti.  
The efficiency scholastic of Luca worries always everybody  
b. La tempesta di ieri sera ha preoccupato tutti.  
The storm of yesterday night HAS worried everybody
- (3) a. Ultimamente, non piace a nessuno investire in BOT/  
Lately (it) not like to nobody to invest in TB /  
A nessuno piace investire in BOT.  
To nobody like to invest in TB  
b. L'esperienza in Cina è proprio piaciuta a tutti.  
The experience in China IS really pleased to everybody.

Since in this paper I am concerned with Italian psych-v behaviour, a language in which the just mentioned difference in Case marking is remarkable, I think it is worth noting briefly the B&R analysis and the way the two subclasses of ObjExp are described.

Psych-v, in B&R, are seen as unaccusatives with two internal arguments (5); the subject (*il fuoco* in (4)) for B&R is not deep but derived, that is the result of an NP movement, from the internal argument position (Burzio, 1986).

- (4) a. Il fuoco preoccupa Gianni.  
 the fire worries Gianni
- b. \*(?A) Gianni preoccupa (tantissimo) il tuo comportamento  
 to Gianni worries (very much) your behaviour
- c. Il fuoco piace a Gianni.  
 the fire pleases to Gianni.
- d. A Gianni piace il fuoco.  
 to Gianni likes the fire



Both the *piacere* and *preoccupare* psych-v have, according to B&R, two internal arguments and a non thematic subject position to which both arguments can move to through an NP-movement. The structure in (4b) with the overt preposition *a*, though not completely grammatical, is marginal. Notice that the moved Exp needs to be preceded by the preposition *a* which resemble the same preposition used in Spanish in front of animate/specific objects (DOM<sup>2</sup>).

Concerning the unaccusative analysis of the *preoccupare* psych-v, B&R argue that the subject of (4a) has a cluster of properties typical of derived subjects: anaphoric

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2. Differential Object Marking (Bossong 1985, Aissen 2003): direct objects are divided in two different classes, depending on different meanings, and, in most DOM languages, only one of the classes receives a marker, the other being unmarked (as in Spanish). Consider the following examples:

(i) Pedro besó a Lucía.  
 Peter kissed to Lucy

(ii) Pedro besó el retrato.  
 Peter kissed the picture

(iii) Pedro vio (a) la gata.  
 Peter saw (to DEF) the cat FEM

cliticization (6); arbitrary pro (7); the causative construction (8); the passive (9).

A deep subject can bind a reflexive clitic (6a), whereas a derived subject cannot (6b). As in (6c/d), the *temere* and *preoccupare* psych-v contrast very systematically with respect to this diagnostic.

- (6) a. Gianni si è fotografato.  
Gianni himself photographed (B&R (7))
- b. \*Gianni si sembra simpatico.  
Gianni to himself seems nice (*ibid.* (8b))
- c. Gianni si teme.  
Gianni himself fears (*ibid.* (10a))
- d. \*Gianni si preoccupa.  
Gianni himself worries (*ibid.* (10b))

In Italian a *pro* subject grammatically specified as third person plural allows a kind of arbitrary (*arb*) interpretation in which the plural specification does not imply semantic plurality<sup>3</sup>. The relevant property of this phenomenon is that the *arb* interpretation is not possible with all verb classes and structures. The discriminating property seems to be that *arb* interpretation can be assigned to deep subject *pro*'s only. Hence it is incompatible with unaccusative structures (7b), passives and raising structures.

- (7) a. *pro* hanno telefonato a casa mia.  
somebody telephoned at my place (B&R (22a))
- b. \**pro* sono arrivati a casa mia.  
somebody arrived at my place (*ibid.* (23a))
- c. Evidentemente, in questo paese per anni *pro* hanno temuto il terremoto.  
evidently, in this country for years people feared the earthquake  
(*ibid.* (24a))
- d. \*Evidentemente, in questo paese per anni *pro* hanno preoccupato il terremoto.  
evidently, in this country for years people worried the earthquake  
(*ibid.* (24b))

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3. A sentence like “Ti stanno chiamando” (They are calling you) can mean both *They are calling you* and *Somebody is calling you*; on the latter interpretation, the structure could have “Deve essere Gianni” (It must be Gianni) as a possible continuation in a coherent discourse.

Burzio (1986) has shown that in Italian structures containing a derived subject cannot be embedded under the causative construction.

- (8) a. Questo lo ha fatto apprezzare ancora di più a Mario.  
 This made Mario estimate him even more (B&R (31a))  
 b. \*Questo lo ha fatto preoccupare ancora di più a Mario.  
 This made Mario worry him even more (B&R (31b))

It is well known that structure with non-thematic subject, like structures with ergative verbs for example, cannot undergo passivization; B&R claim that it is also true for psych-v and that the apparent passive structure of (9) is instead an instance of an adjectival passivization.

- (9) Gianni è disgustato dalla corruzione in questo paese.  
 Gianni is disgusted by the corruption of this country. (B&R (47a))

They add further support to their analysis, i.e. the contrast in (10)/(11) recalling Kyparsky (1973) *Blocking Principle*.<sup>4</sup> The contrast in (10)/(11) shows that *preoccupare* psych-v do not naturally allow regular participial forms and the fact that the correct form in (11) is unquestionably an irregular adjectival form leads them to say that (9) is not a verbal passive but an adjectival one.<sup>5</sup>

- (10) a. Le sue idee mi stufano.  
 His ideas tire me  
 b. \*Sono stufato dalle sue idee.  
 I am tired by his ideas (B&R (55))

- (11) Sono stufo delle sue idee.  
 I am tired of his ideas (*ibid.* (56))

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4. The existence of an irregular form blocks the formation of a regular form.

5. See also the paragraph *Passive (verbal passivization and by-phrase)*.

### 3. Italian problematic data

I illustrated in the previous part the data that B&R provide in support of the unaccusative analysis<sup>6</sup>; now in this section, I will introduce some new data in order to decide whether the unaccusative analysis can be maintained or not.

The linguistic tests that I have done show that the analysis that B&R proposed to account for the psych-v behaviour can no longer be maintained; though *problematic* for the unaccusative analysis given by B&R, this data gave me the possibility to start thinking about a new possible account for (Italian) psych-v<sup>7</sup>.

I follow Pesetsky (1995), and claim that the B&R unaccusative analysis, though no longer tenable, is not totally wrong; in fact, “*in Italian and in English there are indeed ObjExp that have both properties associated with unaccusativity, but only a proper subset of the ObjExp verbs fall into this pure category*”; leaving aside the *piacere* psych-v class (that can be considered real unaccusatives), there are some psych-v of the *preoccupare* class that do behave like unaccusatives.

Furthermore, If we put some verbs together into a unique class of verbs it should mean that all those verbs behave in the same way with respect to all the linguistic test we want to test them with. But as we will see this is not true for psych-v and in particular for the *preoccupare* class. I will show that not all the psych-v do behave exactly in the same way and this is true with respect to many points of view.

Although in the literature there are many psych-v's studies, I found no Italian psych-v lists, so, in order to start recollecting new data I had first to subdivide them following B&R (basically looking at the Case assignment). Doing so I have found that, at least in Italian, psych-v belong, for the most part, to the *preoccupare* class.

After having properly classified all of them, I started observing their behaviour with respect to: nominalization; present participle possibility, the *-nte*<sup>8</sup> form; passive (verbal passivization and the *by-phrase*); auxiliary selection; intransitive use<sup>9</sup>.

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6. Landau (2010) gives further examples in support of the B&R analysis; Pesetsky (1995), Arad (1988) and Taegoo (1998) discuss instead some counterexamples that invalidate the unaccusative analysis.

7. Nominalization, intransitive use, present participle, passivization and prepositional selection.

8. *-ante* (or *-ente*, depending on which class of infinitive the verb come from: *-are*, *-ere* or *-ire*) is the present-participial suffix that attaches to the verb root, like *parl-are* (to talk)/ *parl-ante*.

9. In this work we will take into consideration only the nominalization, passive, and intransitive use data only.



**Nominalization**

Saying that a verb that pertains to a specific class of verbs entails that whatever the decomposition or the number of pieces it is made from this verb has to behave in just the same as the others of the same class.

Psych-verbs do not nominalize all in the same way: in fact while both *sopportazione* (tolerance/patience) and *emozione* (emotion), which derive from *sopportare* (to tolerate) (12) and *emozionare* (13) (to move/to touch) (a *temere* and a *preoccupare* psych-v class, respectively) are possible, *piacimento*, a deverbal nominals derived from *piacere* (14) (to like) is not.

- (12) a. I genitori di Luigi sopportano tutte le sue marachelle.  
 The parents of Luigi tolerate every of his tricks  
 Luigi's parents tolerate every trick he does.'
- b. La sopportazione di tutti ha un limite.  
 the tolerance of everybody has a limit.  
 There's a limit to my tolerance/patience.
- (13) a. Questa partita ha emozionato tutti.  
 This match has touched (deeply) everybody.
- b. L'emozione per/di essere qui con voi è molto grande.  
 the emotion for be here with you (it) is very big  
 It's such an emotion being here with you guys.
- (14) a. Il gelato piace molto a Marco.  
 The ice-cream pleases a lot to Marco  
 Marco likes the Ice-cream a lot.
- b. \*Il piacimento di Marco per il gelato è onesto.  
 The likeness of Marco for the ice-cream is sincere.

Although it is not as the nominalization of the *temere* and *preoccupare* psych-v, *piacere* psych-v too has deverbal nominals but surprisingly they share the same PF form of the infinitive, that is *piacere* from *piacere*, *spiaccere* from *spiaccere* etc as in (15).

- (15) Il piacere di Marco per la lettura supera quello per lo sport.  
 The pleasure of Marco for the reading overcome the one for the sport  
 Marco's pleasure for reading overcomes the one for sports.

These nominalization differences, that seems to link together the *temere* and the *preoccupare* psych-v but separate them from the *piacere* psych-v, could be on a par with the fact that both *temere* and *preoccupare* psych-v select *avere* (to have) as their auxiliary while, *piacere* psych-v select *essere* (to be). But things aren't so neat; namely the *preoccupare* psych-v class, compared to *temere* one, is far from being homogeneous. In fact, many *preoccupare* psych-v do not even nominalize. As we can see in (16), some *preoccupare* psych-v nominalizations are simply ungrammatical, indeed for some reason they just don't exist. Given the theoretical homogeneity of the *preoccupare* psych-v proposed in B&R, (16b) can hardly be explained.

- (16) a. La sua recente scomparsa ha addolorato tutti noi.  
 his recent passing has sadden all of us  
 b. \*L'addoloramento/addolorazione dei suoi amici.  
 the sadness of his/her friends

On the contrary, both the *temere* and the *piacere* psych-v are homogeneous, at least in a higher degree than the *preoccupare* psych-v; in fact, only a few verbs of both classes do not nominalize, namely *compiangere* (to pity), *inorridire* (to horrify), *paventare* (to dread), *pazientare* (to have patience), *rinsavire* (to come to one's senses) and *sgradire* (not like) for the formes class and *garbare* (to like) for the latter one; we will see that, this ungrammaticality can be explained in much the same way as the one of *preoccupare*.

Tab.1

| PREOCCUPARE <i>class</i>                   | Nominalization |
|--------------------------------------------|----------------|
| addolorare (to sadden)                     |                |
| avvincere (to captivate)                   |                |
| impaurire (to frighten)                    |                |
| impensierire (to worry sb.)                |                |
| incuriosire (to intrigue sb.)              |                |
| indispettire (to vex)                      |                |
| ingelosire (to make sb. jealous)           |                |
| rinfrancare (to reassure)                  |                |
| sfagiolare ( to appeal to sb.)             |                |
| spazientire (to test sb.'s patience)       |                |
| spoetizzare<br>(to take magic out of sth.) |                |
| svelenare ()                               |                |
| terrificare (to terrify)                   |                |
| urtare (to irritate)                       |                |

Some of the *preoccupare* psych-v that do not nominalize.

With respect to all these differences, we can suppose that what probably causes them is the role that the subject of the verbal predicate hold. In fact psych-v do not assign an AGENT theta-role to their subject, but something different. Let's analyse the arguments' theta role in (17), recall that *confondere* is a *preoccupare* psych-v.

(17) *Tutte queste tue teorie* AGENT (?) *mi* EXP *hanno confuso profondamente.*  
 All these your theories me have confused deeply

Analysing semantically this sentence, we can fairly say that what *confuses* the Exp didn't really mean it, in fact it could be the case that the person that has claimed all *those theories* had no reasons *to confuse* anybody. So, he/she has just **caused** that kind of feeling. Therefore, it's plausible to claim that psych-v do not assign an AGENT theta-role to their subject but a CAUSER one instead.

Now, it is clear that the psych-state of the Experience does not come for free but it is forced by a third element, whatever it is. I tried then to analyse psych-v with respect to a causative denoting device: psych-v nominalization.

I have chosen to analyse them in terms of nominalization because if we nominalize a normal psychological verb what we get is something that entails a strong relationship between the nominalized feeling and an external CAUSE as (18)<sup>10</sup>.

- (18) a. Mario preoccupa sempre tanto i suoi genitori.  
Mario worries always very much his parents
- b. La preoccupazione dei genitori di Mario **per** i suoi voti è grandissima.  
The worry of the parents of Mario for his school mark is very big.
- c. Quel goal all'ultimo minuto ha deluso tutti, soprattutto Marco.  
That goal at the last minute have disappointed everyone, especially Marco
- d. La delusione di Marco **per** aver perso la finale all'ultimo minuto è stata molto forte.  
The disappointment of Marco to have lost the final at the very last minute has been very strong

(18b) clearly shows that Mario's parents worry is something they would not have if it weren't for Mario, for example his school marks. Therefore, even though this is not true for all type of nominalization, it seems that psych-nominalizations entails some kind of causation. In fact in (18d), it's clear that the feeling of disappointment of Marco is due to the fact that he has lost the match at the last minute.

### Passive (verbal passivization and *by-phrase*)

The issue of whether class II psych-v can have a verbal passive or not has long been discussed in the literature. There are basically two schools of thought: one holds that class II psych-verbs lack an external argument and therefore cannot form verbal passives (B&R; Grimshaw 1990; Landau 2010). The other holds that class II psych-v are normal transitive and hence they do form verbal passives (Pesetsky 1995; Pylkkänen 1999)<sup>11</sup>.

Verbal passivization with Italian psych-v has been discussed too in the pionic work

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10. Both *preoccupare* and *commuovere* pertain to the *preoccupare* psych-v class.

11. In the literature the psych-verbs classes are named differently from the one adopted in this work, but basically the verbs are subdivided starts alike: class I corresponds to the *piacere* class, class II and class III to the *preoccupare* and *piacere* class respectively.

on Italian psych-verbs of B&R. Starting from their unaccusative analysis, B&R claimed that the *preoccupare* psych-v cannot passivize and that what apparently seem to be a verbal passive is instead an adjectival one. They presented four arguments in favour of the adjectival status of psych-v passives: (i) differently from verbal passives, but similarly to adjectives, psych passives cannot bear clitic pronouns in reduced relatives; (ii) differently from verbal passives, psych passives are incompatible with the auxiliary *venire* (to come); (iii) some *preoccupare* class psych-v do not have regular participial form(19); (iv) some psych passives resist the regular *da*-phrase and occur only with special prepositions (20)<sup>12</sup>.

- (19) a. \*Sono stufato/ stancato/ entusiasmato dalle sue idee.  
 I am tired/ tired/ exited by his ideas (B&R (55))  
 b. Sono stufo/stanco/entusiasta delle sue idee.  
 I am tired/ tired/ exited of his ideas (*ibid.* (56))
- (20) a. Gianni è interessato a/\*da Maria.  
 Gianni is interested to/ by Maria (*ibid.* (i)a<sup>13</sup>)  
 b. Gianni è appassionato di/\*dalla poesia.  
 Gianni is fond of/ by poetry (*ibid* (i)a<sup>9</sup>)

Concerning the first two arguments, Pesetsky (1995) claimed that argument (i) rests on a problematic choice of clitics and that argument (ii) doesn't diagnose adjectivehood but stativity. Focusing on the other two arguments instead, we have to be aware of the fact that in Italian passives participles are ambiguous between a verbal and an adjectival form. But still this can't lead one to argue that all of the *preoccupare* class psych-v are unaccusative.

In fact, we can have some verbs of the *preoccupare* class that seem able to passivize perfectly (21); the special prepositions, considered the hallmark of adjectival passives, are excluded in contexts that force the choice of verbal passive (22):

- (21) a. Sono sempre più addolcita dalla tua personalità.  
 I am always more sweeten by your personality

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12. B&R interpret this as a consequence of the Blocking Principle: an irregular form blocks the regular one. In (10b) the irregular form is unambiguously adjectival; hence the blocked form must be adjectival too.

13. Examples taken from the footnote 13 page 311 of (B&R).

- b. Siamo sempre più costernati dalla sua arroganza.  
we are always more dismayed by his/her arrogance

- (22) a. Siamo stati tutti molto impressionati \*di/\*a/da/?per il gioco della tua squadra.  
we have been all of us very impressed of/ at/ by/ due to the play of your team
- b. Il governo americano è (fortemente) preoccupato \*di/\*a/da/per il forte riarmo iraniano.  
the american government is (highly) worried of/ at/ by/due to the impressive rearm iranian
- c. La concorrente è stata demoralizzata/umiliata \*di/\*a/da/\*per tutti  
the contentent has been demoralized /humiliated of/ at/by/ due to everybody

The contrast between (19)/(20) and (21)/(22) shows again that the *preoccupare* psych-v class is not homogeneous. I think that we have to take into consideration the fact that, at least, some psych-v are not unaccusative and therefore can passivize.

Even though we do have some examples of *preoccupare* psych-v passives (22), we should say that they seem to be different from those derived from normal transitives (23), semantically at least. Still, comparing (23) with (24),<sup>14</sup> as an Italian speaker I can say that, although both of them are real verbal-passives, there is a slight semantic difference between the two passive subjects; instead, (24) and (22), seem more alike, semantically.

- (23) La casa in campagna è stata costruita dallo zio di Michele.  
the house in the country has been built by the uncle of Michele

- (24) Il professore è temuto da tutti.  
the professor is feared by everybody

Semantically speaking, while the subject in (23) seems to undergo some kind of action or to be the result of some of action the same is not entirely true for (24) for two reasons: first, the *professore* is the one that somehow provokes the fear-feeling to *tutti* and, secondly, he might have provoke it without meaning it. Further, the argument introduced by *da* (by) in (24), in the active sentence, does nothing to the object. Note that *lo zio di Michele* and *tutti* seem to hold different thematic roles: Agent and

---

14. Recall that the psych-v of the *temere* class are considered alike transitives.

Experiencer<sup>15</sup>.

The arguments introduced in the *by*-phrase in (22a) and (24) seem to share some kind of non-intentionality.

This difference in meaning might be indicative of the different syntactic structure of the psych-v of both the *temere* and the *preoccupare* class with respect to the one of normal transitives verbs; again, the fact that not all psych-v of the *preoccupare* class can have the passive form can be a further prove of the *preoccupare* class internal structural differences.

### Intransitive use

If we consider *preoccupare* psych-v as unaccusatives (B&R), we won't be able to account for (20). While all the unaccusatives verbs can have structures like the ones in (21), this is not true for all *preoccupare* psych-v, (25b); still, there are some verbs of *preoccupare* psych-v that can be used intransitively, subcategorizing for a missing object, a *null object* (Rizzi 1986).

(25) a. La situazione di Luigi imbarazzerebbe chiunque.  
the situation of Luigi would embarrass anyone

b. ?\*La situazione di Luigi imbarazza.  
the situation of Luigi embarasses

(26) a. Marco è tornato a casa.  
Marco has came back home

b. Marco è tornato.  
Marco has came back

(27) a. Questo film ha annoiato tutti.  
this movie has bored everybody

b. Questo è uno di quei film che annoiano.  
this is one of those movies that bore

The example in (26) weaken the unaccusative hypothesis for the *preoccupare* psych-v

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15. Note that also *la casa* and *il professore* hold different thematic roles: Patient and Target/Subject Matter (Pesetsky 1995).

given by B&R, but the example in (27) tells us that there are some verbs of the *preoccupare* psych-v that behave like unaccusatives.

This incongruence is not necessarily something bad. In fact, it seems to be in line with the incongruence within the unaccusative verbs, (Tab. 2).

Tab.2

| UNACCUSATIVE <i>verbs</i>                 |                             | PREOCCUPARE <i>class</i>                |                                                 |
|-------------------------------------------|-----------------------------|-----------------------------------------|-------------------------------------------------|
| apparire<br>(to appear)                   | apparizione<br>(appearance) | innamorare<br>(to charm)                | innamoramento <sup>8</sup><br>(falling in love) |
| avanzare<br>(to move fwd)                 | avanzamento<br>(advance)    | invogliare<br>(to temp sb to do)        |                                                 |
| capitare<br>(to happen)                   |                             | opprimere<br>(to oppress)               | oppressione<br>(oppression)                     |
| evadere<br>(to break free <sup>16</sup> ) | evasione<br>(break out)     | persuadere<br>(to persuade)             | persuasione<br>(persuasion)                     |
| finire<br>(to finish)                     |                             | spazientire<br>(to test sb.'s patience) |                                                 |
| pervenire<br>(to receive)                 |                             | stufare<br>(to tire)                    |                                                 |
| rinascere<br>(to revive <sup>10</sup> )   | rinascita<br>(revival)      | turbare<br>(to disturb)                 | turbamento <sup>17</sup><br>(perturbation)      |

Infinitival form in the left column and nominalization on the right column.

Furthermore, all the verbs of the *preoccupare* psych-v that do not have the *-nte* form (Tab.3) can be used intransitively (28) and vice versa. Indeed those that do have the *-nte* form cannot be used intransitively (29a) but, with the *-ante* form, in a copular sentence (29b).<sup>18</sup>

16. *Evadere* can also mean *to escape*; *rinascere* can also be translated with the periphrasis *to come back to life*.

17. *Turbamento* like *innamoramento* describe something that is more an internal process than something due to an another person like in *persuasione*.

18. The suffix *-ante* is necessary to create the present participial form of the verb.



Tab.3

| PREOCCUPARE                                    |                                                    |                                |
|------------------------------------------------|----------------------------------------------------|--------------------------------|
| affascinare<br>(to fascinate)                  | affascinamento<br>(the act of fascinate)           | affascinante<br>(fascinating)  |
| amareggiare<br>(to embitter)                   | amareggiamento<br>(the act of embitter)            |                                |
| convincere<br>(to convince)                    | convincimento<br>(conviction)                      | convincente<br>(convincing)    |
| confondere<br>(to confuse)                     | confusione<br>(confusion)                          |                                |
| deludere<br>(to disappoint)                    | delusione<br>(disappointment)                      | deludente<br>(disappointing)   |
| deconcentrare<br>(to break sb's concentration) | deconcentrazione<br>( <i>opp of</i> concentration) |                                |
| imbarazzare<br>(to embarrass)                  | imbarazzo<br>(embarrassment)                       | imbarazzante<br>(embarrassing) |
| indignare<br>(to fill sb with indignation)     | indignazione<br>(indignation)                      |                                |
| scioccare<br>(to shock)                        | scioccaggine<br>(the act of shocking)              | scioccante<br>(shocking)       |
| turbare<br>(to disturb)                        | turbamento <sup>8</sup><br>(perturbation)          |                                |
| umiliare<br>(to humiliate)                     | umiliazione<br>(humiliation)                       | umiliante<br>(humiliating)     |

Another small sample of the psych-verbs of the *preoccupare* class; for each verb there are, from left to right: the infinitival, the nominalization, and the *-nte* form (these last two only if permitted).

- (28) Questo continuo ticchettio deconcentra tantissimo.  
 this continuous ticking breaks concentration a lot
- (29) a. La questione degli armamenti in Iraq sta allarmando \*(tutti).  
 the issue of the armaments in Iraq is alarming (everybody)
- b. La questione mediorientale è allarmante.  
 the issue (of) Middle-Eastern is frightening

So, while a verb that has the *-nte* form cannot be used intransitively, a verb without the *-ante* form can. This is another fact that needs to be accounted for, but the B&R analysis can hardly do so.

## SECOND PART

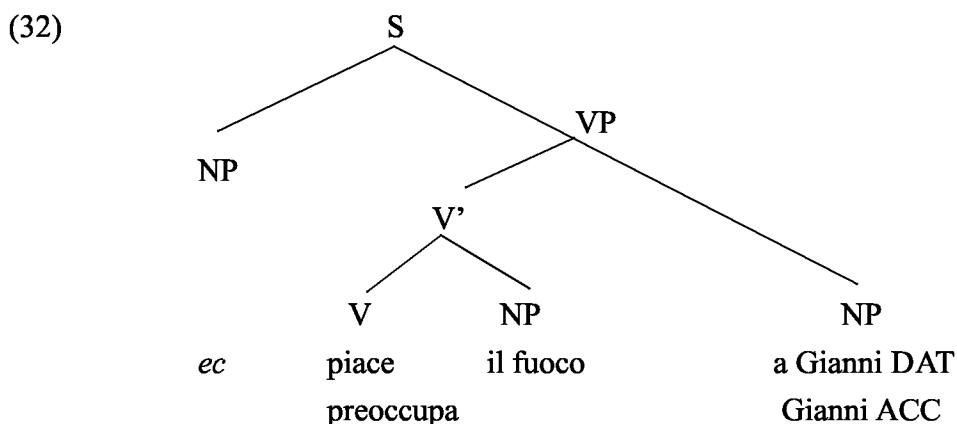
### 4. Psych VPs

In this section I will try to give an account that can explain the data illustrated above.

I will pursue the idea that (33), provided by B&R, cannot be the syntactic representation neither of (30) nor of (31).

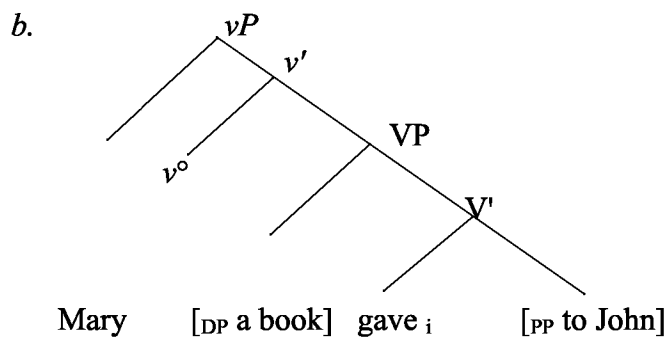
(30) Il fuoco                preoccupa Gianni.  
       the fire THEME worries     Gianni EXP.

(31) A Gianni            piace    il fuoco  
       to Gianni EXP    pleases   the fire THEME



I suggest instead, starting from the structure Larson (1988) propose, cf. (33b), for the DO verbs in sentence (33a), a structure in which the Theme and Exp occupy different positions with respect to V', namely internal and external with respect to V', and the VP splits into a more fine-grained structure. Taking (33b) as a template, the Theme would be in Spec, VP and the Exp would be the complement of V.

(33) a. Mary gave a book to John.



## 5. Split Psych-VPs Hypothesis

### 5.1. A finer VP structure: The three arguments.

Before going any further, it is important to stress that the structure I have in mind to account for psych-v's behaviour born from the idea that a bare VP structure is not enough to explain the psych-v complex semantics, I decided then to split the VP in more projections.

I will no longer describe psych-v in terms of VP but in terms of a derivation from a basic merge of a *state of mind* and the Theme, and after with Exp to the complete psych sentence. In other words, I consider a sentence like *Gianni preoccupa/impaurisce Maria* as the result of a derivation that starts from an operation of merge of the psych-state *preoccupazione/paura* with the emotion trigger, and the Exp Maria, much in the sense of Baker (2004):<sup>19</sup> [*Maria [preoccupazione Gianni]*], [*Maria [paura Gianni]*].

### Analytic vs Synthetic psych-v

In many languages, the *preoccupare* and the *piacere* psych-v can be either a single verb, like *to frighten*, but also formed out of a light verb with a noun or an adjective as its complement, like *to fall in love*, I will refer to the first type of as the *synthetic* forms and to other as the *analytic* forms.

---

19. Ordinary transitives are decomposed into (at least) three arguments: they have a representation like [x CAUSE[y BE [ADJECTIVE]]] (...) the lexical verb is the result of conflating CAUSE+BE+ADJECTIVE into a single X° by successive head movement (Baker (2004), 221).

There are languages in which this distinction is self-evident enough, as French,<sup>20</sup> for instance, and also languages in which this distinction is not so self-evident, like Italian for instance. In fact, there isn't any Italian analytic counterpart for the French *mettre en colère* but still the analytic form can be derived, like with *impaurire* in (34). Arad (1998) gives also some examples from Hebrew.<sup>21</sup>

- (34) a. Il professore *impaurisce* sempre i suoi alunni durante la lezione.  
 the professor scares always his pupils during the lesson  
 b. Il professore di matematica *mette* sempre *paura* ai suoi alunni, a prescindere.  
 the professor of Maths put always fear to his pupils irrespectively

Even though it's even less evident, the same is true for all the other psych-v that do not nominalize but do not start with *in-*, as *allarmare* (35).

- (35) a. Quelle sirene in lontananza *allarmarono* fortemente tutti i cittadini.  
 those sirens in distance alarmed heavily all the citizens  
 b. La sirena dei vigili del fuoco *mise in allarme* tutta la famiglia.  
 the siren of the fireman put in alarm all the family

I assume that the synthetic psych-v (like *impaurire*) and the analytic psych-v (like *mettre en colère*) share the same syntactic structure and what differentiate them is the morphological spell-out of their lexical items.

With the analytic vs synthetic dichotomy in mind, it seems that the non-nominalizing psych-v semantically entail some kind of metaphorical displacement (as in (36b)) of the Exp from one place to another while the other do not.<sup>22</sup>

The fact that among all *preoccupare* psych-v that do not nominalize only some of them can actually be decomposed into a form like *in+* either an adjective or a noun is nothing but a clear manifestation of the locative relation between the Exp and the psych-state, in other words although not so evidently, the Exp-psych state locative relation is derivable with those verbs too.

Hence there is no difference between the non-nominalization psych-v, as *addolorare*

---

20. Paul a mis Marie en colère. "Paul has put Mary in rage".

21. Hu hipil paxad/shiamum al ha kahal" that literally means "he dropped fright/bordo on the audience".

22. We will see that although they do not metaphorically describe the same displacement as the one of non-nominalizing psych-v, also psych-v that do nominalize semantically entails a metaphorical displacement.

and *impaurire* are, the only thing is that the locative relation with verbs like *impaurire* is more self-evident than the one with verbs like *addolorare*.

As in Baker (2004),<sup>23</sup> we can then semantically decompose this psych-v starting with *in-* like this: [x CAUSE[y BE [[ *in* psych-state]]]]. Hence, a psych-v like *impaurire* can be semantically decomposed as:

(36) [x CAUSE[y BE [[ *in* paura]]]].

The same semantic decomposition can be maintained also for those verbs that do not nominalise but that cannot be subdivided like *impaurire*, at least not immediately. *Addolorare*, for instance, can be semantically decomposed exactly in the same way as *impaurire* [x CAUSE[y BE [[ *nel*<sup>24</sup> dolore]]]].

If this reasoning is on the right track, it would mean that all the *preoccupare* psych-v that do nominalise cannot be semantically derived as those that do not nominalise.

Now, if we analyse the semantics of those psych-v that do not nominalize,<sup>25</sup> we will find that they are somehow different from the other psych-v that instead do nominalize.

Let's consider *exasperare* (to exasperate): it does nominalize, *exasperazione* (exasperation), but it cannot be decomposed like neither *impaurire* nor *addolorare*, in fact (37) is not possible and this seems to be in line with what just said, namely that the non-possible nominalization is probably due to the locative relation established between the Exp and the psych-state

(37) \*[x CAUSE[y BE [[ *in* esasperazione]]]]

Even if (37) is not possible as a semantic decomposition for *exasperare*, still it can be semantically decomposed as in (38) which can be translated as something like “there is *exasperazione* in y”.

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23. Ordinary transitives are decomposed into (at least) three arguments: they have a representation like [x CAUSE[y BE [ADJECTIVE]]] (...) the lexical verb is the result of conflating CAUSE+BE+ADJECTIVE into a single X° by successive head movement (Baker (2004), 221).

<sup>24</sup>. *nel* = *in* + *il* (the).

<sup>25</sup>. There are verbs, like *angosciare* (distress), *compiacere* (to gratify), *emozionare* (to move), and *impressionare* (to impress) that seem to have a derived nominal form, respectively *angoscia*, *compiacimento*, *emozione*, and *impressione*, just like *affascinare*, *desolare*, and *stimolare*, respectively *affascinamento*, *desolazione*, and *stimolazione*. Although both groups of verbs apparently nominalize, only the latter entail some kind of process.

(38) [x [BE [esasperazione [ in y]]]]

### Containers vs Contents

Simplifying we can say that generally verbal predicates have to be placed spatiotemporally, namely a place and time in which the “action” develops hence describing something that, normally, somehow meets the eye, a result of some kind of physical action, for example a normal transitive verbs like *to build* describes a situation in which something that didn't exist before is there, or at least will be there in the future. In (39) instead, *tutti* is neither the result nor the endpoint of any “action”; further there is no visible place in which the action of the *preoccupare* took place. Let's consider now sentence (39):

(39) Marco ha preoccupato tutti con le sue urla.  
 Marco has worried everyone with his yells

Leaving aside the temporal placement of these verbs, we can say that *preoccupare* describes something happening inside the *tutti* (Exp), precisely in their mind. (39) is more similar to a copular sentence like (40a) than to normal transitive sentence like (40b).

(40) a. La macchina di Giovanni è rossa  
 the car of Giovanni is red.  
 b. La pallotola ha ferito gravemente il soldato.  
 the bullet has injured badly the soldier

(40a) just describes one of Giovanni's car's characteristics, namely that it is red, in other words we have a description of a subject. The difference between (39) from (40a) is the location of the predication, the real/physical world in (40a), the inner one in (39). Hence, the psych-verbs predication is a *state of mind*.

Paraphrasing Landau (2010) basic intuition, repeated in (41), we can further say that psych-verbs describe the final place where the Exp/state of mind has been moved.

(41) Experiencers are mental locations, that is, locatives.

Arad (1998), talking about the SubjExp, argues that psych-verbs denote locative relationships. An rather important aspect in Arad (*ibid*) is the fact that “the experiencer is either conceived as the *stuff* contained in the mental state (42a) or the container in which the mental states resides (42b)”:

- (42) a. Nina **felt in love** (with Paul).  
 b. **There is in me** a great admiration for painters.

This subdivision that Arad postulated is present also in the Bouchard (1995) but in neither works it has been further pursued. We will see later that instead it will be a very useful.

Concerning (42a), there are two important things to notice: the infinitival verb is *to fall in love* explicitly indicate some kind of movement from one place to another and that there is no synthetic form for it. Spatial prepositions, like *in*, then play a special role; but still not all the psychological predications can be described as (42). In (43), *worries* entail a different kind of spatial relationship between the Exp (*his mother*) and the mental state (*worry*).

- (43) Mark worries his mother every day.

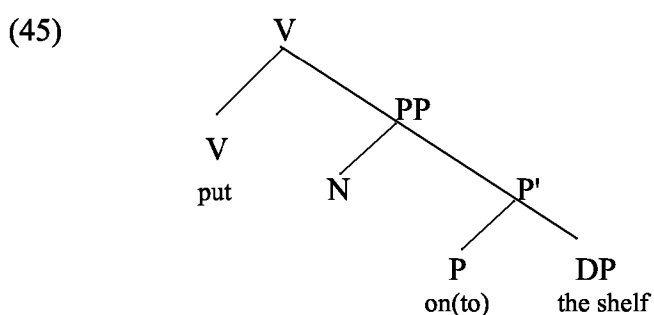
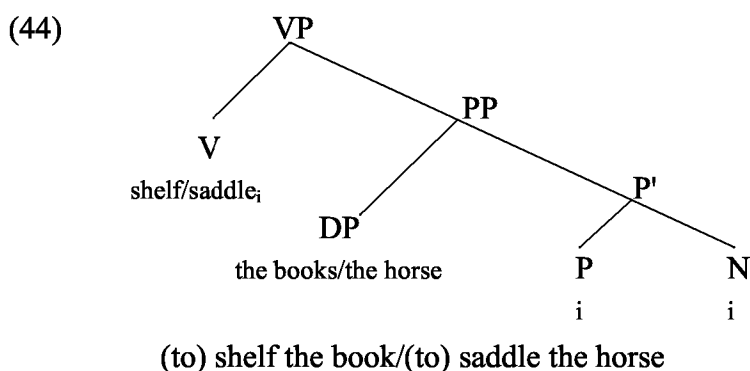
In order to account for this, I think that a slightly different dichotomy from the one proposed by Arad is needed. Before going any further though I have to briefly introduce another linguistic fact, i.e. the mechanism of conflation in English.

Hale & Keyer (2002) (henceforth H&K), argue that, at least in English, some verbs can be derived from a noun. In fact for them *shelf* and *to shelf* are not two different lexical entries but only one and the verbal one derives from the nominal one, as in (44). They also argue that the structure of those verbs is identical to the structure of their synthetic counterparts as in (45); the only difference is the presence of a light verb, *put*. For H&K the noun can be either the location where to move something or the object to has to be moved somewhere: location and locatum verbs (44/45).<sup>26;27</sup>

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26. Examples of location verbs are: bag, bank, bottle, cage, corral, garage, jail, pocket, pot, shelve, shoulder.

27. Examples of locatum verbs are: bandage, bell, bread, butter cloathe, hook, house, ink, oil, paper, seed, water, word.



In Italian though, this kind of derivation seems to be apparently unproductive,<sup>28</sup> i.e. it's not possible to derive a verb from the noun as in English. In fact, given *scaffale* (shelf), we can't have anything similar to (10), (46a). Instead a periphrastic form, (46b), is possible; notice that (46b) is similar to (45), the English counterpart of (44):

- (46) a. \*Luigi ha scaffalato tutti i libri che erano sul tuo tavolo.  
 Luigi has shelled all the books that were on your table  
 b. Luigi ha messo tutti i libri che erano sul tuo tavolo sullo scaffale.  
 Luigi has put all the books that were on your table on the shelf

Even though it seems that in Italian there are no synthetic predication like the one analysed by H&K, making therefore the location/locatum verbs dichotomy useless, we will see that the analysis just mentioned can be very useful to explain the psych-v behaviour.

At this point, to recap, the basic intuition that I will pursue is very simple:

28. Although not as productive as in English, in Italian too we have some examples of verbs obtained by means of incorporation: *cestinare* from *cestino* (bin) and *messaggiare* from *messaggio* (message).



- (47) Psychological predicates describes a locative relation between an experiencer and an emotion/state of mind driven somehow by a third element.

To the extent that this thesis is grammatically, and not just metaphorically true, two major consequences follow.

- (48) a. Experiencers can be either the content or destinations of mental states/effects.  
 b. Someone/something has to provoke the displacement of either the experience or the state of mind.

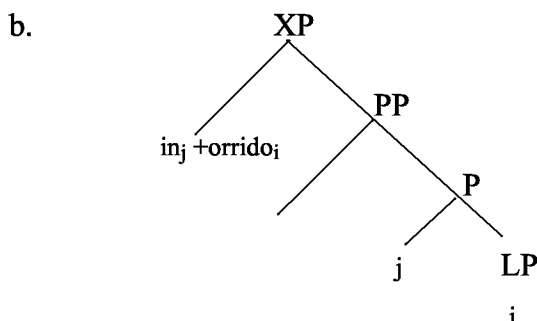
Let's analyse the sentences in (49).

- (49) a. Chiunque *inorridirebbe* davanti a fatti di simile gravità.  
 anyone would horrify in front of facts of such a seriousness  
 b. Questo zampirone ha un profumo gradevole per l'uomo ma *sgradito* agli  
 this mosquito coil has a perfume lovely for humans but unpleasant for  
 insetti.  
 insects  
 c. Il racconto di Luigi mi ha molto *addolorato*.  
 the story told by Luigi me has very grieved

The verbs used in (49) are all psych-verbs, of the *temere*, *piacere* and *preoccupare* class respectively; these three verbs are all composed of a preposition plus either a noun or an adjective like *inorridire* (horrify) is composed of *orrido* (horrid)+*in*; *addolorare* is composed of *dolore* (pain)+*a* or of a prefix plus noun: *sgradire* is composed of *gradire* (from *grado*, pleasure) (to please)+*s*.

Both *in* and *a* are locative prepositions and although it doesn't seem so the same is true for *s*, because it can be semantically translated with *fuori da* (out of). I will refer to all those verbs in which the composition P+Noun or Adjective, like the ones in (49), as to the **Container** psych-v. This composition is the result of a morphological derivation starting from as illustrated in (50b).

(50) a. ... $[_{XP}[_{PP}in[_{LP}Gianni\ orrido\ quella\ immagine]]]$

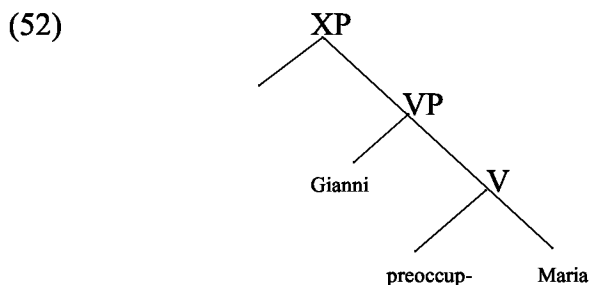


The basic intuition behind (50) is that these verbs do not enter in the derivation as they appear in (49) but, instead, as in (50a): a plain *state of mind* (no matter whether a noun or an adjective) that in order to become a verb needs to be incorporated with a preposition.

Opposite to *Container* psych-v we have the **Content** psych-v, as in (51), namely verbs in which the Exps is itself the container of the emotion.

- (51) a. Tutti i bambini *temono* il buio.  
 all kids fear the darkness
- b. I gelato *piace* a tutti.  
 the ice-cream likes to everybody
- c. Marco sta *preoccupando* tutti con le sue teorie.  
 Marco is worrying everybody with his theories

Verbs like the ones in (51) cannot be semantically decomposed as the ones in (49), therefore it is plausible to hypothesize that they don't share the same syntactic structure either. Hence, a structural derivation as the one proposed for the Container psych-v in (50) do not seems to be the correct one for Content psych-v. (52) seems to be the proper syntactic structure for these kind of psych-v



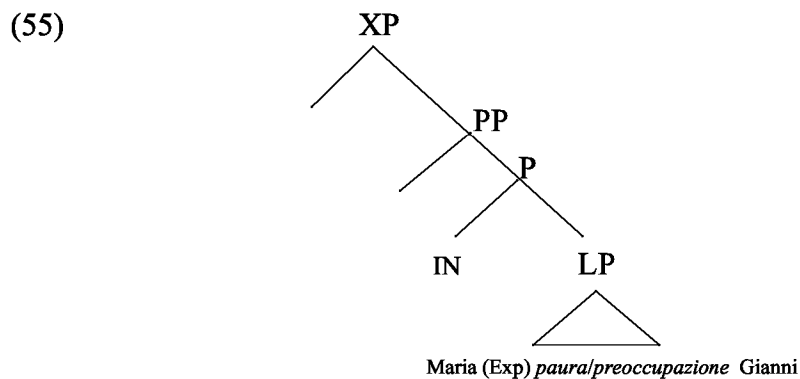
Even though both (50) and (52) seem the plausible syntactic structures for the *Containers* and the *Contents* psych-v respectively, the difference between these two structures might lead one to say that the *Containers* psych-verbs (50) one seems too *ad hoc* as an account and the classification in *Contents* might seem too forced as well.

Recall that psych-v deal with inner emotion and, similarly to copular sentences like (53), describe a locative relation.<sup>29</sup> One could argue that (54a) is somewhat equivalent to (54b).

(53) La macchina è in casa.  
the car is inside home

(54) a. Marco è preoccupato (per l'esame di domani).  
Marco is worried (for the exam of tomorrow)  
b. La preoccupazione (per l'esame di domani) è in Marco.  
the preoccupation (for the exam of tomorrow) is inside Marco

Although in (18a) the locative relation (*X is in Y*) is not visible (at PF), it is still there, say at LF (54b). The locative preposition therefore has to be present also in the syntactic structure of Content psych-v, though silent.



I claim then that both the *Container* and the *Content* psych-verbs share the same syntactic structure (55) and that what makes them different is the presence or not of the preposition by PF.

To sum up, we can say that psych-v can be decomposed into two subclasses as in (56):

<sup>29</sup>. Analytic vs Synthetic psych-v.

## (56) A. Content psych-v class

*Content psych-v describe situation in which an Exp metaphorically contains emotions/state of mind.*

## B. Container psych-v class

*Container psych-v describe situation in which emotions metaphorically contains Exp.*

**Psych-verbs decomposition**

In Baker (2003), “ordinary transitives are decomposed into (at least) three arguments: they have a representation like [x CAUSE[y BE [ADJECTIVE]]] (...) the lexical verb is the result of conflating CAUSE+BE+ADJECTIVE into a single X° by successive head movement” (221).

If Baker's intuition is on the right track, then the same can be true also for psych-v; in other words, we can decompose psych-v into (at least) three arguments and the final lexical verb is the result of conflating of those arguments into a single X° by successive head movements. We have already met one of those arguments in (55), namely P°.

Now recall what has been said previously concerning the stative nature of the psych-v (39): psych-v can be described as copular sentences in which psych-v describe the Exp's *state of mind*. (57) can be semantically translated as (58). Both (58a) and (58b) entail a description of Paola's *state of mind*, no matter the source or what causes it.

(57) Il film (di stasera) ha commosso Paola.  
the movie (of tonight) has touched Paola

(58) a. Paola è commossa a causa del film di stasera  
Paola is touched because of the movie of tonight  
b. Il film di stasera ha reso Paola commossa.  
the movie of tonight made Paola touched

Given the above subdivision of psych-v in two subclasses, *Container* and *Content* psych-v, we can further say that (57) can be semantically translated as in (59); indeed *commuovere* is a *Content* psych-v.<sup>30</sup>

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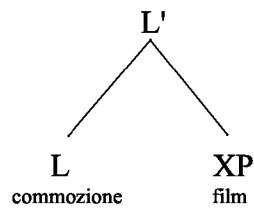
30. Recall that *Content* psych-verbs describe a situation in which the Exp contains the emotion contrary to the *Container* ones in

- (59) (C'è)        commozione in Paola    (a causa del film)  
 (There is) emotion        in Paola    (due to the movie)

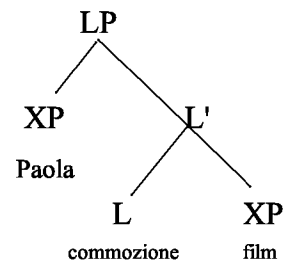
We have already seen the first part of (59) in (55) but we have not justified yet how to derive *commozione in Paola* from *in commozione*.

Let's suppose that we have a phrase, call XP for now, with a *state of mind* as a head (L) that selects an Exp as its complement, like *commozione* and *Paola* of (60a). L°, then projects, becoming LP (60b).<sup>31</sup>

(60) a.

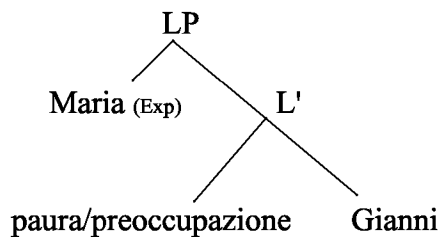


b.



In order to obtain the final psychological predication, the two basic elements of a psychological predication, the psych-state and the Exp, merge in a projection that I will call Lexical Phrase (LP), much in the sense of Alexiadou (2001),<sup>32</sup> in which the psych-state is the head and the Exp its specifier (61).

(61)



After these merge operation, in order to derive the final psychological predication, all these elements will have to move. Recall the basic intuition in (47) of the previous part, namely that Exp are in a locative relation with the psych-state and vice versa; now,

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which the Exp are contained/merged into an hypothetical emotional-box.

31. *Commozione* is not a proper lexeme but a concept, hence no category is assigned to it.

32. A category neutral-lexical projection (LP) headed by a stem, identical to that of the corresponding verb. The stem L° becomes a noun *or a verb* at the syntactic component, by head raising which makes event nominals necessarily cases of syntactic nominalization. (Alexiadou 2001, 73) (the part in *italics* is mine).

structurally this relation means that the LP is itself the complement of a PP (55).

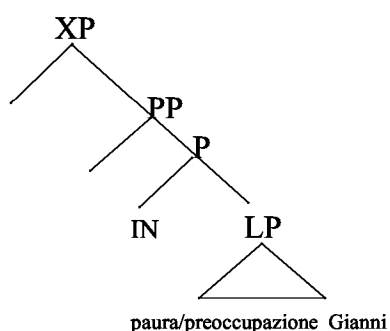
The movement of these three elements in LP though it might seem discretionary, at first glance at least, depends on two factors, namely: the fact that we are dealing with predication that concern people's (Object) feeling/reaction (Psych-state) about/to something done by a third element (Subject), which metaphorically means a displacement of the either the Exp in the psych-state or of the psych-state inside the Exp in order to derive a psych-v have to establish a locative relation; the need for all of them to be categorized.<sup>14</sup>

If the intuition that what psych-v basically describe is fundamentally a locative relation between an Exp and an emotion is on the right track, LP has then to merge with a locative preposition like *in* or *a*; from this position both arguments of LP moves out.

Before going any further, it is useful to remember that (semantically) the decomposition we adopted to explain the locative relation between the *state of mind* and the Exp is something that pertains to LF, that is to say it refers to a certain level of mental representation of the linguistic expression; the locative relation (indicated by the locative prepositions *in* or *a*) may or may not be assigned a phonetic representation at PF. Furthermore that LP is start of the derivation, therefore part of the split VP, but a conceptual stage.<sup>33</sup>

In (55), repeated here in (62), we have seen that after LP has merged with P, there is room for either of the arguments to move out of the LP though to different positions.

(62)



I wrote the locative preposition in capital letter, IN, to indicate that the locative derivation of psychological verbs might need either one of the possible locative preposition or a null phonetically null preposition in P<sup>0</sup>.

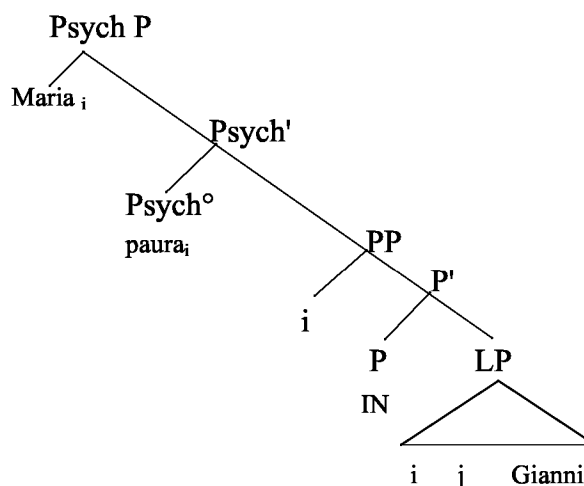
Since the necessity for either of the elements to move and the fact that we are dealing

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<sup>33</sup>. LP, as in Alexiadou (2001), deals not with proper/categorized lexeme but with concepts, therefore they are not proper head either.

with psychological predicates, it is plausible to hypothesize that the PP itself is a complement of another projection, say a psychological one (PsychP<sup>34</sup>). Psych, as shown in (63/64), is the psych-state attractor, in other words it represents the cornerstone of psychological derivation while PP is the Experiencer attractor.

(63)

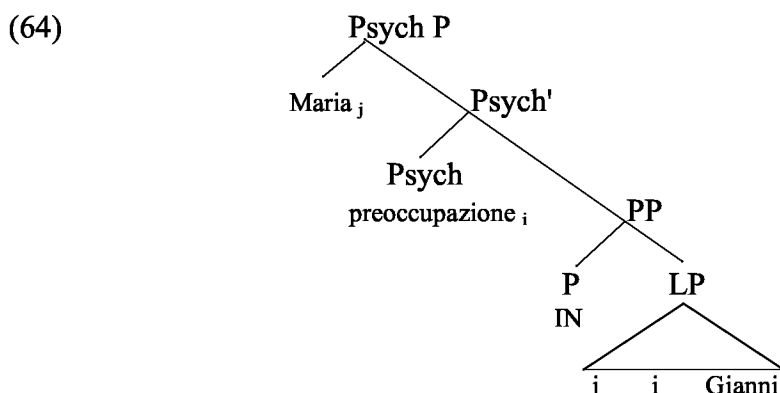


In (63) we can see that within container psych-v the first element that moves is the experiencer and this is due to the presence of the locative preposition IN which is syntactically active. Despite of the fact that it's syntactically active, it triggers the Experiencer up to Spec,PP, we will see that it will not always realized phonetically.

An example of a **content** psych-v is *preoccupare* (to worry) or *commuovere* (to touch sb.) that can be semantically decomposed as *mettere/dare/c'è preoccupazione/ commozione in X* (there is/to put/to give preoccupation/emotion in/to X).

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34. Psych-P attracts the psych-state in order to establish the psychological relation needed to derive a psych-v; therefore in Psych° there must be a feature that attracts the psych-state.



In (64) we can see how a content psych-v can be translated syntactically. With this kind of verb the preposition is neither syntactically nor phonetically active but only semantically, namely they indicate that a specific state of mind is inside the experiencer. The syntactically and phonetically non active preposition is in fact what differs this kind of verbs from the former ones.

The fact that among all *preoccupare* psych-v that do not nominalize only some of them can actually be decomposed into a form like *in+* either an adjective or a noun nothing but a clear manifestation of the locative relation between the Exp and the psych-state, in other words their locative relation is self-evident only with these verbs. Hence there is no difference in the non-nominalization possibility between *addolorare* and *impaurire*, the only thing is that the locative relation with verbs like *impaurire* is more self-evident. In (62-64), we can see that both the Exp and the psych-state move out of LP but not exactly in the same way. Concerning container psych-v, as in (63), first the Exp moves up to Spec,PP (triggered by the syntactically active P) and after that the psych-state move up to Psych°. With Content psych-v instead only the psych-state moves up to Psych°. <sup>35</sup> For both container and content psych-v, after the psych-state movement to Psych° follows the raising of the Exp to Spec,Psych P.

Given (63/64), we have still to explain how to derive *preoccupare* from *preoccupazione* and *impaurire* from *paura*. Remember that the psych-states that are represented already nominalized only for the sake of clarity and that therefore *preoccupazione* and *paura* are only representatives of the psych-state in question and they don't have any category at all, that's they have to move, to be categorised.

Following the Baker tripartition <sup>36</sup> and Alexiadou (2001), <sup>37</sup> I hypothesise that Psych-P is

<sup>35</sup> . See fn32.

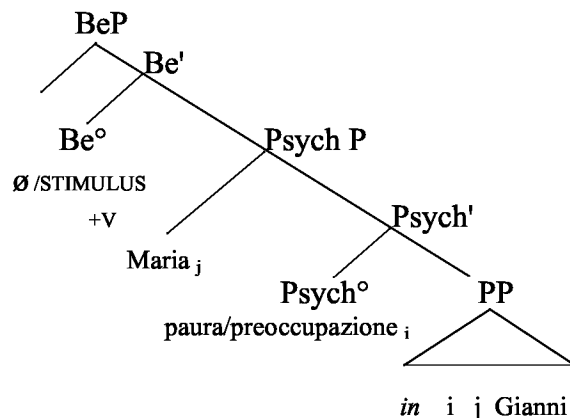
<sup>36</sup> See fn 9.

<sup>37</sup> I restrict myself in just saying that the HAVE construction in principle could be derived either via incorporation of P to BE or



itself the complement of another projection, say BeP, that, contrary to what it might seem, is just a functional projection: it is needed in order to categorise the psych-state, namely to turn it into a verb. Without BeP in fact we would not be able to justify the psycho-locative relation between the psych-state and Exp.

(65)



In (65) we see that in order to become a verb the psych-state moves up to Be° which can verbalize it. The fact that we can have either a zero-morpheme (STIM)<sup>38</sup> or nothing (Ø) depends on the verb we are dealing with, namely either a content psych-v (66), which assign a STIMULUS theta-role as their external argument, project its theta-role in Spec,BeP or container psych-v (67) that select a CAUSER instead of a STIMULUS do not.

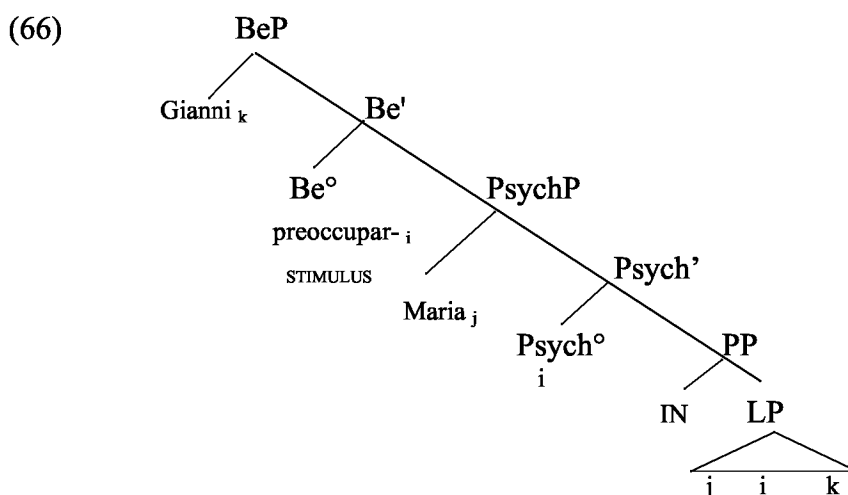
As we can see in (65), the CAUS does not occupy the same position as STIM but a different one, namely v°, as in (42).

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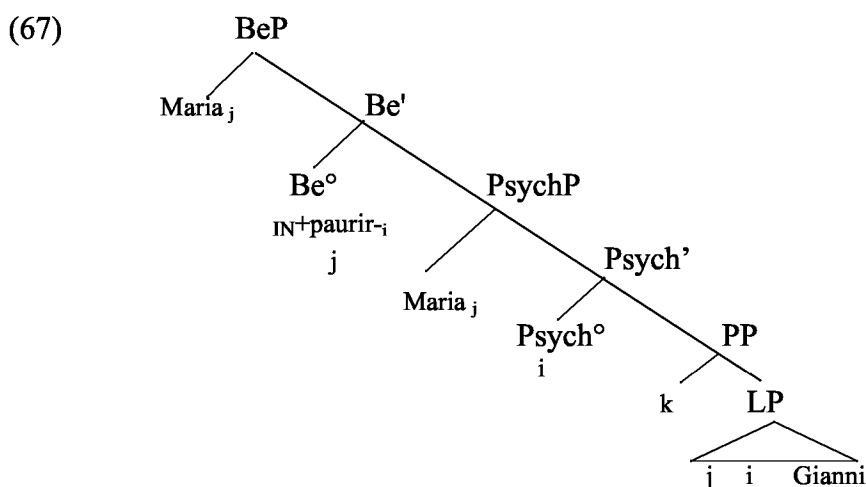
follow a derivation similar to the path followed in English and Greek. Note that Irish uses for the expression of statives and psychological states exactly the same structures used to express possession. The experiencer appears in a prepositional phrase in object position (see Noonan 1993):

- (i) a. ta gaeilge ag Fliodhais  
 be Irish at Fliodhais  
 'Fliodhais knows Irish'
- b. ta eagla roimh an bpuca ag Ailill  
 be fear before the Puca at Ailill  
 'Ailill fears the Puca (2001, 193)

<sup>38</sup>. STIM is zero-morpheme that assign the STIMULUS theta-role much in the same way as CAUS in (Pesetsky 1995).



In (41), we can see that despite the fact that also *paura* raises to **Be°**, to become a verb, it will not incorporate any zero-morpheme since, as we will see in (68), the CAUS morpheme is located higher than STIM.



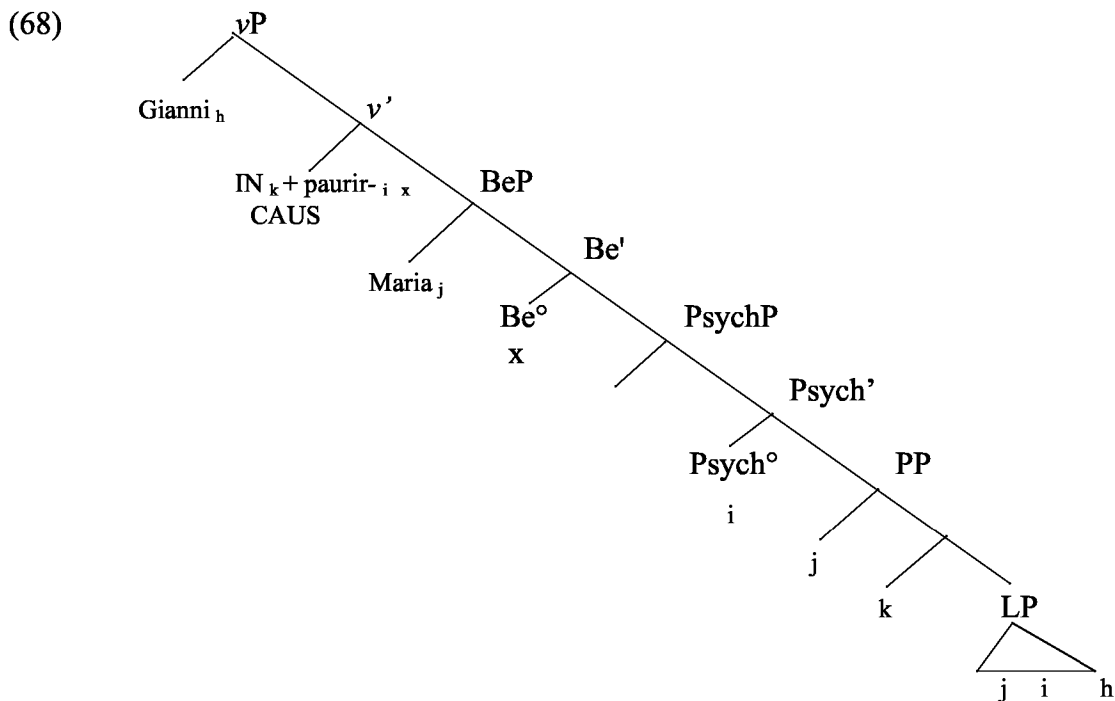
Now the only element in (67) that is still *in situ* is the element that *causes* the feeling to the Exp, namely the *causer*.

Recall that it still needs to be categorized and that Spec,BeP is occupied by the Exp. In the container psych-v syntactic derivation, the verbalized psych-state raises up to  $v^\circ$  and incorporate CAUS and further projects an external argument, Spec, $v$ P to which assign a CAUSER theta-role.

In (67), we can see that after the raising of the verbalized psych-state the *causer* raises up to Spec, $v$ P to be assigned the CAUSER theta-role. Again, this late movement is triggered by CAUS, just like STIM triggers *Gianni* in (65).

For now, let's notice that this difference between (65 and 66), can be compared with the

nominalization problem, that is the presence or not of a causative meaning due to *CAUS* which is a zero-morpheme, much in the sense the *CAUS* in Pesetsky (1995)<sup>39</sup>. It forces the *Exp* to move to *Spec,PP* before the psych-state raises to *Psych°* and merges with it. Let's consider now the incorporation of *IN* to verbalized form in *Be°* and recall that *IN* will not always be realized phonetically by *PF*, most of these psych-v will delete that *in* by *PF* (*allarmare* vs *impaurire*). The fact that *IN* incorporates, and sometime is also self-evident, only with container psych-v, namely only causative psych-v it is not something new in the literature. Citing Pesetsky, “the general idea of causative prepositional affix is not original here, it has been first developed by Walinska de Hackbeil (1986) for the causative *en-* in *enlarge*, *embitter*, *endear*“ ( Pesetsky 1995, 196).



## 5.2. A finer structure for psych VPs: A derivational history

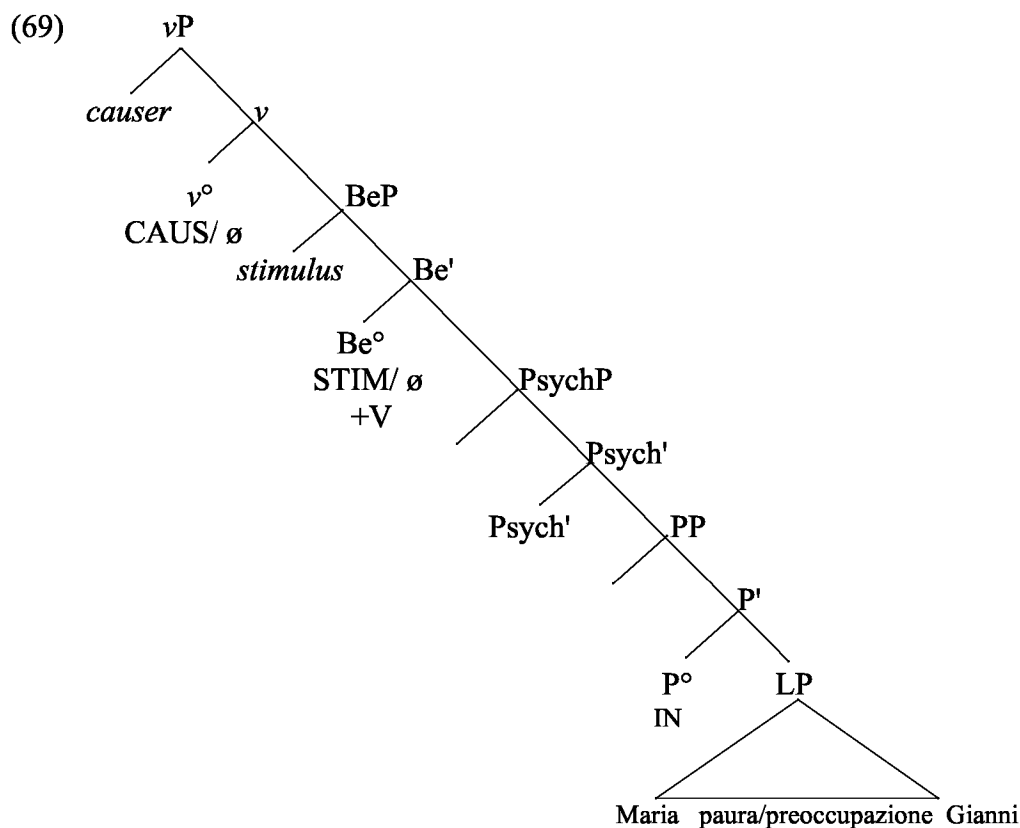
In the preceding section we saw that psych-v can be subdivided into two groups. This subdivision differs substantially from the one proposed by Pesetsky (1995)<sup>40</sup> which

39. Pesetsky in fact argues that “ObjExp like *annoy* are actually morphologically complex consisting of a phonologically zero causative morpheme” and a bound root”(1995, 65).

40. Subject Experiencer vs Object Experiencer psych-verbs.

classifies psych-verbs merely in syntactic terms while the one I am proposing here has some semantic flavour too. To show how the locative semantics of psych-v can be possibly translated structurally, I split the psych-VPs in three: BeP, PsychP, and PP.<sup>41</sup> I then tried to justify this tripartition derivationally on the strength of the needs of the *state of mind*: first, to be merged with either the Causer or the Stimulus (60a) and then with Exp (60b); second, to be in locative relation with the Exp (62-64); third, to become a denominal/deadjectival verb (65).

Recollecting all the single projections that I have shown so far, we can see how the psych-VP can be split into a more fine-grained structure (69). Still, we have not explained yet why some psych-v can nominalize while instead some other cannot.



The VP of both *Content* and *Container* psych-v is therefore more fine grained the one proposed by B&R (see the Introduction).

41. LP is not a proper argument, at least not as the others are, but the first merge projection.

### 5.3. A preliminary conclusion

In the introduction we have seen briefly B&R analysis of the psych-v together with Pesetsky (1995) counter-analysis. After having given some new data in support of the non unaccusative nature of the *preoccupare* psych-class (contra both B&R and Landau, 2010) I showed that also the B&R tripartition seems to be no longer tenable. Recall that the tripartition is basically based first on the grammatical role of the Exp, subject (*piacere* class) or object and second on the Object Exp Case, ACC vs DAT (*preoccupare* or *piacere* class). Analysing all the psych-verbs behaviour with respect to some test (like the nominalization), I found out that not all *preoccupare* psych-verbs behave in the same way, hence a new analysis was necessary.

Following Arad (1998) and H&K, I claimed that psych-v can be divided into two groups. In fact, depending on whether the Exp is the container or the content of the *state of mind* we would have *Container* or *Content* psych-verbs. Given Baker analysis of the category (2003) and Landau locative account of the Exp (2010), I semantically decompose all the *preoccupare* psych-verbs: x CAUSE y to BE IN ADJ (*geloso-jealous*)/NOUN (*paura-fear*).

In the light of what just mentioned, I tried to rethink psych-v structure from a different perspective, i.e. a more semantic flavoured structure.

The structure I propose for *preoccupare* psych-v is in fact more fine grained than the one proposed in B&R; in light of the semantic decomposition (Baker 2003) and the locative relation between the Exp and the *state of mind*, I postulated that, at least concerning psych-v, the VP has to be split into (at least) three arguments: BeP, PsychP, and PP. This tripartition is needed to derive psych-v from the *state of mind* and replace entirely the VP

### 6. A possible account for Italian problematic data

Following Arad (1998), I claimed that psych-v can be divided into two groups. Depending on whether the Exp is the content or the container of the *state of mind* we would have *Container* or *Content* psych-v. Container psych-v are those verbs that metaphorically describe a situation in which the psych-state is filled in by the Exp.

This difference is syntactic relevant, while container psych-v select a CAUSER content psych-v select a STIMULUS.

Let's see how this new analysis can account for the various problematic data that I

introduced in the first part of this work.

### Nominalization

Before trying to explain this last derivation, I would like to introduce very briefly what Alexiadou, in her monograph concerning nominalization (2004), proposes as the syntactic derivation for nominalizations. She first recalls that in “ the recent literature distinguishes two types of light  $v$ s: a transitive light  $v$ , and an intransitive one. The former combines with the external argument, the latter does not”(ibid. 112) (70):

- (70) a. transitive  $v$  [+external argument]  $v_1$  = Cause  
 b. intransitive  $v$  [-external argument]  $v_2$  = Become/Happen

and that “a functional head of the type  $v$  needs to be present within certain nominals, otherwise we would have no account for the process/event reading a group of nominals is associated with”(ibid). Basically Alexiadou proposes a unique derivation for both verbs and process nominals<sup>42</sup>. The derivation of *destruction* and *destroy* starts from the same lexeme, #destroy, which, as the head of L do not have a category yet. From #destroy, we can derive either a verb or a nominalization: embedding it under transitive  $v$  yields a transitive structure, when non-causative  $v$  combines with it the result is a verbal passive or a nominalization, depending on whether the structure will appear under T or D. Hence, both process nominals and verbs can be derived from the same root, they both have a  $v$ P and the only difference between them is whether they are complement of a T or a D.

Now let's analyse again the semantics of psych- $v$  nominalization.

Now, the fact that *preoccupare*, like all the other content psych- $v$ , can have a nominal derivation with a causative meaning is possible because it incorporates CAUSE only outside  $v$ P. Instead, verbs like *impaurire*, namely containers psych- $v$ , that do incorporate *cause* in Psych<sup>o</sup>, therefore before BeP cannot nominalize, and this is due to the fact that for a verb it is not possible to incorporate some morpheme (i.e. a causative morpheme), although silent, once it has already incorporated either the same one or another one in precedence (Fabb 1988).

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42. Alexiadou proposes that  $v$ P and AspP are present within process nominals and verbs too, the only difference between them is whether the final lexeme that raises to Asp<sup>o</sup> is the complement of TP or DP.

## Passive

As I argued in the first part, contrary to B&R *preoccupare* psych-v too can passivize. In fact sentences like (71a) are perfectly grammatical as the *temere* psych-v passives (71b) which for B&R are the only psych-v that can passivize. In the first part of this work I also claimed that (71b) is different from (71c), at least semantically.

- (71) a. La concorrente è stata umiliata da tutti.  
           the competitor has been humiliated by everyone.
- b. Il professore è temuto da tutti i suoi alunni.  
           the professor is feared by all his pupils
- c. La casa in campagna è stata costruita dallo zio di Michele.  
           the house in the country has been built by the uncle of Michele

Given the fine grained structure I hypothesize in (69), I claim that this difference is structural. The subject of the two passives starts their derivation from different positions in the structure: *il professore* starts from the highest position of the split VP, Spec, BeP; *la casa in campagna* starts from a the lowest position in the structure, as the complement of *costruire*. These difference is visible in (72) which a simplified version of the split VP.

- (72) a. [gli alunni]<sub>j</sub> IP [temono<sub>k</sub> [il professore BeP[k j]]]  
           the pupils fearPLU the professor
- b. [lo zio di Michele]<sub>j</sub> IP [costruisce<sub>k</sub> [j vP [k [VP[k la casa]]]]]  
           the uncle of Tom build the house

The different passive reading is therefore due to a different starting position of both the subject and the object in the respective active counterparts.

What gets NOM Case in (71b) is not the argument that somehow suffers the action of the *temere* but actually what causes the bad feeling, *timore* (fear), to the Exp while *la casa in campagna* in (71c) is the argument that undergoes the action of *costruire*. Again, in (72) we can see how this semantic difference is visible also from a structural point of view.

The *by*-phrase argument too seems to be semantically different. *Lo zio di Michele* is the person that, for whatever reasons, built the house in the country on purpose, that is he is the Agent of the active counterpart; *gli alunni* instead are not the Agent in the active

counterpart but the Exp. Contrary to (72b), in which the argument that in the passive will be introduced in the *by*-phrase merges in Spec,VP, we can see that nominative argument merges as the complement of the psych-v.

To sum up then we can say that, even though the final subject position and the *by*-phrase possibility, achieved through the passive derivation (71b-c), might lead one to say that we are dealing with similar kind of verbs<sup>43</sup>, psych-v are different from normal transitive verbs. Recall indeed that this kind of verbs describe something that happens inside Exp's mind and that this peculiarity is both semantically and syntactically relevant.

### Intransitive use

So far we have considered the unaccusative analysis given by B&R as no longer compatible with psych-v, at least with the data I recollected; remember though that B&R analysis cannot be discarded totally. A part from the structure they propose, their basic intuition, namely that the *preoccupare* psych-v are unaccusatives, is valid for some of them, not for all.

Given the similarity concerning the possibility of having present participial form or not between the *preoccupare* psych-v and true unaccusatives and the present participle restriction,<sup>44</sup> I think that it is fair to say that a further verb decomposition is a possible account. For now, I can only try to speculate about what it is about this discrepancy that seems to link some unaccusatives verbs with some psych-v.

In the literature, it has been postulated that some aspects of the semantics of lexeme are compositionally built up by the syntax (Hale and Keyser (1993), Grimshaw (1990), Levin and Rappaport Hovav (1995)). Let's suppose now that some kind of temporal decomposition of the predicate is part of the meaning aspects that should be represented in the syntactic system. This late speculation relates closely in spirit to the one proposed by Ramchand (2008) which seeks to correlate the morphosyntax and semantic of event in a direct way (see Borer 2005). In Ramchand (2008) the event-structure syntax is split into three important subevental components, each of these is represented as its own projection: a causing subevent (*initP*), a process-denoting subevent (*procP*) and a subevent corresponding to result state (*ResP*) (see *ibid.* 39). All three projections are

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43. Ergative and unaccusative verbs do not passivize.

44. It is not a very productive process mainly because it can be used only with verbs that entail some kind of permanent semantic values (Benincà).



essentially verbal and none of them correspond to V individually: the notion of verb in Ramchand is always derivationally composite, i.e. it involves one, two or all of these elements.

Concerning the participial form restriction, I speculate that in much the same way as Ramchand (2008) we can temporally decompose unaccusative and psych-v in three parts: the beginning, the development, and the endpoint part. As in Ramchand (*ibid*), these tripartition are represented in the syntactic system.

Now if the Ramchand tripartition is on the right track, we can hypothesize that once the verb is formed, say at BeP (69), it needs further derivations in order to be classified as a verb that describe one, two, or all temporal phases of an *action*. Let's further assume that to entail a permanent semantic value a verb needs to be one of those verbs that describes all of the *action* phases.

At this point, we can speculate that all the unaccusative verbs and psych-v that do not entail any permanent semantic value lack one or two of those projections. In regard to *preoccupare* psych-v, we can further say that it is this lack that influences the possibility to use one of those verbs intransitively or not. The present participle and the intransitive use diagnostics show indeed that within the *preoccupare* psych-v there is a quite strong relation between them, in other words almost all of the *preoccupare* psych-v that can be used at the participial form cannot be used intransitively.

This last section as already stated is very speculative and further researches are needed in order to see whether this tripartition analysis can be maintained or not.

## 7. Conclusion

In this paper, I have put forward a syntactic analysis of Italian psychological verb structures from a new perspective. After a brief discussion about the psych-v literature, I claimed that the B&R analysis of Italian psych-v does not account for psych-v behaviour totally. Their unaccusative analysis would not account why (and how) some psych-v of the *preoccupare* class, do not behave in the same way. In fact, following B&R we would not be able to explain the following facts: while *preoccupazione* is grammatical, *impaurimento* is not; while *annoiare* can be used intransitively and *imbarazzare* not.

Hence I started to analyse them with respect to some tests like nominalization and intransitive use. In addition, I decided to give a possible account for the difference I as an Italian speaker perceive between a normal passive and a psych-v passive, i.e. the

NOM argument of the passive does not really undergo the action of the element in the *by*-phrase.

From these considerations and following Baker (2003)'s intuition that VP can be semantically decomposed, I argued that psych-v VP has to be split into (at least) three arguments: PP, PsychP, BeP.

Following Landau (2010) and Arad (1998), I then postulated that psychological predications fundamentally entail a locative relation between an Exp and a *state of mind*. After the first merge of Exp and the *state of mind*, we can derive through derivation psychological predicates.

This split-VP analysis sheds light also on the different role that the NOM argument holds in the psych-passives compared to the one in the normal passives. Within the Split-VP analysis, we can be accounted for this (apparent) idiosyncrasy assuming that the object of the psych-v, compared to the one of the normal transitive verbs, merges in a different position.

Furthermore, depending on which kind of locative relation the Exp and *state of mind* have, we can have, I hypothesized two different types of psych-v, i.e. *Container* psych-v and *Content* psych-v.

We have seen how this new subdivision sheds light on the apparently nominalization and intransitive uses discrepancies between verbs of the *preoccupare* class.

In regard to the intransitive use impossibility with some psych-v, speculating a bit, I hypothesized that a further decomposition of the VP is necessary. Following Ramchand (2008) I think that temporal decomposition of the predicate is part of the meaning aspects that should be split in three syntactic arguments (the beginning/the development /the endpoint); depending on how many of these three arguments a verb raises to we have a verb that describe the start and/or the development and/or the endpoint of the predication. This derivation influences the possibility for a psych-v to be used intransitively or not.

These data allow us to conclude that the view of VP as a monolithic element is no longer tenable. We might start thinking at the VP as a complex structure in which the verb and its argument have to raise in order to achieve this or that particular meaning.

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