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## Table of Contents:

Lexicalising functional heads in the ‘AgrS-field’: evidence from the ‘A-morpheme’ in Veneto dialects <i>Paolo Chinellato</i>	7
A Note on Verb/Object order and Head/Relative clause order <i>Guglielmo Cinque</i>	49
Credo (I Believe): Epistemicity and the syntactic representation of the speaker <i>Alessandra Giorgi and Fabio Pianesi</i>	105
On the adjective in Korean <i>Soon Haeng Kang</i>	153
On the order of wh-phrases in Bulgarian multiple wh-fronting <i>Iliyana Krapova and Guglielmo Cinque</i>	171
The position of prepositional modifiers in the adverbial space <i>Walter Schweikert</i>	199



# **Lexicalising functional heads in the ‘AgrS-field’: evidence from the ‘A-morpheme’ in Veneto dialects**

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## **0. Introduction<sup>1</sup>**

Subject clitics in northern Italian dialects (henceforth NIDs) have been a living issue of research for years and have stimulated the interest of many linguists on different linguistic perspectives. The purpose of this paper is to show that the microvariation which is present in some north-eastern dialects (Veneto dialects) regarding the syntax of a vocalic particle traditionally known as clitic A is much wider than previously thought<sup>2</sup>. This particle was analysed for the first time within the generative framework by Benincà (1983) in Paduan and was also investigated in other NIDs by Poletto (1993, 1996, 1999, 2000), Manzini & Savoia (1999) among others<sup>3</sup>. In both analyses it was treated as a ‘CP-element’ (a TOP head in Benincà’s analysis; an invariable subject clitic

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<sup>1</sup>. This article is an extended version of a talk given at the *Ottava giornata di dialettologia*, Padua, July 2, 2002. I am grateful to the audience for comments and criticism and in particular to Paola Benincà, Adriana Belletti, Anna Cardinaletti, Maria Teresa Guasti, Richard Kayne, Lori Repetti, Cecilia Poletto and Laura Vanelli.

<sup>2</sup>. It is worth noting that in those years, differences among Veneto dialects with respect of the A-morpheme had already been noted by Benincà & Vanelli (1982: pp.57-59) but they had not been formally investigated.

<sup>3</sup>. See also Gorla (2003, 2004) for an approach based on Optimality Theory and Minimalist Syntax.

in Poletto's typology, the highest functional projection in the clitic string<sup>4</sup> merged immediately above I and above C, in Manzini & Savoia (1999)).

Recently, a new approach developed by Cardinaletti & Repetti (2003) (henceforth C&R 2003) recast the issue with renewed force by proposing a new way of looking at this vocalic particle. The authors reject Poletto's (2000) 'unified analysis' (in C&R's (2003) terms, p.5, see (1)) and propose an 'alternative' one based both on phonological and syntactic factors. In C&R's (2003) words: 'the other analysis (= the 'alternative analysis') [...] challenges the view that all the preverbal material in (3) and (4) (= (2) , (3), notations modified) is to be considered a subject clitic; [...] the schwa in (3a) is an epenthetic vowel, the schwa in (3c) is a subject-field vowel, realising a functional head of the Infl domain, and the preverbal schwa in (4) is, what we call, an 'interrogative vowel', realising a functional head of the Comp domain'. The distribution of (1), (2) and (3) is taken from C&R (2003: 6-7)<sup>5</sup>:

(1) 'unified' analysis

ə		be:v	'I drink'
ə	t	be:v	'you:sg drink'
ə	l	be:v ə	'he drinks'
ə		bu'vum	'we drink'
ə		bu'vi	'you:pl drink'
	i	'be:v ə n	'they drink'
↓	↓		
<i>subject clitic</i>			
	<i>subject clitic</i>		

<sup>4</sup>. According Manzini & Savoia (1999), the clitic string consists in a set of inflectional and aspectual categories ordered in a fixed hierarchy. As far as subject clitics are concerned, the clitic string is the following: [D [Num [N [P ]]]. The D (Definiteness) position is lexicalised by uninflected clitics (e.g. *A*), Num (Number) is lexicalised by the third person plural clitics, N hosts the third person singular clitics, P (Person) is the position for first and second person singular and plural clitics.

<sup>5</sup>. The dialects described by Cardinaletti & Repetti (2003) are varieties of *Piacentine* spoken in the towns of Donceto and Gazzoli.

## (2) 'alternative' analysis

a.	ə	t	be:v	'you:sg drink'
	ə	l	be:v ə	'he drinks'
	↓	↓		

*epenthetic vowel    subject clitic*

b.	i	'be:v ə n 'they drink'
----	---	------------------------



*subject clitic*

c.	(ə	be:v	'I drink'
	(ə	bu'vum	'we drink'
	(ə	bu'v i	'you:pl drink'
	↓		

*subject-field vowel*

## (3) 'alternative' analysis

(ə	be:v- ə t	'do you (sg) drink?'
(ə	be:v ə l	'does he drink?'
(ə	be:v ə n-j ə	'are they drinking?'
(ə	be:v-j ə	'am I drinking?'
(ə	bu'vum- j ə	'are we drinking?'
(ə	bu'vi: - v	'are you:pl drinking?'
	↓	

*interrogative vowel*

As we will see more in detail in the next sections, this new investigation is of great theoretical interest because it supports with clear evidence the hypothesis that this vocalic material may be generated not only in the left periphery of the clause (the CP-

layer, see Rizzi (1997)) as the 'unified analysis' predicts, but also in a lower one (more precisely immediately above I but below C, see Manzini & Savoia (1999)). C&R's (2003) new framework shows that a dialect may have different vocalic particles (with one and the same phonological realization), with a different syntax and different positions in the clausal structure. For the sake of simplicity, from now on I will refer to that particle with the name of A-morpheme.

In the following sections I will present the microvariation of the A-morpheme in eleven dialects of the Veneto region. The data obtained will lead me to the following claims:

- I. a unitary approach to the syntax of the A-morpheme like Poletto's (2000) 'unified analysis' does not properly explain the range of microvariation in the Veneto region.
- II. the syntactic distribution of the A-morpheme within Veneto dialects does not fit into the typology of 'subject clitics' proposed by Poletto (2000). It belongs neither to the class of the invariable subject clitics' (henceforth ISCs), nor to the class of the deictic subject clitics (henceforth DSCs).
- III. the new proposal put forth by C&R (2003) accounts for the data found in Veneto dialects. The complex syntactic scenario of the A-morpheme can be captured in their general view: one specialized syntactic position is not possible; multiple specialized functional projections which are lexically realized by the A-morpheme are present both in the Infl and Comp domains.
- IV. In Veneto dialects there is no A-morpheme in the Comp domain. Different morphemes are spelled out in different positions in the functional projections dedicated to subject positions.

The paper is structured as follows: in section two, I present the most important previous analyses of the A-morpheme; section three deals with the basic assumptions on subject positions which I will assume during the discussion; in section four I present C&R's (2003) new approach more in detail whereas in section five I am concerned with methodology and materials of the dialectological investigation; section six presents the results obtained and section seven brings neurolinguistic evidence in favour of a different status between the pronominal subject clitics and the A-morpheme. The new proposal which accounts for the microvariation of the A-morpheme in Veneto dialects is given in section eight, whereas section nine concludes the work.



## 2. Previous analyses

The A-morpheme has been long considered the overt realization of a pronominal subject clitic in the 1<sup>st</sup>, 4<sup>th</sup> and sometimes in the 5<sup>th</sup> person<sup>6</sup>. In her seminal work on the syntax of the A-morpheme, Benincà (1983:16-17) compares its distribution with the one of the 2<sup>nd</sup>, 3<sup>rd</sup>, and 6<sup>th</sup> person pronominal subject clitics. She claims that whereas the latter are mandatory and morphologically distinct clitics, the former are optional and have a special semantics. In Paduan, the dialect taken into consideration in Benincà (1983), the A-morpheme occurs in all persons, as in (4); pronominal subject clitics are marked in bold<sup>7</sup>:

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<sup>6</sup>. The most representative work of the ‘traditional analysis’ is Rohlfs (1969), II, § 444-449.

<sup>7</sup>. According to the framework in (2) and (3) one might ask whether the *a* in the third person singular in (4) might be treated as an epenthetic vowel. Although the real subject clitic is // (see C&R 2003 for discussion), as one can see in negative sentences where the epenthetic vowel *e* is deleted because it is not phonologically necessary (contrast (i) and (ii)),

(i)        (*e*) l beve        (He drinks)

(ii)    a.    no l beve        (He doesn’t drink)  
           b.    no (\**e*)l beve    (He doesn’t drink)

in Paduan the vocalic segment *a* is not an epenthetic vowel because it signalizes that the sentence is all new:

(iii)     *e*l beve        (He drinks – old information)

(iv)     *a*l beve        (He drinks – new information)

Moreover, the A-morpheme can occur before negation to mark the new information:

(v)        no l beve        (He doesn’t drink - old information)

(vi)        *a* no l beve        (He doesn’t drink – new information)

- |     |       |               |              |       |       |              |
|-----|-------|---------------|--------------|-------|-------|--------------|
| (4) | 1     | 2             | 3            | 4     | 5     | 6            |
|     | (a) Ø | (a) <b>te</b> | (a) <b>l</b> | (a) Ø | (a) Ø | (a) <b>i</b> |

Benincà (1983) notes that the morpheme is restricted to some pragmatic conditions such as the sentence intonation (surprise or emphasis) and that the sentence is given as all new:

- (5) A sì sempre qua! (Benincà 1983:18)  
 (A you:pl are always here!)

This analysis has been adopted and revised by Poletto in several works. From now on I will use the term 'Poletto-typology' (Pol-Typ) in order to refer to a group of studies (Poletto 1993, 1996, 1999, 2000 are the most representatives) which defines a precise typology of clitics, their syntax and their position in the clause. Although terminology and syntactic proposals have slightly changed among her works, there is a fundamental idea underlying them:

*"while the position of clitics<sup>8</sup> is always the same in every variety, their function can change". (Poletto 1993: 46)*

From now on, examples will be taken from the Pol-Typ. This typology divides preverbal subject clitics in two classes according to their phonological realization, i.e. vocalic and consonantal clitics (the schema below is taken from C&R 2003: 7):

- vocalic subject clitics:

- |    |                                   |   |
|----|-----------------------------------|---|
| a. | <b>invariable</b> subject clitics | (all persons)   |
| b. | <b>deictic</b> subject clitics    | (1 <sup>st</sup> / 2 <sup>nd</sup> pers. sing/pl. vs. 3 <sup>rd</sup> pers. sing/pl.) |
| c. | <b>number</b> subject clitics     | (3 <sup>rd</sup> pers. pl. masc.)   |

- consonantal subject clitics:

- |    |                               |  |
|----|-------------------------------|--|
| a. | <b>person</b> subject clitics | (2 <sup>nd</sup> pers. sg., 3 <sup>rd</sup> pers. sg. masc.) |
|----|-------------------------------|--|

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<sup>8</sup>. This statement refers to 'vocalic' clitics which is also the subject of my inquiry. However, following C&R's (2003) proposal, in this work a different path will be maintained: since the 'function' of the morpheme changes not only among dialects but also inside a single dialect, different morphemes in different syntactic positions must be assumed.

- b. **number** (+gender) subject clitics (3<sup>rd</sup> pers. sg. and pl. fem.)

Let us consider the main characteristics of the vocalic clitics in a and b (namely, invariable and deictic clitics). According to the *Pol-Typ*:

1. they are prenegative<sup>9</sup>, whereas ‘pure consonantal’ and ‘consonant + vowel’ clitics are postnegative as it is shown in (6-8):

- (6) A no magno / \* No a magno (Polesano, Poletto 1999: 587)  
(A not eat-1<sup>st</sup> sing / Not a eat-1<sup>st</sup> sing)
- (7) A no l ven / \* No al ven (S.Michele al T., Poletto 1999: 585)  
(A not cl-3<sup>rd</sup> comes / Not a+cl-3<sup>rd</sup> not comes)
- (8) No la vien / \* La no vien (Venetian, Poletto 1999:588)  
(Not she-cl3 comes / She-cl not comes)

2. They may be omitted in coordination (in the second conjunct). The presence of the morpheme in the second conjunct raises marginality, but not ungrammaticality:

- (9) a A canto co ti e \_balo co lu. (Basso Polesano, Poletto 2000: 24)  
(A sing-1<sup>st</sup> with you and dance-1<sup>st</sup> with him)
- b. ?A magno pomi e a bevo caffè (Basso Polesano, Poletto 1993: 23)  
(A eat-1<sup>st</sup> apples and drink-1<sup>st</sup> coffee)

In Poletto (1996) the A-morpheme is described with additional data from a southern Veneto dialect, Basso Polesano<sup>10</sup>. Poletto (1996) proposes that the A-morpheme is also an expletive subject clitic which licences *pro*. According to Poletto (1996):

---

<sup>9</sup>. As for the syntactic position of negation, the *Pol-Typ* adopts Zanuttini’s (1997) hypothesis in which the head of the negative projection is higher than AgrSP in languages which display one negation morpheme (as Italian or Veneto dialects).

<sup>10</sup>. ‘Basso Polesano’ (‘Eastern’ Polesano) is a comprehensive term that indicates a group of dialects in the eastern part of the Polesine area. In Poletto (1996) data are taken from the town of Loreo.

1. it is mandatory with the 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup> person:

(10) \*(A) Magno / \*(A) magnemo (Poletto 1996: 281)  
(A eat-1<sup>st</sup> sing / A eat-1<sup>st</sup> pl.)

(11) \*(A) te magni / \*(A) magné (Poletto 1996: 281)  
(A cl-2<sup>nd</sup> eat / A eat-2<sup>nd</sup> pl)

2. it is incompatible with the third person subject clitic but it is mandatory if the subject clitic is omitted.

(12) (\*A) el vien (Poletto 1996: 287)  
(A cl-3<sup>rd</sup> comes)

(13) \*(A) riva Toni (Poletto 1996: 286)  
(A comes Toni)

3. It is mandatory in contexts where no argumental theta role is assigned to the subject:

(14) \*(A) piove (Poletto 1996: 284-285)  
(A rains)

(15) \*(A) pare che Nane vegna qua. (Poletto 1996: 285)  
(A seems that Nane comes-subjunctive here)

Although the author is aware of the fact that *'the generalizations that have been made [...] are valid only for the dialects included in the sample and are not intended to represent the last word of the topic [...]'* (Poletto 1999, p.581), she claims that *'it is interesting to try to formalize the descriptive generalizations found'* (p. 581). The aim of the Pol-Typ is to show that in NIDs there is not a single AgrS position. The so-called *Agreement Field* consists of several syntactically distinct positions, *"which realise distinct morphological features of the subject DP"*. Moreover, subject clitics are spread in *'two sub fields, one of which is higher than NegP and the position where the complementizer occurs'* (p.582).

Finally, Poletto (2000) reviews and synthesizes her previous analyses and describes in detail four types of subject clitics. For the proposal of the present paper, I will consider

the first two ones (vocalic clitics). In the conclusive part of Poletto (1999: 617) the author argues that the class of pure vocalic clitics are a “*sort of ‘less precise agreement’, since only a [ $\pm$  deictic] (for DSCs) or even no subject feature at all (for ISCs) are realized in these positions.*” (brackets are mine). Let us examine the main diagnostics for the ISCs:

- I. As it is shown in (16) ISCs do not encode any subject feature at all since, according to Poletto (2000), this class ‘*is invariable for all persons*’ (p.12)

(16) 1     2     3     4     5     6                      (Luganese, Poletto 2000: 12)  
       **a**    **a**    **a**    **a**    **a**    **a**

- II. Following Benincà (1983), Poletto (2000) notes that they express theme/rheme distinction. Moreover, Poletto (2000: 23) argues that ‘*only those clitics that have completely neutralized their agreement feature may be realized as rheme markers*’.

(17) A piove!    (Paduan, Benincà 1983: 23)  
       (A (it) rains!)

- III. They are compatible with yes-no question but not compatible with a wh-item:

(18) A ve-to via?    (Paduan, Benincà 1983: 23)  
       (A go-cl-2<sup>nd</sup> away?)

(19) \*Dove a ze-lo ndà?  
       (Where a is-he gone?)

(20) \*A dove ze-lo ndà?  
       (A where is-he gone?)

- IV. They are not compatible with left-dislocated items:

(21) \*Co ti, a no voio ndare.    (Paduan, Benincà 1983: 23)  
       (with you, a not want to go)

- V. They are sensitive to the feature instantiated inside C°. If a declarative complementizer appears in C°, they obligatorily cliticize onto it.

(22) *Vara ch'a vegno* (Polesano, Poletto 1999: 601)

(23) \**Vara che a vegno*  
(Look that+ a come)  
'Look, I am going'

- VI. They may also be optional or related to pragmatic restrictions, whereas Person and Number clitics may not:

(24) (A) *mangi* (Luganese, Poletto 1999: 590)  
(A eat-1<sup>st</sup>)

Consider now the main diagnostics for DSCs. According to the Pol-Typ:

- I. they are found in the first and second singular and plural and they are often in opposition with another clitic in the third person singular and plural:

(25) 1     2     3     4     5     6 (S. Michele al T., Poletto 2000: 13)  
      *i     i     a     i     i     a*

- II. they are incompatible with certain wh-items and compatible with others:

(26) *Se (\*a) fanu?* (S. Michele al T., Poletto 2000: 25)  
      what SCL do+they  
      'What are they doing?'

(27) *Quantis caramelis \*(i) a-tu mangiat?* (S. Michele al T., Poletto 2000: 25)  
      How many sweets SCL have you eaten?  
      'How many sweets did you eat?'

- III. They do not express theme/rheme relations, e.g. they are compatible with left dislocated items:

- (28) A casa o soi già laat<sup>11</sup> (Palmanova, Poletto 2000: 26 )  
 at home SCL am already been  
 ‘I have already been at home’

IV. They cannot be omitted in coordination:

---

<sup>11</sup>. It is not clear how *o* can be a DSC, since its distribution in Palmanova (the Friulian dialect quoted by the *Pol-Typ* together with other Friulian dialects such as the ones spoken in S. Michele al Tagliamento and Cervignano) is found in the first person singular and plural and second person plural, but not in the second person singular as Laura Vanelli (p.c) drew to my attention:

1	2	3m	3f	4	5	6m/f
<b>o</b>	tu	al	e	<b>o</b>	<b>o</b>	e

The sentence in (i) is ungrammatical:

- (i) (\**o*) tu ciantis (‘*o*’ you sing)

Moreover, as far as negation is concerned, it not clear whether *o* is absorbed or cancelled in the following example:

- (ii) No cianti  
 (neg+ ‘*o*’+ sing)

What is worth noting here is that ‘*o*’ cannot precede the negative item:

- (iii) (\**O*) no cianti

Thus, it is not a prenegative clitic and cannot fit in the category of deictic clitics. Rather, it seems to belong to a ‘1-4-5’ system which had already been noted by Renzi & Vanelli’s (1983) ‘generalization 4’ and Vanelli (1984). Renzi & Vanelli (1983) point out in a footnote (n.11) that there are some reasons to doubt that the ‘1-4-5’ system is a system of ‘subject clitics’ and they quote the arguments put forth by Benincà (1983). However, Benincà’s (1983) is silent about the ‘1-4-5’ system since she found in Paduan a different one (a ‘1-2-3-4-5-6’ system). See also Manzini & Savoia (1999) and C&R (2003) for a very neat piece of evidence for a ‘1-4-5’ system in another northern Italian dialect.

- (29) I cianti cun te e \*(i) bali cun lui (Cervignano, Poletto 2000: 26)  
 (I sing-1<sup>st</sup> sing. with you and i dance-1<sup>st</sup> sing. with him)

The aim of the following sections is to check whether the A-morpheme considered in my sample of Veneto dialects can or can not satisfy these diagnostics, either for ICSs or for DSCs.

### 3. Basic Assumptions

The first assumption which I will assume in this paper has to deal with the status of subject clitics. Following C&R (2003: 28):

- (30) *the only elements that can be considered subject clitics are the consonants /t/ and /l/ in the second and third person singular (see 2a), respectively, and the vocalic segment /i/ in the third person plural.*

The second assumption refers to the subject position in the clause, be it a lexical DP or a strong pronoun. I will consider the lexical subjects in (31) to occupy the same structural position:

- (31) a. **John /He** eats an apple (English)  
 b. **Gianni / Lui** mangia una mela (Italian)  
 c. **Nane / Lu** el magna un pomo (Veneto dialect)

The presence of a pronominal subject clitic co-occurring with a lexical DP in (31c) does not imply that the DP is always left-dislocated (contra Benincà & Poletto (in press)). In several Veneto dialects left-dislocation may take place without a resumptive subject clitic. Contrast (32a and 32b):

- (32) a. I fioi (i) magna e paste (Venetian)  
 (The boys (sub-cl3) eat the pastries)  
 b. I fioi, e paste, (i) \*(le) ga zà magna  
 (The boys, the pastries, sub-cl3 ob-cl6 have already eaten)



In (32b) the subject is clearly left-dislocated because of the presence of a dislocated object, but the resumptive subject clitic is not mandatory whereas the object clitic is. Thus, the presence or absence of the subject clitic has nothing to do with the position of the subject.

Moreover, there are dialects in which a subject clitic must appear with a QP, which is never left dislocated:

- (33) Nisun al rive (Friulian, Zanuttini 1997:27)  
 (Nobody sub-cl3 arrives)  
 Nobody comes.

Therefore, I take the subject position to occupy a specialized functional projection in the Infl domain, namely SubjP (see Cardinaletti (1994, 1997, in press)).

According to Cardinaletti (in press), SubjP is in the Infl domain. Let us briefly summarize her main arguments :

1. Following Rizzi (1997:283), which established that Infl domain is the locus of morpho-syntactic features of the verb, while Comp is an interface between the propositional content (expressed by IP) and the superordinate structure or the previous discourse, she notices that a topic analysis of the subject cannot hold for the so-called ‘out of the blue’ sentences or in answer to the question ‘What happened?’:

- (34) A: Che è successo? B: Gianni ha perso il lavoro.  
 (What happened? John has lost his job)

2. In Italian, the weak pronoun *egli* cannot be left-dislocated (35), although it can appear preverbally (36) or in Aux-to Comp construction (37) (examples taken from Cardinaletti (in press: 40)):

- (35) Gianni / \*Egli la nostra causa non l’ha appoggiata. (Left dislocation)  
 (John / he the our cause [he] not it has supported )

- (36) Gianni / Egli ha appoggiato la nostra causa. (Subject position)  
 (Johni / he has supported the our cause)

- (37) Avendo Gianni / egli telefonato a Maria, ... (Aux-to-Comp)  
 (having John / he phoned to Maria, .... )

3. Cardinaletti (in press: 41) also notes that in some Italian dialects, (e.g. in *Florentine*, see Brandi & Cordin 1989: 113-114) the difference between preverbal and left-dislocated subjects is lexicalised by a subject clitic or a vocalic morpheme. For instance, in *Florentine* when the subject is left dislocated, a vocalic morpheme (e, which is not a subject clitic) appears to differentiate the two kinds of sentences.

- (38) a. Te tu parli.  
 (you you speak)  
 b. Te, e tu parli troppo.  
 ([as for] you, TOP you speak too much)

Finally, Cardinaletti (in press) notes that the specialized position of SubjectP is the functional projection which hosts the 'subject of predication', e.g. in Italian dative subjects :

- (39) [<sub>SubjP</sub> *Ai ragazzi* [<sub>EppP</sub> ..... [<sub>AgrS</sub> *pro* piace [<sub>la musica</sub>]]]]  
 (To the boys pro likes the music)  
 'The boys like music'

We have seen above that SubjP is not a left-dislocated position. Another piece of evidence supporting this claim comes from dative subjects in Veneto dialects. When a dative subject is present the subject clitic agreeing with the verb is not mandatory whereas the dative clitic is:

- (40) [<sub>SubjP</sub> *A ti* [<sub>EppP</sub> ..... [<sub>AgrS</sub> (e)<sub>i</sub> \*(te) piaze [<sub>t<sub>i</sub></sub>]]]]  
 (To you you-dat. likes)  
 'You like that'

#### 4. Cardinaletti & Repetti (2003): the framework

Going back to vocalic particles in NIDs, C&R's (2003) approach develops a new framework, which has very interesting consequences for the theory of the functional

projections in the IP-layer. The empirical basis of their work is constituted by the phonology and syntax of the Piacentine A-morpheme ([ə]). As I mentioned in the introduction, the authors claim that the nature of the preverbal vocalic element cannot be properly explained by an ‘unified analysis’ (as the one proposed by the *Pol-typ*). The new ‘alternative analysis’ claims that in Piacentine the preverbal vocalic particle is the phonological realization of different entities. In particular, one has to distinguish inside the verbal conjugation among:

1. an epenthetic vowel for second and third person singular; this phonological material is mandatory.
2. a head of a functional projection base-generated in the IP-layer (*subject-field vowel*), for 1<sup>st</sup>, 4<sup>th</sup>, 5<sup>th</sup> person; this syntactic element is optional.
3. an interrogative vowel for all persons; this syntactic element is optional with yes-no question but it is mandatory with wh- phrases.

Let us consider the epenthetic vowel, first. In Piacentine, the vowel appears before the pronominal subject clitic (41a,c) if the verb begins with a CV-syllable; if the verb begins with an /s/ + stop consonant cluster the vowel must follow the clitic (41b,d) (C&R 2003: 10):

- (41) a.    ə t bev        (ə you drink)  
       a' \* t ə bev  
       b.    t ə scriv     (you ə write)  
       b' \* ə t scriv  
       c.    ə l bevə      (ə he drinks)  
       c' \* lə bevə  
       d.    lə scrivə    (he ə writes)  
       d' \* ə l scrivə

The epenthetic vowel is absent in the present perfect construction (C&R 2003: 13):

- (42)    l            a        buvid  
       (subj.clitic have drunk)

- (43) \*ə l a buvid  
 (ə subj.clitic have drunk)  
 'He has drunk'

The vowel can appear before the clitic even when a complementizer is present (44a, b), but it is optional as shown in (44c, d.). The third person plural subject clitic cannot be omitted (44f) and can be present or not near a complementizer (44e, g) (C&R 2003: 15):

- |                           |  |
|---------------------------|--|
| (44) a. (ə) so che ət bev | ((ə) (I) know that ə you drink)                |
| b. (ə) so che əl bevə     | ((ə) (I) know that ə he drinks)                |
| c. (ə) so che t bev       | ((ə) (I) know that you drink)                  |
| d. (ə) so che l bevə      | ((ə) (I) know that you drink)                  |
| e. (ə) so che i bev ə n   | ((ə) (I) know that they drink)                 |
| f. *(ə) so che bev ə n    | ((ə) (I) know that drink-3 <sup>rd</sup> .pl.) |
| g. (ə) so ch i bev ə n    | ((ə) (I) know that they drink)                 |

Another fact deserving consideration in this new framework is the analysis of the '*1-4-5 person system*'. Although the existence of this system was already noted by the typological study of Renzi & Vanelli (1983), by Manzini & Savoia (1999) and by Gorla (2003), it is absent in the *Pol-Typ*. As we will see in the next sections, a similar system is also present in some Veneto dialects. C&R (2003) points out that this syntactic element lexicalizes a functional head in the IP-layer. The detailed analysis of the Piacentine [ə] supports the claim that there are elements which do not fit into the *Pol-Typ*. In fact:

- it is not found with all persons in the verbal paradigm (but only in the first singular and plural and in the second plural, since in the second and third person singular there is an epenthetic vowel).
- the distribution in the 1<sup>st</sup>, 4<sup>th</sup>, 5<sup>th</sup> persons exclude the [ə] from the category of ISCs and DSCs.
- it does not necessarily cluster with the complementizer.

The 'alternative analysis' shows that there are vocalic elements which are base-generated in the IP-layer. Although this possibility has also been noted by Manzini & Savoia (1999) (see footnote 3), it is excluded by the *Pol-Typ*.

## 5. Methodology and materials

I begin my discussion by presenting the dialects which I examined. The reason why I studied eleven dialects belonging to the same region is to best capture the syntactic microvariation.<sup>12</sup> I asked several informants grammaticality judgments on the syntax of the A-morpheme with an oral interview. I presented a questionnaire of about ninety sentences and I asked informants to read the sentences and then judge them or provide another version<sup>13</sup>. I also asked them to judge the sentence with and without the A-morpheme to test its optionality.

The dialectological investigation considers the following dialects: *Paduan* (Paduan #1, Salzano #9); *Eastern Vicentino* (Carmignano di Brenta #2, see Penello (2003)); *Central Vicentino* (Creazzo #3, Vicenza #4); *Northern Vicentino* (Cereda di Cornedo Vicentino #5, Isola Vicentina #6, Giavenale #7, Schio #8). I also considered two dialects which belong to two different parts of the Polesine area which is traditionally divided in ‘Alto Polesano’ (western area), ‘Medio Polesano’ (central area) and ‘Basso Polesano’ (eastern area): *Basso Polesano* (Adria #10) and *Medio Polesano* (Borsea #11).

### 5.1. The Questionnaire

The interview consisted of items which have been created by taking some representative occurrences described in early reports: for example, following Benincà (1983), I asked informants to give judgments on the compatibility of the A-morpheme with left dislocation (henceforth, LD, as it is shown in (45), with Subject Focus (46), with *Wh*-phrases and *yes-no* questions (47-48). The judgments below (45-48) are taken from

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<sup>12</sup>. The core of this analysis is also present in Chinellato (2002b, 2003b, 2004, in press).

<sup>13</sup>. The procedure is slightly different from other ways of eliciting data. For example, differently from the ASIS project (CNR/University of Padua) the questionnaire has not been written in Italian but in dialect (since the author is also a native speaker of a Veneto Dialect). So I did not ask for a written translation from Standard Italian into dialect but for a simple grammaticality judgment. Moreover, I preferred an elicitation task in a form of interview instead of sending the questionnaire by mail because of the very delicate nature of the issue (a vocalic particle) and because written translations into dialect hardly show contexts of optionality.

*Paduan*, described in Benincà (1983). A further test was to look at the distribution of the A-morpheme with an Object Focus (49).

- |  |                    |
|--|--------------------|
| (45) *Co ti, a no voio ndare<br>(with you, a not want to go)         | (Benincà 1983: 25) |
| (46) *GIORGIO, a parte doman!<br>(GIORGIO, a leaves tomorrow)        | (Benincà 1983: 20) |
| (47) *Dove a ze-lo ndà?<br>(Where a is-he gone?)                     | (Benincà 1983: 26) |
| (48) A ve-to via?<br>(A go-you away?)                                | (Benincà 1983: 26) |
| (49) EL GATO, a go visto!<br>(THE CAT, a have-1 <sup>st</sup> seen!) | (questionnaire)    |

## 6. The results

### 6.1. A preliminary overview

In this section I discuss the results obtained by the dialectological investigation. What is to be noted here is that there are varieties which admit a strong subject before the A-morpheme and others that do not. In table 1 the distribution with a strong subject is presented. For the sake of simplicity, a [-s] dialect is a dialect which can admit a context like (50), a null subject context, and a [+s] dialect allows a construction like (51):

- |   |
|---|
| (50) <i>a magno</i><br>( <i>a</i> eat-1 <sup>st</sup> ) |
| (51) <i>Mi a magno</i><br>(I 'a' eat -1 <sup>st</sup> ) |

TABLE1

Dialect	PaduanI (Padua)		Eastern Vicentino		Central Vicentino				Northern Vicentino		Paduan II (Salzano)		Basso Polesano		Medio Polesano	
	#1		#2		#3		#4		#5-8		#9 <sup>14</sup>		#10		#11	
Person	-s	+s	-s	+s	-s	+s <sup>9</sup>	-s	+s	-s	+s	-s	+s	-s	+s	-s	+s
1	(A)	*	(A)	?	(A)	(A)	(A)	(A)	(A)	(A)	*	*	(A)	(A)	A	A
2	(A)	*	(A)	?	*	*	*	*	(A!)	*	(A) !	*	(A)	(A)	A	A
3	(A)	*	(A)	?	*	*	*	*	*	*	*	*	(A)	(A)	*	*
4	(A)	*	(A)	?	(A)	(A)	(A)	(A)	(A)	(A)	*	*	(A)	(A)	A	A
5	(A)	*	(A)	?	(A!)	(A!)	(A)	(A)	(A)	(A)	*	*	(A)	(A)	A	A
6	(A)	*	(A)	?	*	*	*	*	*	*	*	*	(A)	(A)	*	*

This is what I found w.r.t. the presence or absence of the pronominal strong subject:

- *Paduan I* excludes the presence of the A-morpheme with a strong subject. This is consistent with Benincà's data.
- *Eastern Vicentino* allows the A-morpheme with strong subject, although the sentence is slightly marginal.
- Dialect #3 of *Central Vicentino* has an A-morpheme which is compatible only with the 1<sup>st</sup> and 4<sup>th</sup> persons in declarative sentences but is also compatible with the 5<sup>th</sup> person in exclamative sentences, whether the strong subject is present or not.
- Dialect #4 of *Central Vicentino* patterns like C&R's (2003) [ə] of Piacentine.
- *Northern Vicentino* patterns like Piacentine with a strong subject, but have a '1-2-4-5' distribution without it.
- *Paduan II* has an A-morpheme which is compatible only with the 2<sup>nd</sup> person in an exclamative context.
- *Basso Polesano* patterns like #2 without a tonic subject but has a distribution 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> with the strong subject.
- *Medio Polesano* have a '1-2-4-5' with and without the strong subject.

From this preliminary distribution we can see that the picture is an intriguing set of differences among persons. The aim of this work is to provide a synchronic analysis that accounts for this distribution.

<sup>14</sup>. The exclamation mark in the table states that the A-morphemes is present only in an exclamative context.

## 6.2. The syntactic contexts

In tables 2 and 3 the syntactic distribution of the A-morpheme among the sample of dialects is presented: the invariable clitics class is compared with dialects which have a distribution with all persons (*Paduan*, *Eastern Vicentino* and *Basso Polesano*)

TABLE2

	LD	FOCUS	WH	OPTIONAL	YES- NO	STRONG SUBJECTS	QP- SUBJECTS	NEG
INVARIABLE	*	*	*	*	√	*	*	√
Paduan	*	*	*	√	√!	*	*	√!/*
East. Vicentino	√	?	*	√	√	√	√	√
Medio Polesano	√	√	*	√	√	√	√	√

As we can see, there is no single dialect which satisfies the diagnostics of the *invariable clitics* class. According to the *Pol-Typ*, *Paduan* seems the perfect candidate for this class of subject clitics but as we will see in the following sections, the distribution of this morpheme is restricted to exclamative contexts.

In table 3, the comparison between the deictic class and the dialects with the same distribution among persons is given:

TABLE3

	LD	FOCUS	WH	OPTIONAL	YES-NO	STRONG SUBJECT	NEG
DEICTIC	√		*/√	*	√	*	√
Northern Vicentino #5	*	√	*	√	*	√	√!/*
Northern Vicentino # 6	*	√	*	√	*	√	√! /√
Northern Vicentino # 7	*	√	*	√	*	√	*! / *
Northern Vicentino # 8	*	√	*	√	*	√	*! / *
Medio Polesano	√	√	*	√	*	√	√! / √

As we can see, the A-morpheme in the dialects considered does not fit into Poletto's (2000) class of deictic clitics.

To sum up:



1. if an *A*-morpheme is not compatible with LD, it is not necessarily incompatible with a Focus (see *Northern Vicentino*), namely there can be dialects in which the *A*-morpheme is compatible with both (*Medio Polesano, Basso Polesano*), or incompatible with both (*Paduan, Central Vicentino*) or with the former, but not with the latter (but not viceversa).
2. if an *A*-morpheme is not compatible with yes-no questions, it is not necessarily incompatible with Focus (see *Northern Vicentino*)

But:

- if an *A*-morpheme is incompatible with a tonic subject or with a QP subject, then it is incompatible with all the syntactic constructions in the CP-layer (LD, Focus, WH).

### 6.3. Problems with the Poletto-Typology

#### 6.3.1. Problem #1 :The *A*-morpheme and Left Dislocation

With respect to Left Dislocation (LD), the Veneto dialects seem to divide into two main groups: dialects which do not admit the morpheme in the presence of LD (*Paduan, Central Vicentino, Northern Vicentino*) and dialects which do (*Eastern Vicentino, Basso Polesano, Medio Polesano*):

(52) \*Co ti, a no voio ‘ndare (*Paduan, Central Vicentino, Northern Vicentino*)

(53) Co ti, a no voio ‘ndare (*Eastern Vicentino, Basso Polesano, Medio Polesano*)  
(with you, a not want-1<sup>st</sup> to go)

These data seem to show that an explanation which considers *A* a single morpheme (like the *Pol-Typ*) is not sufficient. There are two different morphemes, one which is sensitive to old information and one which is not.

### 6.3.2. Problem #2: The A-morpheme and Focus

#### 6.3.2.1. Focalised Object

With a focalised object the Veneto dialects divide in two other groups. *Paduan* and *Central Vicentino* do not admit the morpheme with an object focus whereas the others do (*Eastern Vicentino*, *Northern Vicentino*, *Basso Polesano* and *Medio Polesano*)

- |   |   |
|---|---|
| (54) *EL GATO, a go visto!              | ( <i>Paduan</i> , <i>Central Vicentino</i> )          |
| (55) ?EL GATO, a go visto!              | ( <i>Eastern Vicentino</i> )                          |
| (56) EL GATO, a go visto!               | ( <i>Northern Vicentino</i> , <i>Basso Polesano</i> , |
| (THE CAT, a have-1 <sup>st</sup> seen!) | <i>Medio Polesano</i> )                               |

Now, one might ask: do dialects which have an A as in (52) admit such a morpheme with a Focus construction? The answer is: not all of them. The A-morpheme in *Northern Vicentino* does not admit LD but admit Focus (contrast (52) and (56)). In this case, the A-morpheme seems not to be the same entity. Again, the *Pol-Typ* class of ICS does not capture these differences.

#### 6.3.2.2. Focalised Subject

The presence of a focalized subject with the A-morpheme divides the dialects in the same groups w.r.t the focalized object. *Paduan* and *Central Vicentino* do not admit the morpheme with a subject focus<sup>15</sup> whereas the others do (*Eastern Vicentino*, *Northern Vicentino*, *Basso Polesano* and *Medio Polesano*) :

- |  |  |
|--|--|
| (57) GIORGIO, a parte doman!                 | ( <i>Paduan</i> , <i>Central Vicentino</i> ) |
| (58) ?GIORGIO, a parte doman!                | ( <i>Eastern Vicentino</i> )                 |
| (GIORGIO, a leaves tomorrow)                 |  |
| (59) MI, a so come che se parla co la gente! | ( <i>Northern Vicentino</i> - <i>Basso</i> , |
| (I-foc, a know how to speak to the people)   | <i>Medio Polesano</i> )                      |

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<sup>15</sup>. The sentence was tested with other persons in the dialects which exclude the presence of the A-morpheme with a 3<sup>rd</sup> person singular subject.

### 6.3.3. Problem #3 :The *A*-morpheme and Wh- phrases

No dialect in the sample admits the presence of the morpheme with a wh-phrase. Data are consistent with Benincà's (1983) original analysis of the '*A*' in *Paduan* and pattern *prima facie* with the class of ISCs of the *Pol-Typ*:

- (60) a. Quante caramele (\*a) ghe-to magnà?  
(How many candies a have-you/subj. eaten?)

As I noted above there are some dialects which display the *A*-morpheme only with the 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup> persons. Although they cannot be considered ISCs, they could be reminiscent of the category of DSCs which should be compatible (according to the *Pol-Typ*) with a wh-phrase, at least the same as in (60b):

- (60) b. Quantis caramelis \*(i) a-tu mangiat? (S. Michele al T., Poletto 2000: 25)  
How many sweets SCL have you eaten?  
'How many sweets did you eat?'

As we can see in (60a) this does not seem to be so. Thus, both the notions of ICSs and DSCs proposed by the *Pol-Typ* are problematic for this sample of dialects.

### 6.3.4. Problem #4. The *A*-morpheme: optional or mandatory?

In all Veneto varieties the *A*-morpheme is optional. However, in *Medio Polesano* the presence of the morpheme seems *prima facie* obligatory in declarative sentences with the first person singular. The morpheme is apparently mandatory but it becomes optional when negation is present and with second person singular and plural and with first person plural (contrast (62) with (63)):

- (61) (A) vago via (Paduan, Vicentino, Basso Polesano)

- (62) \*(A) vago via (Medio Polesano)  
(A go-1<sup>st</sup> away)

- (63) a. (A) no so bon de parlarghe (Medio Polesano)  
b. (A) no te si bon de parlarghe  
c. (A) no semo boni de parlarghe

- d. (A no sì boni de parlarghe)  
 (A not am-1<sup>st</sup> /2<sup>nd</sup> /4<sup>th</sup> /5<sup>th</sup> good to talk-to him/clitic)  
 'I/You-2<sup>nd</sup> /We/You-5<sup>th</sup> can't speak to him'

As for whether an invariable subject clitic is optional or mandatory, the *Pol-Typ* leaves open both the possibilities by saying that there are dialects in which it is optional (*Luganese*, Poletto 1999:590) and other in which it is mandatory (*Basso Polesano*, Poletto 1996:281). However, the *Pol-Typ* does not say anything on cases like (62) vs. (63) in which we can see a different behaviour inside the same dialect depending on different syntactic contexts (affirmative vs. negative).

### 6.3.5. Problem #5: The A-morpheme and yes-no questions

As far as yes-no questions are concerned, dialects divide into two groups; *Central Vicentino*, *Northern Vicentino* and *Medio Polesano* do not admit the morpheme, whereas *Paduan*, *Eastern Vicentino* and *Basso Polesano* do:

- (64) A ve-to via? (Paduan, Eastern Vicentino, Basso Polesano)  
 (65) (\*A) ve-to via? (Central and Northern Vicentino)  
 (A go-you away?)

However, in *Paduan* (as suggested to me by Paola Benincà, p.c.) the sentence (64) is grammatical only with an intonation of emphasis or surprise but it cannot be used as an informative question.<sup>16</sup> In fact, in *Paduan* a sentence like (66a) is ungrammatical. The same is not for *Eastern Vicentino* and *Basso Polesano* (66b):

- (66) a. \*A vu-to un toco del me panin? (Paduan)  
 b. A vu-to un toco del me panin? (Eastern Vicentino, Basso Polesano)  
 (A want-you a piece of my sandwich?)

Data in (65) and (66a) cannot be explained if we postulate the presence of an ISC.

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<sup>16</sup>. The judgment has been confirmed by the informant of *Paduan* of Salzano.

### 6.3.6. Problem #6: The A-morpheme and strong subjects

In table 1 we have seen the distribution of the *A*-morpheme w.r.t the tonic subject. If we look at (67) we see that in *Paduan* the *A*-morpheme is compatible with the subject only if a long pause follows the subject (which is probably not part of the sentence but might be discourse-related). It is compatible neither with a left dislocated subject (67b), nor with a not dislocated one (67c):

- (67) a. Mi // a vegno casa (Paduan)  
 b. Mi, (\*a) vegno casa  
 c. Mi (\*a) vegno casa  
 (I, a come-1<sup>st</sup> home)

The others dialect accept the *A*-morpheme with a dislocated and not dislocated subject:

- (68) a. Mi, a vegno casa (Vicentino, Polesano)  
 (As for me, a come-1<sup>st</sup> home)  
 b. Mi a vegno casa  
 (I a come-1<sup>st</sup> home)

If we consider a context like (69), namely a dislocated object between a dislocated subject and the *A*-morpheme, we can obtain the same scenario: *Paduan* still rejects the *A*-morpheme:

- (69) Mi, el cellulare, (\*a) me lo so comprà sto mese (Paduan)  
 (70) Mi, el cellulare, (a) me lo so comprà sto mese (Vicentino, Polesano)  
 (I, the mobile phone, a to me/clitic it/clitic have bought this month)

### 6.3.7. Problem #7: The A-morpheme and Quantified Subjects

The presence of the *A*-morpheme with a quantified subject is excluded in *Paduan*, but it is allowed in *Eastern Vicentino* and *Basso Polesano*:

- (71) a. Nisun (\*a) magna più in chel ristorante là. (Paduan)  
 b. Nisun (a) magna più in chel ristorante là. (Eastern Vicentino, Basso Polesano)  
 (Nobody a eats no longer in that restaurant)

Data in (71b) clearly show that at least in *Eastern Vicentino* and *Basso Polesano* the *A*-morpheme must be in the IP-layer (and not in the CP-layer as argued by the *Typ-Pol* ) since a QP subject cannot left dislocated.

## 7. Neurolinguistic Evidence

We have just seen in sections 1-3 that, whereas the 2<sup>nd</sup> , 3<sup>rd</sup> and 6<sup>th</sup> persons are obligatorily realised by a pronominal subject clitic, the distribution of the *A*-morpheme is much more complex and with a great variation among varieties. Interesting data supporting this hypothesis come from spontaneous speech and structured tasks of bilingual aphasic patients (Fabbro (2001), Fabbro & Frau (2001), Chinellato (2002a-b, 2003b, 2004, in press)). Whereas Fabbro (2001) and Fabbro & Frau (2001) note that non fluent aphasics omit the *A*-morpheme together with the subject clitic in productions like (72):

- (72) aphasic speech: El frut bev  
           target:      El frut al bev           *Friulian*   (Fabbro (2001:207))  
                           (the boy cl3 drinks)

Chinellato (2002a-b, 2003b, 2004, in press) shows that bilingual non fluent aphasics (*Italian/Vicentino*) omit subject clitics but they have the *A*-morpheme completely spared:

- (73) aphasic speech: Ti a bevi                   *Vicentino* (Chinellato 2002, 2003, 2004)  
           target:      Ti a te bevi  
                           (You, a cl2 drink)

These findings are not incompatible if we interpret them with a linguistic theory that considers the *A*-morpheme as a different entity in the two dialects above: in *Friulian* the morpheme may be part of the monomorphemic unit of the subject clitic (see Vanelli (1998)) or an epenthetic vowel (see. C&R (2003)). The two different aphasic productions are explained: *friulian* patients omit the subject clitic, whereas the other

group (Vicentino) of patients has the *A*-morpheme preserved simply because it does not belong to the pronominal system<sup>17</sup>.

## 8. The Proposal

### 8.1. Extending the ‘syntactic epenthesis’ approach (C&R 2003)

As I mentioned in the previous sections, the core of my proposal follows C&R’s (2003) approach of Piacentine [ə] (see section 4). According to this framework, the vowels in (74) “cannot be analyzed as subject clitics. The preverbal vowel in (75) (notation modified) is an ‘interrogative vowel’ which (optionally) realizes a functional head of the *Comp* layer, namely the head *Focus* that contains interrogative features” (C&R 2003:46):

#### (74) Declarative Sentence

(ə) bev	'I drink'
(ə) buvùm	'we drink'
(ə) buvì	'you:pl drink'

#### (75) Interrogative sentences

(ə) bev- ə t	'are you:sg drinking?'
(ə) bev ə lə	'is he drinking?'
(ə) bev ə n-j ə	'are they drinking?'
(ə) bev-j ə	'am I drinking?'
(ə) buvùm-j ə	'are we drinking?'
(ə) buvì-v	'are you:pl drinking?'

The authors call the phenomenon in (74) ‘syntactic epenthesis’, “to express a similarity with *phonological epenthesis*” (C&R 2003: 48). The basic argument for such a

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<sup>17</sup>. Patients of the vicentino group also omit subject clitics (see Chinellato 2003a, 2004).

definition is that there is no meaning difference with or without the vocalic segment. Data from Veneto varieties support this claim<sup>18</sup>. Since in C&R (2003) the authors “leave open the question as to how to establish which heads are optionally realized by syntactic epenthesis [...]” (p.48), I will try to map the precise functional heads realized by the *A*-morpheme. Moreover, my data support C&R’s (2003) claim that “the phenomenon, which, to our knowledge, has never been discussed in the literature, is probably more wide-spread across languages than it looks like.” (p.48)

Thus, I propose that in Veneto dialects, the *A*-morpheme lexicalizes (optionally or obligatorily) functional heads of specialized functional projections in the IP layer.

## 8.2. The position of the *A*-morpheme in the clause

Consider the syntactic epenthesis, first. So far, I have considered four systems of distribution of the *A*-morpheme w.r.t. persons:

1. A ‘1-2-3-4-5-6’ system, in which the *A*-morpheme is optional. This system corresponds to Benincà’s (1983) traditional analysis of ‘clitic *A*’. This system is present in three dialects (*Paduan, Eastern Vicentino, Basso Polesano*) and I will propose that it spells out at least two different morphemes in two different syntactic positions.
2. A ‘1-4-5’ system (*Northern Vicentino*), whose optionality was already noted by Renzi & Vanelli’s (1983) generalization 4 and developed by C&R (2003). In this system, which was also noted by the ‘traditional analysis’ (see footnote 5), the *A*-morpheme is not the ‘subject clitic’ of the first and second persons singular and first person plural as it has been shown by C&R (2003) for Piacentine<sup>19</sup>.
3. A ‘1-4’ system (*Central Vicentino*), where the *A*-morpheme is optional without any difference in meaning.

Consider now the fourth system noted in the sample of dialects, namely the ‘1-2-4-5’ system (or *deictic* class in the *Pol-Typ*). As I showed in table 1, there are dialects (i.e.

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<sup>18</sup>. Dialects #2-6, #10 also show no difference meaning whether the *A*-morpheme is present or not.

<sup>19</sup>. I refer the reader to the article for the detailed analysis.



the *Northern Vicentino* group) which exhibit a double system: if the sentence is an exclamative, the system extends from ‘1-4-5’ to ‘1-2-4-5’. We also have seen that there is a dialect (*Paduan* of Salzano) which exhibits an *A*-morpheme only in the second person singular and only in exclamative contexts.

I propose that the ‘1-2-4-5’ system does not exist by itself (see also C&R (2003), Gorla (2003, 2004) for a critique of this system with independent evidence), but is a ‘surface’ system which realises two underlying ones: a ‘1-4-5’ and a ‘2-exclamative’ system. When an *A*-morpheme co-occurs with a second person singular, the sentence has always an ‘exclamative flavour’<sup>20</sup>.

In order to isolate this property I will try to test the morpheme with specialized *yes-no* exclamatives particles in order to determine whether this claim is empirically supported. In a report on the pattern of exclamative formation in *Paduan*, Zanuttini & Portner (2000) identify a type of yes/no exclamative introduced by *ecome se* (literally ‘and how if’; example taken by Zanuttini & Portner (2000)):

- (76) *Ecome se el ga pianto!* (Paduan, Zanuttini & Portner (2000))  
 (And how if he has cried) And how he cried so!

---

<sup>20</sup>. In other words, when an *A*-morpheme appears with a second person clitic two options are possible: it is an epenthetic vowel as it is shown in (i) (but see also Piacentine in C&R (2003)):

- (i) *At bevi You-2<sup>nd</sup> drink Basso Polesano of Porto Viro*  
 it is an exclamative marker

Another piece of evidence supporting the claim that *a* in (i) has to be considered an epenthetic vowel comes from dative subjects. In Veneto dialects the *A*-morpheme is incompatible with a dative subjects, whereas in *Basso Polesano of Portoviro* the same sentence is grammatical. Contrast (ii) and (iii):

- (ii) *A ti (\*a) t(e) pia[z]e Vicentino*  
 (iii) *A ti (a)t pia[z] Basso Polesano of Porto Viro*  
 (To you – *a-* te/dative clitic likes)

The fact that in (iii) the sentence is grammatical is due to the fact the *a* is an epenthetic vowel.

According to the authors “ ‘*ecome*’ is considered obligatory [...] and is not merely an introductory particle along the lines of *Wow!*, since there is no intonational break between it and the rest of the clause”. Let us use the same exclamative type with the *A*-morpheme: if the morpheme with the second person singular has not to be considered a syntactic epenthesis, but a sort of ‘exclamative marker’ the sentence should be ungrammatical because both particles compete for the same job. This is what happens in (77). When the sentence is in the second person singular the *A*-morpheme is impossible. Contrast (77) and (78):

(77) *Ecome se* (\*a) *te ghe pianto!* (Northern Vicentino)

- (78) a. *Ecome se a go pianto!*  
 b. *Ecome se a ghemo pianto!*  
 c. *Ecome se a gavì pianto!*  
 (And how if a you 2<sup>nd</sup> /I/we/you 5<sup>th</sup> has cried)  
 And how you 2<sup>nd</sup> /I/we/you 5<sup>th</sup> cried so!

In the following sections I will assign a specific syntactic position to the *A*-morphemes spelled out by these five systems.

### 8.3. Toward a hierarchy of person features

The *A*-morpheme in the second person singular gives to the sentence an exclamative interpretation. Extending the proposal to the other systems we obtain the following scenario:

- (79) a. 1-[2]-3-4-5-6 > 1-3-4-5-6 (Paduan, Eastern Vicentino, Basso Polesano)  
 b. 1-[2]-4-5 > 1-4-5 (Central and Northern Vicentino, Medio Polesano)  
       ↓                   ↓  
      *exclamative marker*   *syntactic epenthesis*

The typological studies on preverbal pronominal clitics (see Renzi & Vanelli 1983, among others) noted that the second, third and sixth person clitics (/t/, /l/, /i/) are not always present in NIDs although there is not a huge microvariation and some generalizations have been proposed. Let us consider Renzi & Vanelli’s (1983) generalizations 1, 2 and 3 (translation is taken from C&R (2003:77))

- *if a variety has at least one subject clitic, it is the second person singular* (1)
- *if a variety has two subject clitics, they are the second and third person singular* (2)
- *if there are three subject clitics, they are second person singular, third person singular, third person plural* (3)

In C&R's (2003:77) framework these generalizations have been recast in syntactic terms, by proposing that *the second person singular verb must move higher than the verb conjugated in the other persons, making the clitic pronoun possible instead of the weak counterpart pro*.

The functional projections labelled as ZP<sup>21</sup>, YP<sup>22</sup> and XP belong to a *Person Field* (*Subject Field* in their own terms), namely to a set of functional projections which encode subject features:

$$(80) \quad \begin{array}{ccccccc} 1^{\text{st}} - 4^{\text{th}} - 5^{\text{th}} & [\text{wh}] & 6^{\text{th}} & & 3^{\text{rd}} & & 2^{\text{nd}} \\ [\text{ZP } \alpha] & & [\text{YP } [\text{X}_{3\text{P}} /i/ [\text{X}_{2\text{P}} /l/ [\text{X}_{1\text{P}} /t/ [\text{AgrSP } \text{pro } t_j']]]]] & & & & \end{array}$$

The hierarchy in (80) account for the generalizations above. The microvariation of these vocalic particles (in this case, the A-morpheme) can thus be explained in terms of verb movement: if a subject clitic has to check the [+ person] feature (the marked value), the

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<sup>21</sup>. In C&R (2003) framework a special feature characterizes the Z° head of the ZP projection. Following Kayne (1989), they propose that the '1-4-5' is marked for an underspecified number feature 'α', the only feature they have in common.

<sup>22</sup>. As for the syntax of Yes/No questions (without any rhetorical or exclamative interpretation), I follow the '*lack of V-to-C hypothesis*' for Romance Languages (see Cardinaletti (2001), C&R 2003, p.19 footnote 13). According to C&R (2003), in subject-clitic inversion the verb moves to a YP inside the *IP-layer* (C&R 2003:78):

(i)  $[\text{SubjP } \mathbf{a} [\text{ZP } [\text{YP } \text{ve}_k\text{-to}_j [\text{XP } t_k\text{---} t_j' [\text{AgrSP } \text{pro } t_j]]]]$  *The IP-layer*

In the footnote (64) (C&R 2003: 78) the authors motivate the location of the YP in the IP-layer by observing that "*questions always imply the involvement of the addressee by the speaker. The Inflectional [wh] feature can thus be naturally taken to be related in the subject field*".

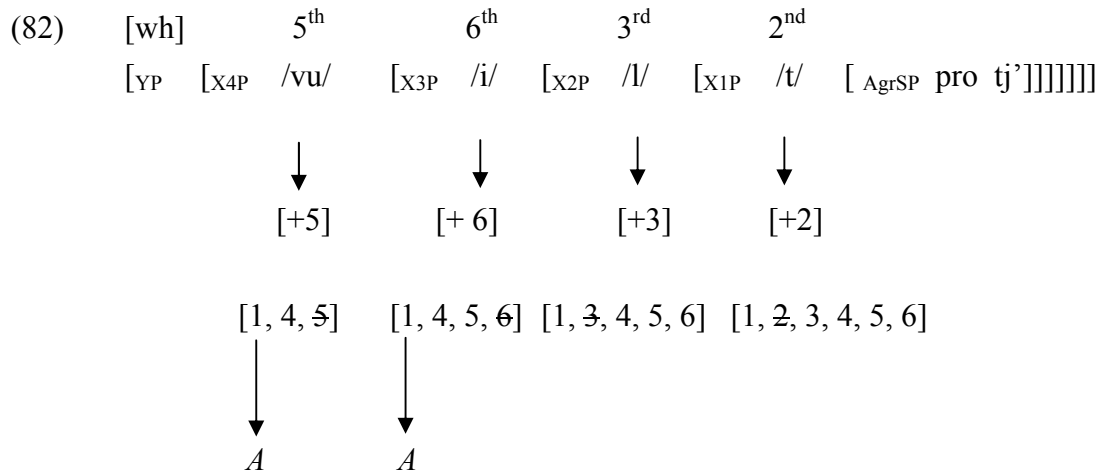
*A*-morpheme lexicalises the empty functional head with a syntactic epenthesis. Let us look at each single subject clitic:

- A. If the /t/ subject clitic has to check the [+person] feature in the specialized functional projection for the second person (the X1° head), then the syntactic epenthesis can be spelled out in the other persons of the paradigm. This system can be optionally realised in *Paduan*, *Eastern Vicentino*, *Basso Polesano* by the *A*-morpheme (see (79a)). According to Renzi & Vanelli (1983: 34) and Gorla (2004) this system is also present respectively in other dialects, namely *Pontremolese* (Massa Carrara, Tuscany) and in *Astigiano* (Piedmont).
- B. If the /l/ subject clitic has to check the [+person] feature in the functional projection dedicated to the third person (the X2° head), then the syntactic epenthesis can apply to the first, fourth, fifth and sixth person. According to Renzi & Vanelli (1983: 34) this system ('1-4-5-6') is realised in *Istrioto di Rovigno* (the present Rovinj, Croatia).
- C. If the /i/ subject clitic has to check the [+person] feature in the X3° head, then the syntactic epenthesis apply to the first, fourth and fifth persons; this system can be optionally realised in *Vicentino* by the *A*-morpheme and in *Piacentine* by the optional [ə].
- D. If a [+person] feature has to be checked by a subject clitic for the fifth person in a X4° head (e.g. in Fiorentino),

- (81) Vu venite! (Poletto 2000)  
 (Cl5<sup>th</sup> come)  
 You come

then the remaining syntactic epenthesis applies to the first and fourth persons. This system is optionally realised in *Central Vicentino*, but it has also been noted in another Veneto dialect, *Feltrino*. (see Corrà 2004).

Let us summarize the refinement of C&R's (2003) proposal: as we compare (80) with (82) we can see that a ZP projection is no longer necessary: when the 'interrogative vowel' is optionally present in yes-no question (see (3)), the activated functional head is the Focus° head in the CP-layer, whereas when it is mandatory in the first, fourth and fifth person with a wh-clitic (see (83)) the activated functional head is the X3P:



(*Vicentino of Creazzo*) (*Vicentino, Piacentine*)

- (83) dõ:d \*(ə) vo-ja (where am I going?)  
 dõ:d \*(ə) num-ja (where are we going?)  
 dõ:d \*(ə) nə:-v (where are you-2<sup>nd</sup> pl. going?)

I proposed that the A-morpheme with the 1<sup>st</sup>, 4<sup>th</sup> and 5<sup>th</sup> person corresponds to the ‘subject field vowel’ proposed by C&R (2003). If so, it is necessary to explain why the A-morpheme is incompatible with wh-elements (84), whereas the Piacentine vowel is mandatory (85):

- (84) do (\*a) nde-o? (*Vicentino*)  
 (85) dõ:d \*(ə) nə:-v (*Piacentine*)  
 (where are you-2<sup>nd</sup> pl. going?)

My proposal is that in *Piacentine* the morpheme has to move to the Y<sup>o</sup> head realizing the [wh] feature, whereas in *Vicentino* the A-morpheme remains in X<sub>3</sub><sup>o</sup> because it is not used in questions.

- (84') \* [YP [Y<sup>o</sup> wh [XP<sub>5</sub> [X<sup>o</sup><sub>5</sub> nde<sub>i</sub>-o [...[XP<sub>3</sub> [X<sup>o</sup><sub>3</sub> a [TP [T<sup>o</sup> ti]]]]]]]]]]]

- (85') [YP [Y<sup>o</sup> a [XP<sub>3</sub> [X<sup>o</sup><sub>3</sub> nə<sub>i</sub>-v ..... [TP [T<sup>o</sup> ti]]]]]]]

**8.4. Northern Vicentino ( # 7 and # 8): one more position**

So far, I have considered the optional realization of the *A*-morpheme (*Paduan, Polesano, Vicentino*). In two dialects of *Northern Vicentino* (Giavenale, Schio), the optionality of the *A*-morpheme is only apparent, namely the morpheme is not a syntactic epenthesis. Consider sentences (86-87)

(86) Me sento male parché [a go magnà massa].  
(I feel sick because [*a* have:1sg eaten too much])

(87) Me sento male parché [go magnà massa].  
(I feel sick because [have:1sg eaten too much])

In sentence (87) the hearer knows the information in the square brackets whereas in (86) the speaker presumes that the hearer does not know the information in square brackets. This can happen without any change of intonation. Consider the sentences in the minidiologue in (87'):

(87') A:	Come ste-to?	(How are you?)
B:	Male, seto!	(Bad, you know!)
A:	Cossa ghe-to?	(What's wrong?)
B1:	A go magnà massa.	(A have:1sg have eaten too much)
B2:	Go magnà massa.	(have:1sg have eaten too much)
A1:	Poareto! Me despiaze!	(Poor thing! I'm sorry!)
A2:	Te lo gavevo mia dito, mi!	(I'd told you (not to eat so much))

The appropriate reply to B1 is A1 because the speaker A does not know that the speaker B has eaten too much. It would be very unusual to reply to B1 with A2, because A2 is the typical reply of someone who already knows the cause of B's sickness. A further example is taken by a fragment of real everyday conversation:

(88) Two physicians at the Schio General Hospital  
A1: Ghe-to ricevuo mia l'ordine de servizio?  
(Have you received the summons?)  
B1: [A go trovà] na letera del primario.  
(A I found a letter from the chief)

- A2: Zé mia quela! Ghe-to trovà altra posta?  
 (It's not that one! Have you found any other mail?)
- B2: [Go trovà] solo che quela.  
 (I only found that one)

In B2 the *A*-morpheme is no longer necessary because there is no more new information to convey. B1 and B2 are pronounced with the same flat intonation.

I claim that this morpheme is not a syntactic epenthesis but the overt lexicalization of a functional head in the preverbal subject field, namely the head of the functional projection proposed for thethetic sentences by Cardinaletti (in press). The *A*-morpheme has to be in a spec-head agreement with the subject in order to give the 'thetic' interpretation of the clause. I call this projection RhemeP (which corresponds to Cardinaletti's EppP)

(89) [SubjP [Rheme P [Rheme° a [YP]]]

### 8.5. The *A*-morpheme in the Subject field (*Paduan, Eastern Vicentino, Basso Polesano*)

According to Benincà (1983), the *A*-morpheme in Paduan binds a Top head when the lexical subject is not expressed. If we recast this proposal in minimalist terms (Chomsky 1995 and subsequent work) we can propose that the *A*-morpheme lexicalises the functional head Subject° (see section 3). The morpheme is in a spec-head relation with an empty operator which checks the 'subject of predication' feature (see Cardinaletti (in press)). This spec-head relation blocks the movement of the DP subject to SpecSubjectP:

(90) [ SubjP [Subj° a [YP [XP ]]]]

However, Subject° is not the syntactic position in which the *A*-morpheme is merged. Benincà (1983) claims that the morpheme expresses that the clause is new information. Thus, the morpheme has to land in Subj° via Rheme°, the functional head in which it can check the [+ rheme] feature (see 8.4).

I propose that the morpheme is base-generated in X1° (see 82) and then moves to the 'subject field' in order to check the [+ rheme ] feature and then it is spelled out in Subj°:

- (91) [SubjP  $\oslash$  [Subj<sup>o</sup> a [ RhemeP [ Rheme<sup>o</sup> ---- [ ..[X1P [X1<sup>o</sup> ---- ]]]]]]]

Consider now the other two dialects which display the same ‘1-3-4-5-6’ system, namely *Eastern Vicentino* and *Basso Polesano*.

These dialects display a very similar distribution and optionally realize a head of a functional projection activated in the preverbal subject-field (which is in the IP-layer as shown by Cardinaletti (in press)):

- (92) [FinP [Fin° \_\_\_\_\_] | [SubjP [Subj° \_\_\_\_\_] \_\_\_\_\_]  
*The CP-layer The IP-layer*

This morpheme is compatible with all persons (since it has neutralized its agreement features), but whereas in *Polesano* it is fully compatible with a strong subject, in *Eastern Vicentino* it is not:

- (93) a. Mi *a* bevo (Polesano)  
b. ?Mi *a* bevo (Eastern Vicentino)  
(I a drink)

Both dialects admit the *A*-morpheme with a quantified subject:

- (94) Nissun *a* me voe ben te sta casa  
(Nobody *a* loves me in this house)
- (95) Qualchedun *a* ga da dirme cossa che si drio fare  
(Someone *a* has to tell me what you are doing)

As it is claimed in Cardinaletti (in press: 29-30), Tortora (1997: 67) brings evidence from *Borgomanerese* that in NIDs negative quantifiers occupy a different subject position with respect to subject DPs. Quoting Cardinaletti (in press: 29) “*whereas nziun (nobody) can cooccur with the locative clitic ngh (there), the subject DP la Maria (the Maria) cannot:*



- (1) a. *Nzün ngh è rivà-gghi.*  
       (nobody LOC is arrived-LOC)  
       b. \**La Maria ngh è rivà-gghi.*  
           (the Maria LOC is arrived-LOC)

*The locative clitic ngh in AgrS requires a locative pro in specAgrSP. This prevents the nominative DP la Maria from checking  $\phi$ -features. The negative quantifier can be taken to occur in a position higher than specAgrSP, i.e. a position devoted to quantified subjects”.*

Since the *A*-morpheme is not mandatory with strong subjects, I propose that in *Eastern Vicentino* it optionally realises the Quantified Subject<sup>o</sup> head :

- (96) [QSubjP Nisun [QSubjP [QSubj<sup>o</sup> a [XP me voe ben te sta casa]]]

Compare now *Piacentine* and *Paduan*: whereas in former the morpheme is compatible with a yes-no question, in the latter the equivalent of (97) is not ungrammatical, but the *A*-morpheme gives the sentence an exclamative reading. Note that in order to get such a reading, the morpheme has to be spelled-out:

- (97) (ə) bev ət?  
       (Are you drinking?)

- (98) (a) bevi-to?!!  
       (A are you drinking?!!)

The fact that in *Piacentine* the vowel is optional in yes-no questions is explained by assuming “that a null operator is merged higher than *SpecFocusP* and not moved from a lower position, which implies that no *Spec-Head Agreement* with the *Focus* head takes place.” (C&R 2003, p.35). Following Rizzi (2001) the authors “take the empty operator merged in the specifier of *Int(errogative)P* that hosts the complementizer *se* ‘whether’ in embedded yes-no questions”. (C&R 2003, p.35):

- (99) Force (Top) Int (Top) Foc Fin IP-layer

(100) a. (ə) bev ə t?

(Are you drinking?)

b.  $[_{IntP} \emptyset [_{Int^{\circ}} [_{FocusP} [_{Focus^{\circ}} \text{ə} [_{IP} \text{bev ə -t}]]]]]$

Extending C&R's (2003) proposal to Veneto dialects, I have proposed that whenever a *A*-morpheme conveys a special semantics to the clause, it has to be in a Spec-Head relation with the XP element in the specialized functional projection.

In *Paduan* the optionality of *A*-morpheme is only apparent, because it provides new information and an exclamative interpretation to the clause. Thus, I propose that the *A*-morpheme spelled out in (101) is merged in X1P, raises  $Y^{\circ}$  to check the [wh] feature in  $Y^{\circ}$ , check the 'thetic' feature in  $Rheme^{\circ}$  in order to give the sentence new information and finally lands to  $Subj^{\circ}$ :

(101)  $[_{SubjP} \emptyset [_{Subj^{\circ}} \text{a} [_{RhemeP} [_{Rheme^{\circ}} \text{---} [_{YP} [_{Y^{\circ}} [\text{wh}] [_{X1P} [_{X1^{\circ}} \text{---}]]]]]]]]]]]$

The same holds for *Eastern Vicentino* and *Basso Polesano*.

## 9. Conclusions

In this work I studied the microvariation of the *A*-morpheme in Veneto dialects. The evidence brought by eleven dialects which have this vocalic particle has lead to the following claims:

1. There are dialects which admit an *A*-morpheme after a strong subject (see table 1 in section 6.1). This fact brings evidence that the morpheme is base-generated in the IP-layer.
2. In some Veneto dialects there is an *A*-morpheme which does not change the meaning of the sentence (see table 2 and table 3 in section 6.2). This is consistent with C&R's (2003) description of [ù] in *Piacentine*.
3. The *A*-morpheme is not a subject clitic. In some dialects it is a syntactic epenthesis which optionally realizes a functional head in the IP-layer (see sections 8.1-8.3), in other dialects it is a vowel with a special semantics (an 'exclamative marker', see 8.3, a *thetic* vowel in the *subject-field*, see 8.4-8.5). This is consistent

with Beninca's (1983) original analysis of the *A*-morpheme in *Paduan* and with C&R's (2003) framework in *Piacentine*.

4. The *A*-morpheme is neither an *invariable subject clitic* nor a *deictic subject clitic* in the *Pol-Typ* sense (see 6.2). Poletto's (2000) diagnostics does not account for the syntax of the morpheme in Veneto dialects (see 6.3).
5. There are systems of *A*-morphemes across the person paradigm which are not present in the *Pol-Typ* (see 8.2). If we isolate the second person singular as a separate system (a '2-exclamative' system, see 8.2 examples (74)-(76)) we can account for others different systems which are not present in the *Pol-Typ* (see 8.3). Thus, in order to account to a proper treatment of the vocalic particles in Veneto dialects the notions of *invariable* and *deictic clitics* should be abandoned.
6. In Veneto dialects there are no *A*-morphemes in the CP-layer. The data presented in sections 6 and 8 support the claim that these morphemes are base generated (8.3) and sometimes moved (8.5) within the IP-layer, as predicted by C&R's (2003) framework.
7. There is a precise hierarchy of person features in the *Person Field* (in the IP-layer, see (82)).

The different syntax of the *A*-morpheme as a syntactic epenthesis in the IP-layer is consistent with C&R's (2003) correlation between the hierarchy of subject clitics (proposed by Renzi & Vanelli (1983)) and verb movement. The refinement of C&R's (2003) hierarchy proposed in (82) also accounts for a precise syntactic position of the fifth person clitic, the highest of the *X*°s heads. Moreover this proposal eliminates the ZP projection proposed by C&R (2003) (see 8.3, example (80)).

This investigation does not intend to say the last word on this topic. Several NIDs has to be investigated under this new perspective. The aim of this work was to extend C&R's (2003) new framework to other dialects and I showed how the result obtained support this proposal and opens new ways of looking at microvariation among northern Italian dialects.

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## A Note on Verb/Object order and Head/Relative clause order\*

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That some typological relation exists between the order of the object with respect to the verb and the order of the relative clause (RC) with respect to its Head is known since Greenberg (1963). While VO languages (SVO, VSO and VOS) have postnominal RCs, prenominal RCs are found almost exclusively in OV languages.<sup>1</sup> In other words:

- (1) a.  $VO \supset NRel$   
b.  $RelN \supset OV$

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<sup>1</sup>. Cf. Downing (1977,164; 1978,383,391f), Keenan (1985,143f). Hawkins (1990,256) explicitly states: “If a language has VO, then it has NRel” (but see fn.4 below).

The original figures from Greenberg’s (1963) 30-language sample are given here, adapted from his table 10, p.90. In fn.20, p.106, he lists the languages (both these and the numbers in the table add up to 29, though):

	VSO	SVO	SOV
RelN	0	0	7
NRel	6	12	2
Both RelN and NRel	0	1	1

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These implications cannot be strengthened by adding  $NRel \supset VO$  and  $OV \supset RelN$ , because OV languages seem to show no clear preference for either a pre- or postnominal positioning of their RCs. This appears most clearly from Dryer's (1992a) 543-language sample:

- (2) Order of Relative clause and Head and the VO/OV distinction (source: Dryer 1992a,86)<sup>2</sup>

	NRel	RelN
OV	37	26
VO	60	1

Dryer's conclusion that Verb/Object order and Head/RC order do not form a correlation pair in the same sense as Verb/Object and Adposition/Object do is very widely shared. See, among others, Hawkins (1994, 265,273);<sup>3</sup> Croft and Deligianni (2001,3); Diessel (2001,446); Song (2001,244); Rijkhoff (2002,307).<sup>4</sup>

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<sup>2</sup>. The numbers here refer to genera, not languages. Also see Dryer (2003) for similar figures within a somewhat expanded sample.

<sup>3</sup>. Cf. also Hawkins (1990, 241) where it is said that "44% of verb-final languages have postnominal relatives in the sample of Hawkins (1983)".

<sup>4</sup>. Rijkhoff (2002,307) also states that, for his sample, "the correlation is stronger in the group of VO-languages than in the OV-languages. Thirteen OV-languages have RelN order and eight have NRel order; in the group of VO-languages, on the other hand, eleven languages have NRel order, whereas only two have RelN order: Ngiti and Tsou.". However, Ngiti is a somewhat unusual SVO language (the SVO order systematically alternates with SAuxOV; it has postpositions; the genitive precedes the N – Kutsch Lojenga 1994). Kutsch Lojenga (1987/2003), in fact, explicitly argues for the verb final character of the language.

Dryer (2000) states that "RelN order in VO languages is exceedingly rare crosslinguistically; the only attested instances are Bai and the Chinese languages, both Sino-Tibetan" (p.26). Mallinson and Blake (1981,285) in their 150-language sample found only one other VO language with exclusively prenominal RCs, Palauan (Malayo-Polynesian – Austronesian). For VO languages that have both pre- and postnominal RCs, see Mallinson and Blake (1981,285), Comrie (1981,141), and Keenan (1985,144), among others.



The mere numbers, however, may conceal the existence of a significant generalization relating the order of the verb and its complements to the order of the Head and the RC.

In their chapter 5 (“Relative Clauses”, pp.261-371), Mallinson and Blake (1981) list the 150 languages of their sample according to subject/verb/object order, and according to whether they display RC-Head order, Head-RC order, or both.<sup>5</sup> The numerical results largely confirm (ante litteram) Dryer’s results in showing no clear tendency for OV languages (especially if languages with exclusive NRel and those with both NRel and RelN as alternative options are added together):<sup>6</sup>

	NRel	RelN	both NRel and RelN
OV	5	17	12
VO	109	1	6

However, more telling than the actual numbers is to observe from their table which OV languages allow only the RelN order and which allow the NRel order as the exclusive or as an alternative order. The former group (Ainu, Amharic<sup>7</sup>, Basque, Burmese, Burushaski, Chibcha, Fore, Japanese, Kannada, Korean, Mongolian, Piro, Sherpa, Sinhala, Sri Lanka Malay, Sri Lanka Portuguese, Tamil, Telugu) appears to contain

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<sup>5</sup>. Each of the 150 languages of table 4 (“Word Order and Head/RC Order”) appears in the following format (taking Turkish, an SOV language, with both pre- and (in the more literary register) postnominal RCs, as an example):

	Language	Word Order	RC-Head	Head-RC
139.	Turkish	SOV	x	x

<sup>6</sup>. Greenberg’s (1963) 30-language sample also showed (albeit in a weaker form) that OV languages are compatible with both RelN and NRel (cf. fn.1).

<sup>7</sup>. While Schwartz (1971,141), Gragg (1972,159) and Hawkins (1983,320; 1994,316) classify Amharic as only having prenominal RCs (see also Givón 1975, 97-98), Mallinson and Blake (1981,276,288) actually classify it as having both pre- and postnominal RCs. Girma Demeke, however, confirms to me that RCs are exclusively prenominal in Modern Amharic (and, incidentally, that complement clauses are also strictly preverbal, which will be relevant for the proposal below). Also see Tremblay and Kabbaj (1990,167f) and Demeke (2001). The source of the inconsistency may be the fact that Amharic “until fairly recently, apparently had VSO word-order and postnominal relatives” (Downing 1978,393, based on Hudson 1972).

languages corresponding to Greenberg's (1963,79) "rigid" type; the latter group (Adyghe, Fur, Galla (Oromo), Hindi, Hittite, Hottentot (Nama), Kanuri, Khamti, Marathi, Nubian, Quechua, Rashad, Sandawe, (Classical) Tibetan, Tigre, Turkish<sup>8</sup>) appears to contain languages corresponding to his "non rigid type".<sup>9</sup>

Assuming this generalization to be essentially right, one could propose the following correlations:

- (3) a. If VO then NRel
- b. If "rigid" OV, then RelN
- c. If "non-rigid" OV, then NRel or both NRel and RelN

Even if possibly correct, such a statement would, however, fail to expose what is at the basis of these correlations. We submit that the correlation between V/O order, and the order of RCs and their Heads is intimately related to the order of complement and adjunct subordinate clauses w.r.t. the verb. In VO languages subordinate clauses follow the V, as they can, typically, in "non-rigid" OV languages (cf. Dryer 1980,130,172). In the same languages, RCs follow the Head. Subordinate clauses, however, do not

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<sup>8</sup>. Greenberg (1963) puts Turkish in the "rigid" subtype of SOV languages (namely those "in which the verb is always at the end", p.79), noting however that it exceptionally allows certain phrases to follow the verb (see his fn.10). Limited exceptions to absolute verb-finality are also found in other languages often categorized as "rigid" SOV languages (e.g., the Dravidian – see fn.10, below). To judge from his Universal 7, "non rigid" SOV languages are for Greenberg those that allow adverbial modifiers to follow the verb (presumably, adverbial PPs and clauses). Close to Greenberg's original sense, here we take the term "rigid SOV languages" to refer to those languages where nothing can follow the V (except perhaps as an afterthought), and the term "non-rigid SOV languages" to refer to those languages where various things but lexical NP objects can follow the V (complement and adverbial PPs, complement and adverbial subordinate clauses).

<sup>9</sup>. Later in the chapter (p.299), Mallinson and Blake hint themselves at this possible generalization: "SOV languages are only clearcut RC-Head languages if they are rigidly SOV (Korean, Mongolian and Japanese are strong examples of this), whereas languages which are not rigidly SOV may also allow the order Head-RC". See the Appendix for further evidence in favour of this generalization, which we will try to relate to a property of the subordinator introducing both relative and complement/adverbial clauses.

ordinarily follow the V in “rigid” OV languages, which are more strictly V-final.<sup>10</sup> In the same languages, RCs do not follow their Head, either.

The generalization could be phrased more perspicuously as follows:

- (4) a. In the general case, OV languages that do not allow *postverbal* subordinate clauses (“rigid” OV languages) do not allow *postnominal* RCs.  
 b. In the general case, OV languages that allow *postverbal* subordinate clauses (“non rigid” OV languages) also allow *postnominal* RCs

If this generalization survives further scrutiny, then there may be a genuine correlation between V/(clausal) O order in the sentence and N/RC order in the DP.<sup>11</sup>

From the languages in the two Appendices below, which includes the OV languages of Mallinson and Blake’s own sample and a number of other OV languages, it appears that the generalization is basically correct.

Generalization (4) says that in those OV languages in which there can be a post-Head clause in the sentence ([..V Clause..]) there can be a post-Head RC in the nominal phrase ([..N RC..]).

In turn, the possibility for a clause to follow the V or the N seems to some extent related to the presence of initial complementizers. While preverbal and prenominal (finite)

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<sup>10</sup>. Except as afterthoughts (or deaccented, backgrounded, information). Cf., e.g., Kuno (1978) for Japanese, Herring (1994) for Tamil, Veld (1993, §7.4) for Turkish, and Peterson (2003,420) for Hakha Lai.

<sup>11</sup>. Dryer (1992a,87), despite the observed skewed preference for NRel across VO and OV languages, suggests that the pair N and relative clause is after all still a correlation pair with V/O order, proposing that what ties the V/O order to the N/RC order is his Branching Direction Theory, whereby “verb patterners are non-phrasal (non-branching, lexical) categories and object patterners are phrasal (branching) categories” (p.89). This requires one to ignore the phrasal (branching) character of the relative clause Head overtly visible in such cases as *the [interesting book about Gandhi] that we read* (cf. Kayne 1994,154fn13). That the RC Head is the whole branching constituent *[interesting book [about [Gandhi]]]* is indicated by the fact that the missing object within the relative clause is understood as “(an) interesting book about Gandhi”. This may generalize to all “verb-patterners”, including “verbs”, which also appear to be “branching” in certain cases (e.g. in their relation to adpositions [[V O] PP] vs. [PP [ O V]]), as Dryer himself notes. Perhaps the relevant notion of Head is not head in the X-bar sense (an X°), but an (extended) projection of the lexical head (N,V,etc.) of a phrase (DP, VP, etc.).

clauses have final rather than initial complementizers ([<sub>Clause</sub>.....COMP] V/N], postverbal and postnominal (finite) clauses have initial rather than final complementizers ([V/N [<sub>Clause</sub>COMP.....]]).

Hawkins (1990,256) notes that VO languages are exclusively Comp initial, while OV languages are either Comp initial or Comp final (see also Dryer 1992a, sections 4.3 and 4.5,1992b; Diessel 2001):

- (5) VO languages     s'[Comp S] only  
       OV languages     s'[Comp S] or s'[S Comp]

In the light of what we just observed about V/O order and RC/Head order, the double possibility in complementizer positioning of OV languages, vs. the single possibility of VO languages, leads us to expect that s'[S Comp] will be found preverbally in “rigid” OV languages and s'[Comp S] will be found postverbally in both VO and “non-rigid” OV languages. This appears confirmed by the following passage from Hawkins (1994): “[...] grammars that would potentially generate D [i.e., Comp S V] seem to have an extraposition rule converting D into A [i.e., V Comp S] [...]. This is true for Persian and for German. It is also true for the finite S' structures of Yaqui and Turkish (cf. Dryer 1980). Moreover, in all the languages mentioned, Extraposition is *obligatory* in this environment, with the result that these languages exhibit a “left-right asymmetry” [...]: a rightward skewing for sentential direct objects, even in languages that are SOV for non-sentential objects [...].” (pp.263-64).<sup>12</sup>

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<sup>12</sup>. These are robust tendencies rather than absolute rules. Although it is generally stated that there are no languages with prenominal RCs that have an initial finite complementizer (e.g., Andrews 1975,44; Downing 1978,394), some in fact exist. See below the cases of Galla (Oromo) in (10), Silli Greek in (11), and Tigre in (12). Though rare, the counterpart with preverbal complement clauses ([<sub>clause</sub> COMP.....] V) also exists. See, e.g., (i), from Oromo (Owens 1985,146, cited in Julien 2001,55):

- (i) joollée [akka I-tt hin-séenne] d'ólk-i  
       children that it-to Neg-enter prevent-IPR     ‘Prevent the children from entering it’

One also finds the converse (postverbal and postnominal finite clauses with final complementizers: ([V/N [<sub>clause</sub>.....COMP]]). Postverbal finite complement clauses with final complementizers are found, among others, in Lakota (Siouan – Dryer 1980,132), Ngiti (Nilo-Saharan - Kutsch Lojenga 1994, 395), Telugu and Malayalam (Dravidian - Bayer 2001,fn.11), Dhivehi (Indo-Aryan – Cain and Gair 2000,37)

Bayer (2001), noting that “Indo-Aryan languages with Dravidian contact often show a dual system of sentential complementation with clause-initial complementizers for clauses in post-verbal position and clause-final complementizers for clauses mainly in pre-verbal position” (p.11), makes the important observation that the initial and final complementizers are lexically different, and cannot be used interchangeably (i.e. “the lexical choice of the complementizer goes hand in hand with word order”, p.15). The so-called ‘quotative’ complementizers, which derive from verbs of saying, are necessarily final. The necessarily initial complementizers, instead, appear to have originated in noun-modifying clauses as relative pronouns (p.18ff).<sup>13</sup> More important than their origin, though, is the fact, pointed out by Bayer, that they are differently specialized w.r.t the types of clauses they select, and seem to enter different structures. Observing that with postverbal clauses introduced by an initial complementizer there can be a nominal correlate “in the expected position to the left of the verb”<sup>14</sup> (p.21) (cf.(6) from Bengali (Bangla) = his ex. (10)), Bayer suggests that perhaps they always

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and Santali (Munda – see Appendix II). Postverbal adverbial clauses with final subordinators are found, among others, in Yagua (Peba-Yaguan – Dryer 1992b,62), Malayalam (deaccented, Jayaseelan p.c.) and Gapapaiwa, Nama, Teribe and Tol (see Appendix II). Postnominal RCs with final complementizers are found, among others, in Slave (Athapaskan – Rice 1989,chapter 47; Dryer 2003,31); Lendu (Nilo-Saharan - Kutsch Lojenga (1987/2003,9); Teribe (Chibchan - see Appendix II).

<sup>13</sup>. An identical situation is found in Uzbek (Turkic), where the quotative complementizer *deb* (lit. ‘saying’) is necessarily clause final (in preverbal position), as opposed to the necessarily clause initial complementizer *ki* (in postverbal position). See (i) and (ii), from Noonan (1985,85):

- (i) Men bilamen ki bu ɔ dam joja-ni oğirladi  
 I know-1sg comp this man chicken-obj stole-3sg ‘I know that this man stole the chicken’  
 (Extraposition obligatory with this sort of s-like complement)
- (ii) Xotin bu ɔ dam joja-ni oğirladi deb dedi  
 woman this man chicken-obj stole-3sg saying said  
 ‘The woman said that this man stole the chicken’  
 (Extraposition not possible with this sort of s-like complement)

<sup>14</sup>. This nominal correlate can be either a simple pronoun, or a demonstrative, or a general DP like “this talk, story, etc.” (Bayer 1999,fn.51; 2001,21).

do, and that when nothing appears one should posit an unpronounced nominal correlate:<sup>15</sup>

- (6) chele-Ta e kOtha jane na \*(je) baba aS-be  
 boy-CL this story knows not (that) father come-will  
 ‘The boy does not know it that his father will come

This conjecture appears to be supported by the fact that postverbal finite clauses with initial complementizers (as opposed to preverbal ones with final complementizers) behave the same way as “extraposed” relative clauses and “extraposed” clausal complements of N(P)s. They are “frozen” in place; e.g. they cannot be topicalized (cf. Bayer 2001, 18ff).

What all of this suggests is that to be clause initial is possibly a property of those complementizers that are nominal in character; i.e., that appear with RCs, with complements of Ns, and nominalized clausal complements of verbs.<sup>16</sup>

What is crucial from the present perspective is that such “initial” complementizers/subordinators turn out to be a feature of VO and “non rigid” OV languages.

To judge from Diessel (2001), a similar pattern is displayed by adverbial clauses: “While adverbial clause constructions that tend to precede the main clause/predicate only occur in OV languages in my sample, adverbial clauses that are commonly pre- and postposed occur in both VO languages and a significant minority of OV languages. If we look at the latter more closely, we find that (almost) all of them are marked by an initial conjunction or adverb, while adverbial clauses that usually precede the main clause/predicate always include a final subordinator (i.e., a final conjunction, adverb, or suffix). There is thus a strong correlation between the ordering of main clause/predicate and adverbial clause and the position of the subordinator in the subordinate clause: adverbial clauses including a final subordinator tend to precede the main clause/predicate, whereas adverbial clauses that are marked by an initial subordinator are commonly found in both initial and final position regardless of the order of verb and

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<sup>15</sup>. Bayer (2001, 21) also notes that the Bengali complementizer *je*, which is homophonous to the relative pronoun, cannot be missing in the presence of an overt correlate.

<sup>16</sup>. Kayne (2003, sections 4.6, 4.7) makes the suggestion that (most) finite clausal complements of verbs need to be nominalized to be licensed as arguments of a verb.

object.” (p.434). Also see Dryer (1992a, §4.5). Once again, the postverbal positioning of the adverbial clause in VO and, we take, “non rigid” OV languages appears to be a function of the initial subordinator/complementizer.

To summarize, we have suggested that, in OV languages, 1) the presence of prenominal RCs correlates with the presence of preverbal complement and adverbial clauses; 2) conversely, the presence of postnominal RCs correlates with the presence of postverbal complement and adverbial clauses<sup>17</sup>; and 3) the two correlations are related to the presence, in the three types of clauses, of final and initial complementizers, respectively. The latter claim is supported by the languages in Appendix II only partially, though. Of the 46 OV languages with postnominal RCs and postverbal complement and adverbial clauses considered there, only 13 (Brahui, Galla (Oromo), Georgian, Hindi, Hittite, Marathi, Pashto, Persian, Pima Bajo, Svan, Tünnen, Turkish, Zazaki) have an initial complementizer in the three types of clauses; 8 (Bagri, Bangla, Gapapaiwa, Latin, Santali, Somali, Xakas, Yaqui) have an initial complementizer in two of the three types of clauses; 2 (Hopi and Teribe) have a final complementizer in two of the three types of clauses; 9 (Ala’ala, Coahuilteco, Evenki, Nama, Sandawe, Sentani, Shipibo-Konibo, Tol, West Greenlandic) show a (mainly final) complementizer for only one of the three types of clauses (the adverbial clause); 2 (Godoberi, Santali) show a final complementizer only for complement clauses; 9 (Desano, Eudeve, Kabardian, Kairiru,

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<sup>17</sup>. There are, however, (limited) cases of mismatch. So, for example, Slave (Athapaskan) has preverbal subordinate clauses (Rice 1989, chapt.42), but postnominal RCs (Rice 1989, chapt.47; Dryer 2003,31). Conversely, Lendu and Ngiti (Nilo-Saharan) have postverbal finite complement clauses (Ngiti with a final complementizer), yet only prenominal RCs (Lendu with a final invariable relative complementizer). See Kutsch Lojenga (1987/2003,9; 1994, 395). Even some Dravidian “rigid” OV languages (Telugu and Malayalam) appear to allow deaccented postverbal complement and adverbial clauses (with a final complementizer) (Bayer 2001, fn.11; and Jayaseelan, p.c.), yet, only have preverbal (participial) RCs. Lezgian (Nakho-Daghestanian) also has (some) postverbal finite complement clauses, arguably of Persian origin (Haspelmath 1993, chapter 20, §7), yet only prenominal participial RCs (chapter 19). Dhivehi (OV; Indo-Aryan – Cain and Gair 2000) also appears (cf. their ex.(110), p.37) to have postverbal complement clauses (with a final complementizer), but only prenominal, participial, relative clauses (“perhaps as a result of Dravidian influence”, p.35).

If its few apparently postnominal RCs are actually free relatives in apposition (cf. Lehmann 1984,61; Rebuschi 2001, fn.9, who refers to Oyharçabal 1987), Basque, which has postverbal complement clauses (Lehmann 1984,59), would be another case in point.

Rigid SOV Korean appears to allow (albeit only rarely) also postnominal RCs (cf. Rijkhoff 2002,209).

Manam, Northern Paiute, Quechua, Skou, Wichita) do not show any complementizer for any of the three types of clauses; and 3 (Canela-Crahô, Kuku Yalanji, Pech) have a *final* complementizer for all three types of clauses.

Despite this less than perfect correlation between the postverbal/postnominal positioning of the clause and the presence of a clause initial complementizer (which may in part depend on the limited character of the sample), we take the correlation to be real; and to follow from a property, recently discussed by Kayne (2000a, 2001, 2003, 2005), of the (initial) complementizer of finite subordinate clauses (whether complement, adverbial, or relative).

*Initial complementizers.* On the basis of various considerations, Kayne suggests that clauses are generated in their argument or adjunct position without a complementizer. They then move to their licensing position,<sup>18</sup> to the left of which an overt complementizer is subsequently inserted. Exemplifying with German:<sup>19</sup>

- (7) a. [nicht [VP[DP[IP Fritz Maria kennt] [NP(es)]] glaubt]] →  
 b. [[DP[IP Fritz Maria kennt] [NP(es)]] [nicht [VP t glaubt]]] →  
 c. [[IP Fritz Maria kennt] C [[DP t [NP(es)]] [nicht [VP t glaubt]]]] →  
 d. (Weil Hans) [daß [[IP Fritz Maria kennt] C [[DP t [NP(es)]] [nicht [VP t  
 (Because H.) that F. knows M. it does not  
 glaubt]]]]]  
 believe

The property, here relevant, that complementizers have (in VO languages, and in many OV languages; i.e. those of the “non-rigid” type) is that of attracting to their left everything that follows their clausal complement, hence turning (7)d into (8)

<sup>18</sup>. I.e., to the specifier of a higher functional head (indicated with C in (7)), much like direct object DPs move to their licensing position of Case (from a position adjacent to the verb to a position which can be separated from it by adjuncts less closely related to the verb): Er hat **wen** zum Mittagessen **t** eingeladen ‘he has invited someone for lunch’.

<sup>19</sup>. In line with Bayer (1996,1999,2001), and Kayne (2003) (cf. also Stowell 1981), I will assume that the object argument IP, except perhaps for the IP complement of verbs of saying, is in fact an adjunct to an overt, or covert, nominal head.



- (8) (Weil Hans) (es) **nicht glaubt** daß [er Maria kennt] t .. ‘As he doesn’t think that he knows M.’

with the consequence that both the complementizer and the clause “end up” after the matrix verb.<sup>20</sup>

This movement could be thought of as a kind of ‘intraposition’, the “antisymmetric” analogue of the ‘extraposition’ operation that in earlier stages of the theory was assumed to derive (the string of words in) (8) from (the string of words in) (7)d (Kayne 1994).

If we take the overt (and abstract) complementizers of RCs to have essentially the same attraction property (as in fact Kayne 2000, 318f himself suggests), then the similarity in *post-“Head”* positioning of the clause in the sentence and in the nominal phrase (i.e., the generalization noted above) can be captured:<sup>21</sup>

- (9) a. [[we bought [which expensive book]] expensive book] →  
 b. C [[we bought [which expensive book]] expensive book] →

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<sup>20</sup>. This attraction may well be obligatory even in German, despite the fact that a sentence like *Weil Hans daß er Maria kennt nicht glaubt...* is also possible. As Josef Bayer pointed out to me (p.c.), such a sentence and *Weil Hans nicht glaubt daß er Maria kennt...* do not mean the same. In the former *glauben* denotes a belief, whereas in the latter it is a plain propositional attitude verb, like *meinen* (which in fact can only enter the latter structure).

<sup>21</sup>. The Head (*expensive book*) may be preceded by an unpronounced SUCH, the Head counterpart of *which*. “Head” here should be taken as in fn.11, not in its X-bar sense (non-phrasal category). In fact, in a way parallel to what is noted for RC “Heads” there, also the verbal “Head” preceding subordinate clauses appears to be phrasal (it can be accompanied by various other complements and adjuncts, which also precede the subordinate clause. Cf. *I [convinced Bill] that he should try*). As implicit in (9), we take the RC to be base-generated in prenominal position (for which see Cinque 2003), though nothing crucial depends on that assumption. In (9), the “matching”, rather than the “raising”, option is illustrated.

Also note that in a relative clause given that part of the “complement” is attracted to the left of *that* (i.e., the constituent which matches the Head), the further attraction of the Head must be effected by an abstract head merged higher, with the same attraction properties (what we indicated as X in (9)). It remains to be seen if the derivation of complement clauses is not in fact closer still to that of a relative clause, in that it is an instance of hidden relativization (something like: Hans doesn’t believe ([THE STORY [ACCORDING TO WHICH STORY [that Fritz knows Maria]]])).

- c. [we bought [which expensive book] C [t] expensive book] →  
 d. [that [[we bought [which expensive book]] C [t] expensive book] →  
 e. [which expensive book [that [[we bought t ] C [t] expensive book]] →  
 f. X [which expensive book [that [[we bought t ] C [t] expensive book]] →  
 g. [expensive book X [~~which expensive book~~ [that [[we bought t ]] t ]] C [t] →  
 h. (I lost) the [expensive book X [~~which expensive book~~ [that [[we bought t ]] t ]] C [t]

As noted, such “initial” complementizers turn out to be a feature of VO and “non-rigid” OV languages.

The case of initial complementizers in pre-Head position, as in (7d) above, is apparently rather marked. We interpret it as arising from the attraction of IP by a non-pronounced lower complementizer (the C of (7)d and (9)d), and from the (marked) property that the higher overt complementizer has of attracting nothing.<sup>22</sup>

Though again quite rare, the case of initial complementizers in finite RCs also seems to exist. It is generally stated, or assumed, that there are no languages with prenominal RCs that have an initial finite complementizer (e.g., Andrews 1975,44; Downing 1978,394). Yet, Galla (Oromo) (Cushitic), Silli Greek (which is spoken in Asia Minor, and on which Turkish may have played a role), and Tigre (Ethio-Semitic), appear to be three such languages. See (10)-(12).<sup>23</sup>

- (10) [**kan** [ kalēsa gale]] namtičča an arge (Galla (Oromo) - Mallinson  
and Blake 1981,289)

Rel yesterday arrived(finite) man-def I saw  
 ‘I saw the man that arrived yesterday’

- (11) [**kiát** [íra ]] perí (Silli Greek - Song 2001,256)  
 Comp saw-I boy  
 ‘The boy that I saw’

<sup>22</sup>. Merge of C and X of (3) above VP yields relative clause extraposition (cf. Kayne 2000a,318f). As Kayne notes, this may turn out to be the only option available.

<sup>23</sup>. Galla (Oromo) and Tigre also allow postnominal RCs.

- (12) [ **la** [zet fäggôr mōnna]] ’ôkôl (Tigre - Palmer 1961,27f)  
 Rel marker oil it-comes from-it crop  
 ‘the crop from which oil comes’

Although they are quite common in preverbal position (as well as in postverbal position) in VO languages, subordinator-initial adjunct clauses normally occur postverbally in OV languages, though some exceptions exist. See, e.g., (13).

- (13) [**kawu** [nji yakin-də-ro ]] bəri bukin (Kanuri - Hutchison 1976,141)<sup>24</sup>  
 before water drink.1sg.impf-det-dat meal eat.1sg.impf  
 ‘I will eat before I drink water’

In (“rigid”) OV languages instead one typically finds in preverbal position subordinator-final adjunct clauses. See the quote from Diessel (2001) above and Dryer (1992a, §4.5).

*Final complementizers.* It is tempting to take the “final” complementizers typical of “rigid” OV languages to be the spell out of the lower C of (7) and (9); the one which attracts the “complement” IP or the relative IP (and which is ordinarily not spelled out in VO and “non-rigid” OV languages). See the case of complement clauses in (14), the case of relative clauses in (15) and the case of adjunct clauses in (16) and (17).<sup>25</sup>

- (14) a. Taroo wa [[Ziroo ga baka da] **to**] omotte ita (Japanese – Josephs 1976,367)  
 T. topic Z. nom. mad is Comp thought  
 ‘Taroo thought that Ziroo is mad’  
 b. mene [[Madhu se bethane] **ke liye**] kaha (Hindi – Singh 1977,204)  
 I M. to sit for said  
 ‘I asked Madhu to sit down’

<sup>24</sup>. Cited from Dryer (1992b,59).

<sup>25</sup>. On the apparent relative paucity of finite clauses preceding the complementizer in OV languages, see the discussion in Kayne (2003, sect.4.7).

- c. Chele-Ta [[or baba aS- be] **bole**] Sune-che (Bangla – Bayer 1996,255)<sup>26</sup>  
 boy-CLF his father come-FUT Comp hear-PST3  
 ‘The boy has heard that his father will come’
- (15) a. [[Vok rool ?a pee] **mii**] lawthlawpaa ka mu? (Lai – Kathol and Vanbik 1999,434)  
 pig food 3sg give Comp farmer 1sg see  
 ‘I saw the farmer who gave food to the pig’  
 b. [[ngbā dzĩ] **ná**] tsstss kā ndzá (Lendu – Kutsch Lojenga 1987/2003,5)  
 child buy.PrC Comp banana ripen.P Neg  
 ‘The bananas which the child is buying are not ripe’
- (16) [[o duma tún timi] **seribi**] arí waií bó-mi (Ijo – Williamson 1965,78)<sup>27</sup>  
 3Pl song sing Cont.Past while I turn come-Past  
 ‘While they were singing, I returned’
- (17) [[ enu-nege-pi ] **tawa**] tarep war-an (Daga – Thompson and Longacre 1985,188)  
 spear-me-3sg MEDIAL lest dance get-1sg PAST  
 ‘Lest he spear me, I dance about’

In this respect, “rigid” OV languages would lack the higher complementizers of VO languages (the one that attracts VP in the case of complement and adjunct clauses and the ones that attract the relative pronoun and the Head NP in the case of relative clauses). Alternatively, they would have unpronounced ones which fail to attract any material. The existence of languages with postverbal or postnominal (“extraposed”) complement or relative clauses with final complementizers appears to support the

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<sup>26</sup>. Recall that some OV languages may have either an initial or a final complementizer (depending on the type of complement clause). See the text above (6) for the case of Bangla, and fn.13 for the case of Uzbek.

<sup>27</sup>. Cited from Dryer (2003,53).

second alternative. In these languages, we may assume that the higher unpronounced complementizers retain the property of attracting the VP, or the relative pronoun and the RC Head. See (18),(19), and (20):<sup>28</sup>

- (18) a. cu-te i-mã amji jarẽn C [[cu-mã akĩn] **na**] (Canela-Crahô - Popjes and Popjes 1986,165)

3-Past 1-Temptry self told 3-Temp 2-like subord

‘He told me that he likes you’

- b. Tohá slolyáya he C [[wakpála ektá ohĩhpaye] **kĩ**] (Lakota – Dryer 1980,132)

when you.know Q creek to fall Comp

‘When did you find out that he fell in the creek?’

- (19) a. domer C [[bor ĩ-ga ] **li**] (Teribe - Quesada 2000,129)

man 1sg see-ABIL REL

‘The man who saw me’

- b. tthik’ihí C [neyaa yet’ah golō thehk’é **sii**] (Slave – Dryer 2003,31)

gun 2SG.son it.with moose 3.shot COMP

N Rel

‘the gun that your son shot the moose with’

- (20) a. ami ekhane eSe-chi C [[tomar SONge kOtha bol-bo] **bole**] (Bangla – Bayer 1996,255)

I here come-Pst1 you with speech say-Fut1 Comp

‘I have come here in order to talk with you’

- b. ?amá k’a way C [[ma híḃe] **mpes**] (Tol - Holt 1999,51)

land dry Cop Neg Pres.rain.3 because

‘The land is dry because it doesn’t rain’

*Circumpositioned complementizers/subordinators.* The existence of two complementizers/subordinators sandwiching the complement/adjunct or the relative

<sup>28</sup>. Other languages displaying the same property are mentioned in fn.12 above. Also see Santali, Canela-Crahô, Kuku Yalanji, and Pech of the Appendix II, below.

clause also seems to constitute evidence for the hypothesized unpronounced higher complementizer, as it seems plausible to take the simultaneous appearance of an initial and a final complementizer to be the spelling out of both positions. See (21) for examples of complement clauses, (22) for an example of an adjunct clause, and (23) for examples of relative clauses:<sup>29</sup>

- (21) a. tuisi tu?i **ke** hu hamut bwika-**kai** (Yaqui – Dryer 1980,fn.7)  
 very good comp this woman sing-subord  
 ‘It is very good that this woman sings’  
 b. rəpʃuû-qi **sè**-na ná ya šá tsáwa nəéma-qɔ ɔ -s Ləp-pə-reê (Tibetan – Bayer 1999,fn25)  
 goat-tail-erg comp-I top meat at all neg-want-comp say-perf/inference  
 ‘The goat-tail said “I don’t want any meat”’
- (22) [se mi-wi’**é** **a**] mí-kò fí’e (Fanti – Welmers 1946,72)  
 when 1sg-finish when 1sg-go home  
 ‘When I’m finished, I go home’
- (23) a. mo yə e jó sán **á’á** (Banjoun (Ghomala) -Watters 2003,255)  
 man Rel 3ps see.Past bird Rel  
 ‘...the man who saw the bird’  
 b. ɲa? [**naŋ** ka-keŋ ɛŋ ge-ya pola? **naŋ**] ge-mu ge-meŋ (Jabêm – Ross 2002d,281)  
 man DEM 1sg-give 3sg 3sg-go:3 Polac DEM 3sg-go.back 3sg-go:1  
 ‘Has the man I sent to Polac come back or not?’

*Internal complementizers.* The case of Bangla “Comp-internal clauses” discussed in Bayer (1996,1999,247;2001,fn.12), Bhattacharya (2001), and references cited there,

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<sup>29</sup>. Note that the final complementizers of Yaqui and (Lhasa) Tibetan in (14) are enclitic. Another case of (almost) circumpositioned complementizers is the Bangla example in (20) below.

I take those cases where a finite (complement, adjunct or relative) clause appears in pre-head position without any overt complementizer/subordinator to involve non-pronounced Cs that fail to attract the remnant. Where a finite (complement, adjunct or relative) clause appears in post-head position without any overt complementizer/subordinator, I will instead assume that the higher (covert) C has the property of attracting the remnant to its Spec.

may possibly be another instantiation of the property that the (higher) finite complementizers have of attracting material to their left in “non-rigid” OV languages. Bayer and Bhattacharya point out that finite complement clauses can have an initial COMP if they follow the matrix verb ((24)a), but can no longer have an initial COMP if the complement clause precedes the matrix V ((24)b). In that case, the COMP is rather internal to the complement clause itself ((24)c). I would like to interpret both cases as consequences of the attraction property of the complementizer. Either the remnant following the complement clause – i.e., the matrix V(P) – is attracted (with the consequence that [COMP S] will be postverbal – see (25)), or part of the complement clause itself will (see (26) (with the consequence that the remnant – the matrix V(P) – can no longer be attracted, but has to stay in situ, to the right of its complement):<sup>30</sup>

- (24) a. chele-Ta Sune-che [je [or baba aS-be]] (Bayer 1996,255)  
 boy-CL hear-Pst3 that his father come-will  
 ‘The boy heard that his father will come’  
 b. \*chele-Ta [je [or baba aS-be]] Sune-che (Bayer 1996,255)  
 boy-CL that his father come-will hear-Pst3  
 ‘The boy heard that his father will come’  
 c. chele-Ta [or baba je [aS-be]] Sone-ni (Bayer 1996,263)  
 boy-CL his father that come-will hear-neg/Pst3  
 ‘The boy hasn’t heard that his father will come’

- (25) a. C chele-Ta [or baba aS-be] Sune-che →  
 b. [or baba aS-be] C chele-Ta Sune-che →  
 c. je [or baba aS-be] C chele-Ta Sune-che →  
 d. chele-Ta Sune-che [je [or baba aS-be] C t] (= (24)a)

- (26) a. C chele-Ta [or baba aS-be] Sune-che →  
 b. [or baba aS-be] C chele-Ta Sune-che →

<sup>30</sup>. A similar derivation is proposed by Kayne (2000b,49f) for Amharic *if*-clauses. For the comparable case of Amharic argument clauses, see (i), from Demeke (2001,196):

- (i) [ e [ Saba worq-u-n yä-[[šäT-äčč-iw] yi-mäsl-all ]]]  
 S. gold-def-acc comp-sell<sub>perf</sub> 1s-3ms 3ms-seem-Aux<sub>pres(ent)</sub>  
 ‘It seems that Saba sold the gold’

- c. je [or baba aS-be] C chele-Ta Sune-che →  
 d. chele-Ta [or baba je [ t aS-be]] Sone-ni (= (24)c)

That *je* corresponds to the higher complementizer *daβ* (*that*) of (7), rather than to the lower complementizer C, is suggested by the fact that C may be spelled out as well (together with the ‘final’ complementizer *bole* seen in (14)c). See (27) (also from Bayer 1996,263f):

- (27) [[ chele **je** poR-be] **bole**] ami mon-e kor-I ni  
 boy JE study-Fut3 BOLE I mind-loc do-1 neg-pst  
 ‘I haven’t thought that the boy will study’

Like in complement and adjunct clauses in the sentence, in some OV languages constituents of the RC may also end up to the left of the relative complementizer. This is more obvious (pace Kayne 1994,93) in those cases where the relative and declarative (or interrogative) complementizers have the same form, as is the case, apparently, in Amharic (Demeke 2001,196ff), and Basque (De Rijk 1972,116; Lehmann 1984,59). See (28):<sup>31</sup>

- (28) [lä-saba [yä-šäT-ku-t] C mäšhaf ]]]] (cf. Demeke 2001,203)  
 to-Saba comp-sell<sub>perf</sub>-1s-3ms book  
 ‘a book that I sold to Saba’

As (following Kayne 2000a,2001,2003,2005) I take the post-“Head” positioning of a clause to depend on the presence of an overt (or abstract) complementizer (of the right kind), it could be that a non-rigid OV language with postverbal complement clauses still has only prenominal RCs if the language has no (relative pronoun or) relative

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<sup>31</sup>. The complementizer can be internal to the RC also in Georgian, modulo the further raising of the RC Head (presumably to the Spec of a still higher Comp). See (i), from Harris (1994,132), and Georgian in Appendix II below.

- (i) [xalxi [C [[kareb-tan axlos **ro** [ t idga] [C [aq’aq’anda]]]]]  
 people doors-at close that he-sit he-clap  
 ‘the people who sat close by the doors began to clap’



complementizer of the same right kind.<sup>32</sup> Conversely, it could be that a certain OV language with postnominal RCs introduced by relative pronouns or relative complementizers (of the right kind) has no postverbal clause as it lacks declarative complementizers (of the same right kind). Slave appears to be such a case. It has preverbal subordinate clauses (Rice 1989, chapt.42), but postnominal RCs (with final complementizers) (Rice 1989, chapt.47; Dryer 2003, 31).<sup>33</sup> In any case, we submit that both such situations are marked, the more general case being that if a language allows *postverbal* subordinate clauses (i.e., is VO or “non-rigid” OV) then it also allows *postnominal* RCs. This was seen to be a consequence of a property of higher complementizers.

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<sup>32</sup>. See the cases of mismatch mentioned in fn.17 above. If its few apparently postnominal RCs are actually free relatives in apposition (cf. Lehmann 1984, 61; Rebuschi 2001, fn.9, who refers to Oyharçabal 1987), Basque, which has postverbal complement clauses (Lehmann 1984, 59), would be another case in point.

<sup>33</sup>. Although no lists, or numbers, of languages are cited, Lehmann (1984, 183) may also be relevant here.

## APPENDIX I

(M&B = Mallinson and Blake 1981)

**OV languages of the “rigid” type (no postverbal subordinate clauses; no postnominal RCs):**

**Ainu** (isolate - M&B,276; Tamura 2000), **Amharic** (Ethio-Semitic – see fn.7 above), **Betta Kurumba** (South Dravidian – Coelho 2003,78ff,214,223), **Burmese** (Tibeto-Burman - M&B, 277; Lehmann 1984,183; Soe 1999), **Burushaski** (isolate - M&B,277), **C(h)amling** (Tibeto-Burman - Ebert 1997)<sup>34</sup>, **Chibcha** (Chibchan - M&B,277), **Divehi** (Indo-Aryan – Cain and Gair 2000), **Dulong** (Tibeto-Burman – LaPolla, 2003), **Enets** (Samoyed – Künnap 1999,31ff.), **Fore** (East New Guinea Highlands Languages - M&B,278; Scott 1978), **Gadaba** (Central Dravidian - Bhaskararao 1998, 347, 350ff), **Hakha Lai** (Tibeto-Burman – Peterson 2003), **Ijo** (Niger-Congo – Lehmann, 1984,72; Carstens 2002), **Inor** (Ethio-Semitic – Chamora and Hetzron 2000,64), **Japanese** (Altaic - M&B,279), **Kannada** (South Dravidian – Steever 1987,109;1998,146ff; Sridhar 1990), **Koiari** (Non-Austronesian Papuan – Dutton 1996); **KoDava** (South Dravidian – Ebert 1996, chapter 5), **KoNDa** (South Central Dravidian – Steever 1987,110; Krishnamurti and Benham 1998,266ff), **Korean** (Altaic - M&B,280), **Lahu** (Tibeto-Burman – Lehmann 1984,61-63), **Lalo** (Tibeto-Burman - Björverud 1998), **Lushai** (Tibeto-Burman - Hillard 1977,339ff, 343); **Malayalam** (South Dravidian - Mohanan 1982,510; Asher and Kumari1997,§1.1.2)<sup>35</sup>, **Mao Naga** (Tibeto-Burman – Giridhar 1994)<sup>36</sup>, **Meithei** (Tibeto-Burman – Chelliah 1997), **Mongolian** (Altaic -

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<sup>34</sup>. The author explicitly says that “modifiers, including subordinate clauses, precede the head” (p.52), and gives only prenominal RCs and preverbal complement and adverbial clauses except for the following example of postverbal purpose clause:

(i) pasung khata-ko raicha sung khom-si  
 old\_man go-NML report PRT wood cut-PURP ‘the old man went to cut firewood’

<sup>35</sup>. As noted, Malayalam appears to allow postverbal deaccented complement and adverbial clauses. Cf. fn.10 and 17 above.

M&B,281; Binnick 1979,chapt.III)<sup>37</sup>, **Parengi-Gorum** (Munda – Aze 1973,263,300f), **Piro** (Arawakan - M&B,281), **Qiang** (Qiangic (Tibeto-Burman) – LaPolla (with Huang), 2003,19f,221), **Sherpa** (Tibeto-Burman - M&B,282; Givón 1975, 78, 95-96, 99-100)<sup>38</sup>, **Sinhala (or Sinhalese)** (Indo-Aryan - M&B,282; Gair 1970,62ff;157ff; Gair 1992,443ff; Gair and Paolillo 1997, chapter 3; Keenan and Comrie 1979,345), **Sri Lanka Malay** (Creole - M&B,283), **Sri Lanka Portuguese** (Creole - M&B,283; Smith 2001), **Tamil** (South Dravidian - M&B,283; Steever 1992,134-136; Annamalai and Steever 1998,117ff), **Tauya** (Non-Austronesian Papuan – MacDonald 1990,4,289ff), **Telugu** (South Central Dravidian – Krishnamurti 1998,233f)<sup>39</sup>, **Thulung Rai** (Tibeto-Burman - Lahaussois n.d.), **Tyvan** (Turkic – Anderson and Harrison 1999).<sup>40</sup>

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<sup>36</sup>. Giridhar (1994) gives only prenominal relative clauses and preverbal complement and adverbial clauses except for one postverbal indirect question complement clause (p.465):

(i) *ai sü mo-e pfo vu ho vu le mono*  
 I know not he come or not come will whether 'I don't know whether he will come or not'

<sup>37</sup>. Also see the case of the Mongolic languages Mangghuer (p.317), Monghul (p.303) and Ordos (p.207) in Janhunen (2003).

<sup>38</sup>. Givón (1984,215f), however, says that in Sherpa sentential complements may also follow the verb (though it is not clear from the text whether this option is only possible as an afterthought - cf. fn.10).

<sup>39</sup>. As noted (fn.17), Telugu appears to allow for (deaccented) postverbal complement clauses. Cf. also fn.10.

<sup>40</sup>. One exception to the otherwise preverbal position of both complement and adverbial clauses (similar to that observed for Mao Naga in footnote 36) is given by Anderson and Harrison (1999,78):

(i) *men bilbes men kaynaar baar men*  
 I know-Neg.Pres/Fut I to.where go-Pres/Fut I 'I don't know where to go'

## APPENDIX II

**OV languages of the “non rigid” type (postverbal subordinate clauses; postnominal RCs, either as the exclusive, or as the alternative, option):<sup>41</sup>**

**‘Ala’ala** (Non-Austronesian Papuan – Ross 2002c)

postverbal complement clauses:

*Ia e-‘ou [Koloka ‘ani e-ba]* (Ross 2002c,361)

he 3sg-tell Koloka EMPH 3sg-die

‘He told me Koloka had died’

postverbal adverbial clauses:

*kau e-da’a luma [‘ola-na melo e-da’a loba]* (Ross 2002c,360)

man 3sg-go house because boy 3sg-go garden

‘The man went to the house because the boy went to the garden’

postnominal RCs:<sup>42</sup>

*Ate‘ate [a-ika-ia] bosea e-vua-ia* (Ross 2002c,352)

Woman 1sg-see-3sg basket 3sg-carry-3sg

‘The woman I saw was carrying a basket’

**Bagri** (Indo-Aryan – Gusain 2000)

postverbal complement clauses:

*me~ socu~ hu~ [kε bó jawego]* (Gusain 2000,66)

I think.Prst am that he go.Fut.3ms

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<sup>41</sup>. Of the OV languages which Mallinson and Blake (1981) characterize as having postnominal RCs, we could not find sufficient information concerning the position of complement and adverbial clauses for the following: Adyghe (Northwest Caucasian - M&B,276), Fur (Nilo-Saharan - M&B,278), Kanuri (Nilo-Saharan - M&B,279) and Khamti (Tai-Kadai - M&B,280), for which they give the postnominal order as the exclusive order of RCs, and Rashad (Kordofanian - M&B,282), Nubian (Nilo-Saharan - M&B,281), and Tigre (Ethio-Semitic – M&B,283).

<sup>42</sup>. ‘Ala’ala also has prenominal relative clauses (Ross 2002c,352).

‘I think that he will go’

postverbal adverbial clauses:<sup>43</sup>

postnominal RCs:

*bó admi [jiko kál ayo ho]* (Gusain 2000,62)

that man rel. yesterday come-Perf aux-pst.3ms

‘the man who came yesterday’

**Bengali (or Bangla)** (Indo-Aryan – Bayer 1996,1999,2001)<sup>44</sup>

postverbal complement clauses:

*chela-Ta Sune-che [je or baba aS-be]* (Bayer 1996,255)

boy-CF hear-Past.3 that his father come-Fut.3

‘The boy has heard that his father will come’

postverbal adverbial clauses:<sup>45</sup>

*?tomar ma khuSi hO-be [tumi kolkata-Y ge-le]* (Bayer 1996,282)

your mother happy become-FUT2 you Calcutta-LOC go-CondPrtc

‘Your mother will be happy if you go to Calcutta’

postnominal RCs:

*ami Sey lok-Ta-ke [je eSe-che] cin-i na* (Bayer 1996,256)

I the man-CF-OBJ that come-Past.3 know-1 not

‘I don’t know the man who came’

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<sup>43</sup>. Although in Gusain (2000) no examples of postverbal adverbial clauses are given, it is explicitly said that “Finite adverbial clauses may be placed in presentential as well as post sentential position” (p.69).

<sup>44</sup>. As Bhatt (2003,488) notes, most Indo-Aryan languages have postnominal RCs (besides correlatives, and prenominal participial relatives). Cf. the case of Hindi and Marathi below. Bhatt (2003) also mentions the fact that Southern Konkani, Saurashtri and Sinhalese neither have postnominal RCs (p.488,fn.4), nor correlatives (p.491).

<sup>45</sup>. Bayer (1996 chapter 7,fn.41), notes that the “slight awkwardness of the [postverbal variant] may have to do with a problem for tense linking”.

**Brahui** (North Dravidian - Elfenbein 1998) In addition to the Dravidian prenominal pattern, Brahui (possibly due to the influence of the neighbouring Indo-Aryan languages - Elfenbein 1998, 409, 411f) has also postverbal finite complement and adverbial clauses and postnominal finite RCs introduced by the same complementizer *ki* (borrowed from Balochi - Elfenbein 1998,411):

postverbal complement clauses:

*ō tēnā ust-atī pārē [ki ī duzziw=ta]* (Elfenbein 1998,412)  
 he-nom his heart-locI say-past-3 that I steal-fut1sg=3sobl  
 ‘he said in his own heart that he would steal it’

postverbal adverbial clauses:

*ī nā xal-ōī uṭ, [ki nī dawn apāsa]?* (Elfenbein 1998,404)  
 I you hit-prt.necess be, that you thus speak-impfc-prs-2s  
 ‘Am I to be struck by you because you are speaking in this way?’

postnominal RCs:

*kunē=nē hamē kučak-as [ki drust kē-nē]* (Elfenbein 1998,412)  
 bite-prs3s=2obl same dog-def that knowledge do-prs3s=2obl  
 ‘The dog that bites you is the same dog that knows you’

**Canela-Crahô** (Jê (Amazonian) – Popjes and Popjes 1986)

postverbal complement clauses:

*cu-te i-mã amji jarēn, [cu-mã akĩn na]* (Popjes and Popjes 1986,165)  
 3-Past 1-Temp self told 3-Temp 2-like subord  
 ‘He told me that he likes you’

postverbal adverbial clauses:

(Popjes and Popjes 1986,165)

*jaco me capi te pĩ hēre jakep [ame to ajpēn cahhyr prām te]* Jaco and Capi Past  
 wood twig cut 3pl Inst Recip beat want because  
 ‘Jaco and Capi cut twigs because they wanted to beat each other with them’

postnominal RCs:

*wa i-te rop pupun, [capi te ih-curan ata]* (Popjes and Popjes 1986,171)

I I-Past dog see Capi Past 3-kill Dem/Rel  
 ‘I saw the dog Capi killed’

**Coahuilteco** (Language isolate formerly spoken in Texas – Troike 1981,2004)

postverbal complement clauses:

*na-k<sup>w</sup>a-m [ta-x-pa-ta-wex san pa-n]* (Troike 1981,664)

1S-hope 1O-2S-Sub-help Fut Rel-1Con

‘I hope that you will help me’

postverbal adverbial clauses:

(Troike 1981,671)

*na-k-ax in, .. [ux<sup>w</sup>a-l’ tuk<sup>w</sup>e-m mak-pa-čū santupa-yok<sup>w</sup>e-n]*

1S-2°--give also sky Dem-2Con 2S:3pO-Sub-carry in order that-1Con

‘I give you also (the indulgences) in order that you carry them to Heaven’

postnominal RCs:

*saxpame pinapsa [xami-n xa-p-xo-] tupa-n* (Troike 2004,4)

sins you 2-Sub-know Dem-1C

‘the sins that you know’

**Desano** (Tucanoan – Miller 1999)

postverbal complement clauses:

*yi?i pepi-a [sĩrĩ-a wa-gokũbõ]* (Miller 1999,71)

1s think-Non3^Pres die-Perf go-Prob^3fs

‘I think she will die’

postverbal adverbial clauses:

(Miller 1999,152)

*bĩã igo-re karta goha-bãĩ-a [igo bãĩ-bo-ro dopa-ta]*

2pl 3fs-Spec letter write-Abil-Nom3^Pres 3fs know-pot-deverb like-Lim

‘You can write her a letter so that she will know’

postnominal RCs:

*yi-re su?ri [ãũ-basa-ra-ye] sãyã-bi* (Miller 1999,144)

1s-Spec clothes buy-Ben-Deverb-Clf put^on-Non3^Pst

‘I put on the dress that was bought for me’

**Eudeve** (Uto-Aztecan – Shaul 1991)

postverbal complement clauses:

*nee aguátera-n [dominco-tze amo missa ca vitzá-cauh]* (Shaul 1991,102)

1sg know-Pre Sunday-Loc thy mass Neg see-Past

‘I know that you didn’t see mass on Sunday’

postverbal adverbial clauses:

*eme-ne suba-m [eme deni-hipsi-cade]* (Shaul 1991,90)

thee-1sg like-Pre thee good-heart-Nom

‘I like you because you have a good heart’

postnominal RCs:

*hipsem-ta [no vvas-vva mavva-tzem-ta] ovvic* (Shaul 1991,106)

people-Obj my field-Ali weed-Nom-Obj call

‘Call the Indians who are to weed my field’

**Evenki** (Tungusic - Nedjalkov 1997; Bulatova and Grenoble 1999)

postverbal complement clauses:

*nungan sa:-re-n [eme-d’enge-vi]* (Nedjalkov 1997,25)

he know-nfut-3sg come-part-prefl

‘He knows that he will (be able to) come’

postverbal adverbial clauses:<sup>46</sup>

*nungan ala:t-cheche-n [o:kin girki-n eme-d’e-n]* (Nedjalkov 1997,44)

he wait-impv-3sg when friend-3sg.pss come-FUT-3sg

‘He was waiting when his friend would come’

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<sup>46</sup>. Nedjalkov (1997,44) reports that “adverbial participles always precede the main clause. Converbial forms expressing time (except for posteriority), manner, condition and cause, as a rule, precede the main clause, whereas converbs of posteriority, purpose and result, as a rule follow the main clause. Conjunctive adverbial clauses [like the example given here, with indicative mood (G.C)] also, as a rule, follow the main clause.”



postnominal RCs:<sup>47</sup>

*bi beje-ve [tatkit-tu haval-d'a-cha-ve] archa-0-m* (Nedjalkov 1997,36)

I man-accd school-dat work-impv-part-accd meet-nfut-1sg

‘I met the man who worked at school’

**Galla (Oromo)** (Cushitic - M&B,278,289, Gragg 1972,162-165; Dryer 1992fn.5; Stroomer 1995)<sup>48</sup>

postverbal complement clauses:

*atini hin-beek-tu, [akka bisaani nyaap'a-ii irra ta-u] ?* (Stroomer 1995,127)

You Neg-know-2Neg.Pres, that water enemy-Subj on be.present-3Pres.Subord

‘Don’t you know that your enemies are staying by the water?’

postverbal adverbial clauses:

(Stroomer 1995,126)

... *Nuu dandeenee guyyaa sadiillee hinoolluu, [atoo bisani hind'ugini]*

... we be.able.1pl.Past day three.also neg.pass.day.1pl.neg.Pres, if water neg.drink.neg.Past

‘... we cannot live even three days, unless we drink water’

postnominal RCs:

*nam-tičča [kan kalēsa gale] (sana) an arge* (Gragg 1972,162; M&B,289)

man-def Rel yesterday arrived (Dem) I saw

‘I saw the man that arrived yesterday’

**Gapapaiwa** (Oceanic (Austronesian) - McGuckin 2002)

postverbal complement clauses:

*I-vona [da yaghiyaghina ko-na-vovira]* (McGuckin 2002,319)

3:NON.PRES-say Comp quickly 2PL-FUT-return

‘They say that you must return quickly’

---

<sup>47</sup>. Comrie (1998,79f) reports that in this language RCs may either precede or follow their Head. From the examples he gives it appears that they can also be “extraposed” to the right of the verb.

<sup>48</sup>. The example of postverbal complement clause is from Stroomer (1995,127). As noted by Mallinson and Blake (1981,289), Galla (Oromo) allows the finite relative clause introduced by the relative marker *kan* also to appear prenominal. See (10) above (their (5.46)).

postverbal adverbial clauses:

*I-oru ku=okowa [da vi-towa kubiine]* (McGuckin 2002,320)

3:NON.PRES-go-down to-river Comp CAUS-bathe PURP

‘They went down the river for the purpose of taking a bath’

postnominal RCs:

*ededa [i-riku] a-kita=i-si* (McGuckin 2002,305)

children 3:NON.PRES-dance 1Sg-see=TR-3PL

‘I saw the children who danced’

**Georgian** (Kartvelian - Aronson 1972; Harris 1992,1994, 1995; Hewitt 1987; Testelec 1998a)

postverbal complement clauses: (Khatuna Okroshidze, p.c.; cf. Testelec 1998a,240)

*me vici [rom sen xval ar moxval]*

I know.Prs that you tomorrow not come.Fut

‘I know that you will not come tomorrow’

postverbal adverbial clauses :

*ar gauvlia ert k’vires, [rom amas meore šemtxveva-c daerto]* (Harris 1995,1393)

not it/pass one week, that him/DAT second incident-too it/occurred/him

‘Not a week had passed, when a second incident also occurred to him’

postnominal RCs:<sup>49</sup>

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<sup>49</sup>. As noted above, there is also a gap variant of the postnominal RC employing just the complementizer *rom/ro* ‘that’, internal to the RC (Harris 1994,132):

(i) *xalxi [kareb-tan axlos ro idga] aq’aq’anda*

people doors-at close that he-sit he-clap ‘the people who sat close by the doors began to clap’

The RC types which Harris (1994,133) analyses as ‘gap’ prenominal (see (ii)) and ‘non-reduction’ prenominal (see (iii)) seem rather to be correlative constructions without a (*which* type) relative marker of the kind found in Bambara (Bird 1968), and, respectively, without and with an internal head:

*Xalxi [romelic kareb-tan axlos idga] aqaqanda*

(Aronson 1972, 141)

The people [who doors-at close were standing] began to shout  
 ‘The people who were standing near the doors began to shout’

**Godoberi** (Dakho-Dagestanian – Kibrik 1996)

postverbal complement clauses :

(Kibrik 1996,175)

*il-u-ra b=i?-at-a-da*

*[ waša Ridu w-a?a-bu-li]*

mother-OBL-AFF NEUT=know-PRS-CONV-COP boy to.Godoberi MASC=come-  
 PST-PRT-SUB

‘Mother knows that they boy has come to Godoberi’

postverbal adverbial clauses:<sup>50</sup>

*mak’i čar-u wu=na*

*[bac’a ha?-ir-a-di]* (Kibrik 1996,205)

child run.PAST-CONV Masc=go.PST [wolf see-MASD-OBL-ERG]

‘The child ran away because he saw the wolf’

postnominal RCs:

- 
- (ii) *šen-gan ro miviyeḇ, im pul-it me gadavixdi val-s*  
 you-from that I.receive.it, that money-INST I.NOM I.pay.it debt-DAT  
 ‘I will pay off the debt with that money which I receive from you’

- (iii) *minda, Betania-ši rom k’olmeurnoba-a, is vnaxo*  
 I.want.it Betania-in that collective-it.is, it.NOM I.see.it  
 ‘I want to see the collective-farm that is in Betania’

The correlative nature of these Modern Georgian RCs may be indicated by the existence in Middle Georgian of clearer correlative cases like of the following, also given by Harris ((1994,134):

- (iv) *Durmišxan-s Alget-ze rom c’iskvili eč’ira, is c’iskvili...*  
 Durmišxan-DAT Alget-on that mill he.have.it, that mill...  
 ‘the mill which Durmishxan had on Alget...’

<sup>50</sup>. Although most types of adverbial clauses are preverbal, *because* clauses, like the one given here, can be postverbal.

*di-ra ha?a jaci [maHačqala-jalda j=ihi-bu]* (Kibrik 1996,151)  
 I-OBL-AFF see.PST sister Makhachkala.PLACE FEM=live.PST-PRT  
 ‘I saw (my) sister who lived in Makhachkala’

**Hindi** (Indo-Aryan - M&B,278; Singh 1977)

postverbal complement clauses:

*Ram ne kaha [ki Sita bimar he]* (Singh 1977,204)  
 Ram Agt said that Sita sick be  
 ‘R. said that S. was sick’

postverbal adverbial clauses:

*Vo dhiire bol rahaa hai [kyon-ki us-ka gala kharaab hai]* (Anoop Mahajan, p.c.)  
 He softly talk progr be-pres why-that his throat bad be-pres  
 ‘He is speaking softly because his throat is bad’

postnominal RCs:

*us aadmii ne [jo miir hai] ek makaan khariidhaa* (M&B,290)  
 that man erg Rel rich is a house bought  
 ‘The man who is rich bought a house’

**Hittite** (Indo-European - M&B,278; Lehmann 1984,123ff; Luraghi 1997)

postverbal complement clauses:

*nu mahhan austa anda=kan [kuit hatkesnuwantes ...]* (Luraghi 1997,59)  
 CONN when see-1sg-Pret into-PTC COMPL oppress-PART-NOM-PL  
 ‘when I saw that they were being oppressed...’

postverbal adverbial clauses: (Luraghi 1997,66f)

*nu É-ri= ssi anniskizzi [kuitman=as lazziyattat...]*  
 CONN house-D/L POSS3sg-D/L work-3sg-ITER-PRES until-3sg-NOM recover-3sg-PRES  
 ‘and (he) works in his house, until he (sc. the injured) recovers...’

postnominal RCs:

(Luraghi 1997,39)

<sup>GIS</sup>TUKUL=*ma* [*kuin apiya harkun n= an*] *halissiyannun*  
 weapon=Ptc Rel-Acc there have-1sg-Pret Conn=3sg-acc inlay-1sg-Pret  
 ‘the weapon that I had there I had inlaid’

**Hopi** (Uto-Aztecan – Heath 1972<sup>51</sup>; Dryer 1980; Grune 1995)

postverbal complement clauses:

*Pas nî qa navota [îŋ hiroro-ta-q’ö]* (Dryer 1980,130)  
 Very I Neg hear you snore-dur-sub,ds  
 ‘I certainly didn’t hear you snore’

postverbal adverbial clauses:

*Pam waaya [nu’ put tuwa-q’ö]* (Grune 1995,11)  
 he ran-away I him see-(subject-switch)  
 ‘He ran away when I saw him’

postnominal RCs:<sup>52</sup> (Grune 1995,12; cf. also Heath 1972,238)

*nu’ pookot [moosa kuukiqat] ngöyva*  
 I dog(obj) cat(subj) biting-him(obj) chased  
 ‘I chased the dog that the cat bit’

**Kabardian** (Northwest Caucasian – Colarusso 1992,189,190)<sup>53</sup>

postverbal adverbial clauses:

<sup>51</sup>. To judge from Heath (1972), many other (Sonoran and Shoshonean) Uto-Aztecan languages show a situation comparable to Hopi (and Pima Bajo, Southern Paiute, and Yaqui below).

<sup>52</sup>. Hopi also has internally headed RCs (Jacobsen 1998,103).

<sup>53</sup>. In Kabardian, restrictive RCs ordinarily precede the N, and complement and adjunct clauses ordinarily precede the V (Colarusso, 1992, 187ff). However, as shown in the text, restrictive RCs can also follow the N, just as certain subordinate clauses can follow the V. In both cases, the clause takes a (suffixed) complementizer (*-wa*), glossed “pred” by Colarusso. Non-restrictive RCs are instead always postnominal (Colarusso 1992,190). It is however not clear whether Kabardian also allows for postverbal complement clauses (John Colarusso p.c.).

*sa mazə-m sək<sup>w</sup>ə+a-aɣ-ś [maraak<sup>w</sup>a 0-q'a-s-śəpə-n-wa]*  
 I forest-obl I-move+intr-past-aff berries 3-hor-I-pick-inf-pred  
 'I went into the forest to pick berries'

postnominal RCs:

*λ'ə-r [a-tx əλ-r 0-q'a-z-txə-aɣ-wa]*  
 man-abs that-book-abs 3-hor-who-write-past-pred 'the man who wrote that book'

### **Kairiru** (Oceanic (Austronesian) – Ross 2002a)

postverbal complement clauses:

*ei o-wot [yieq qo-myai r~uon]* (Ross 2002a,210)  
 3sg 3sg-say 2sg 2sg-come COMPL  
 'He said that you had come'

postverbal adverbial clauses:<sup>54</sup>

postnominal RCs:

*moin nai [kyau u-r~im] ceik e-rib* (Ross 2002a,211)  
 woman that 1sg 1sg-see:3sg stringbag 3sg-carry  
 'The woman I saw was carrying a stringbag'

### **Kuku Yalanji** (Pama-Nyungan – Patz 2002)<sup>55</sup>

postverbal complement clauses:

*karrkay-angka nyaji-ny, [jarba kuni-ji-nya]* (Patz 2002,173)  
 child-Erg.pt(A) see-Past snake.Abs(S) kill-Itr-Sub  
 'The child saw the snake being killed/how the snake was killed'

postverbal adverbial clauses:

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<sup>54</sup>. Ross (2002a,215) states that clausal subordination is expressed by simple juxtaposition of clauses, which makes the correlation with relative clauses impossible to test.

<sup>55</sup>. Kugu Nganhcara (Paman) displays a similar pattern. See Smith and Johnson (2000,429-433).

*ngayu        baya        waju-l,    [yundu        wumbul-ma-nka]* (Patz 2002,166)  
 1sg.Nom(A) fire-Abs(O) burn-NonPast 2sg.Nom(S) warm-Inch-Purp  
 ‘I light a fire so that you get warm’

postnominal RCs: (Patz 2002,181)  
*buliman-angka        warru        karrba-ny, [bayan    janjarri-l-janjarri-nya]*  
 policeman-Erg.pt(A) yg.man.Abs(O) grab-Past house.Abs(O) snoop-l-Red-Sub  
 ‘The policeman apprehended the chap (who was/while he was) snooping in the house’

**Latin** (Indo-European - Ernout et Thomas 1964)<sup>56</sup>

postverbal complement clauses:

*gaudeo        [te        interpellau]* (Ernout et Thomas 1964,298)  
 I am glad (I) you-ACC asked  
 ‘I’m glad I’ve asked you’

postverbal adverbial clauses:

*relegatus mihi videor [posteaquam in Formiano sum]* (Ernout et Thomas 1964,361)  
 exiled to me (I) appear since in my villa in Formia I am  
 ‘I appear to myself an exile since the day I arrived in my villa in Formia’

postnominal RCs:

*puellae        [quas        rogavi]        cras    respondebunt* (M&B,332)  
 girls.[fem].pl.nom RelPro.fem.pl.nom. ask-past.[1s] tomorrow reply.Fut.[3.pl]  
 ‘The girls whom I asked will answer tomorrow’

**Manam** (Austronesian – Lichtenberk 1983)

postverbal complement clauses:

*tamóata    i-píle    [mása        ŋa-dúma-ya]* (Lichtenberk 1983,556)  
 man 3sg.realis-say indef.irrealis 3sg.irrealis-help-1sg.obj  
 ‘The man said he would help me’

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<sup>56</sup>. Latin also has correlative RCs (cf. Bianchi 1999, 86ff, and references cited there).

postverbal adverbial clauses:

*tágo u-duma-í?o [biéŋ u-lá ?o-be]* (Lichtenberk 1983,548)

neg 1sg.realis-help-2sg.obj B. 1sg.realis-go-and

‘I did not help you because I went to Bieng’

postnominal RCs:

*tamóata [tanépwa i-rá=ra-di] ?u-?awat-á?-idi?* (Lichtenberk 1983,262)

man chief 3sg.realis-talk to=redupl-3pl.obj 2sg-know-trans-3pl.obj

‘Do you know the man the chief is talking to?’

**Marathi** (Indo-Aryan - M&B,281; Pandharipande 1997)

postverbal complement clauses:

*Mohan mhanālā [kī madhū dillīla gelā]* (Pandharipande 1997, p.65)

Mohan say-past-3sm Comp Madhu Delhi-to go-past-3sm

‘Mohan said that Madhu went to Delhi’

postverbal adverbial clauses:<sup>57</sup>

*tī gāte [dzēmwhā tī ānandī aste]* (Pandharipande 1997, p.105)

she sing-3sf when she happy is-3sf

‘She sings when she is happy’

postnominal RCs:

*to mānūs [dzo itha śikawto] to mādzhā bhāū āhe* (Pandharipande 1997, p.79)

that man rel here teach-pres-3sm that poss-ms brother is

‘The man who teaches here is my brother’

**Nama** (Khoisan - M&B,279; Andrews 1975,58-61). Mallinson and Blake (1981,279) classify Nama (which they refer to as Hottentot) as SOV, and as having both pre- and postnominal RCs.<sup>58</sup>

<sup>57</sup>. While non-finite adverbial clauses and adverbial clauses followed by postpositions are preverbal, (temporal and because) adverbial clauses with initial subordinators are postverbal (cf. Pandharipande 1997,105ff).

<sup>58</sup>. Andrews (1975) also lists the language as having both pre- and post-nominal RCs. In addition to the example given in the text, Andrews (1975,60) also gives a prenominal RC, saying that “[w]hen the clause



postverbal complement clauses:

*Ti+ta ge goro #âi [||i+b ne+pa ha ti]* (Levi Namaseb, p.c.)

I +me Ind Prog think Pron+He here+Loc be so

‘I thought that he was here’

postverbal adverbial clauses:

(Levi Namaseb, p.c.)

*Ti+ta ge go i [||i+b go !hasara te !khai+s !aroma]*

I + me Ind Past Circ. Past.left Pron+He Past insult me Fact+It therefore

‘I left because he insulted me’

postnominal RCs:

*khoi-b, [ia go //ari ha-b] gye mĩ...* (Andrews 1975,61)

man-m.sg Rel Past yesterday come-m.sg Perf say

‘The man who came yesterday said...’

### **Northern Paiute** (Uto-Aztecan – Thornes 2003)<sup>59</sup>

Postverbal complement clauses:

*Ni u=supidakwatu [u-su kai i=bunni]* (Thornes 2003,446)

I 3=know 3-Nom Neg 1=see.Dur

‘I knew he didn’t see me’

postverbal adverbial clauses:

*Ni u=supidakwatu [ka u-su i=tiikwi]* (Thornes 2003,461)

I 3=know Ka 3-Nom 1=tell ‘I know because he told me’

postnominal RCs:

*ni ka=tihiikva [o?o wini-di] punni* (Thornes 2003,428)

I Obl=deer Dem stand.Sg-NML see.Dur

‘I see the deer (that is) standing out there’

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follows the head it is introduced by a particle *hĩa/ia* [...], and when it precedes there is no introductory particle”:

- (i) *narĩ ta gye mĩ kho-b gye -/-/gei te*  
 today I Perf see man-m.sg Perf call me “The man who I saw today called me.”

<sup>59</sup>. The same situation is found in Southern Paiute. Cf. Bunte (1986,282,295, and 279).

**Pashto** (Indo-Iranian – MacKenzie 1992; Tegey and Robson 1996; Taylor Roberts - <http://www.cogsci.ed.ac.uk/~siamakr/Kurdish/KURDICA/2001/3/trpashto.htm>) (when otherwise not indicated, the example is from Roberts' paper).

Postverbal complement clauses:

*Mamaad fiker kewi* [<sub>CP</sub> *tshi de Sur Gwel day khwaass dey*]

Mamaad thought do COMP POSS Sur Gwel him like be

'Mamaad thinks Sur Gwel likes him'

postverbal adverbial clauses:

*asad wa nə gadedə* [*wale tse nājoṛa wə*] (Tegey and Robson 1996,228)

Asad *prf* not danced why that sick was

'Asad didn't dance because he was sick'

postnominal RCs: (see also MacKenzie 1992,170, and Tegey and Robson 1996,219ff)

*hagheey hagma mayshem* [<sub>CP</sub> *tshi uda dee*] *khkol krro*

she DET baby [COMP sleep be] kiss do

'She kissed the baby who is sleeping'

**Pech (Paya)** (Chibchan - Holt 1999b)

Postverbal complement clauses:

*tàs-ma kà-h-ir-t-à-rí?* [*tè?k-er-pí-kán*] (cf. Holt 1999b,72)

I-Emph them-Aff-know-Neg-1s-Past<sub>2</sub> come-3p-Fut-whether

'I didn't know/find out regarding whether they would come'

postverbal adverbial clauses:

*apáská?té-pE?* [*asòw(a)-rás*] (cf. Holt 1999b,69)

we.not.leave-Fut rain-because

'We will not leave because it's raining'

postnominal RCs:

*a?-árwA-ma* [*katUš-k-u-ri?-ma*] *ò:n-i?* (Holt 1999b,73)

that-man-Emph work-Sem-Hab-Past<sub>2</sub>-Emph/Rel die- Past<sub>2</sub>

'That man you used to work with died'

**Persian** (Indo-Iranian - M&B, 281,287f; Tabaian 1975; Mahootian 1997)

postverbal complement clauses:

*fekr—mi-kon-æm [(ke) šiva emšæb mi-res-e]* (Mahootian 1997,29)

thought-Dur-do-1s (that) Shiva tonight Dur-arrive-3s

‘I think (that) Shiva will arrive tonight’

postverbal adverbial clauses:

*ba otobus ræft-im [cunke mašin næ-dar-im]* (Mahootian 1997,40)

with bus went-1pl because car Neg-have-1pl

‘We went by bus because we don’t have a car’

postnominal RCs:

*mašin-i [ke diruz xærid-æm]...* (Mahootian 1997,29)

car-Dem that yesterday bought-1s...

‘The car that I bought yesterday...’

**Pima Bajo** (Uto-Aztecan – Estrada Fernández 1996)

postverbal complement clauses:

*ig hihik [ko-n huun hug-an]* (Estrada Fernández 1996,37)

3s want(PERF) COMPL-1s corn eat-IRR

‘He wanted me to eat corn’

postverbal adverbial clauses:

*aan am him-ia [timosā dud-an]* (Estrada Fernández 1996,39)

1s LOC go-PROB although rain-IRR

‘I will go although it is raining’

postnominal RCs:<sup>60</sup>

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<sup>60</sup>. Pima Bajo also seems to have Head Internal RCs ((i)a), and extraposed postnominal RCs ((i)b):

- |     |    |           |        |             |                   |   |
|-----|----|-----------|--------|-------------|-------------------|---|
| (i) | a. | takav     | sigaar | in-niar-klk | aan dIIn-im       | (Estrada Fernández 1996,36)                 |
|     |    | yesterday | cigar  | 1s-buy-Rel  | 1s smoke-Cont     | ‘I am smoking the cigar I bought yesterday’ |
|     | b. | nui       | aan    | nIid        | ko daa            | (Estrada Fernández 1996,36)                 |
|     |    | buzzard   | 1s     | see(Perf)   | Sub.Prt fly(Perf) | ‘I saw the buzzard that flew’               |

*aan nukad vainom aita-[kik ap in-hivig-id]* (Estrada Fernández 1996,37)  
 1s have(Impf) knife that-Rel 2s 1s(Obj)-lend-DTRVZ  
 ‘I have the knife you lent me’

**Quechua (Ancash)** (Quechuan - M&B,282; Lehmann 1984,55-58)

postverbal complement clauses:

*Musya-: [punu-nka-nqa-n-ta]* (Lehmann 1984,57)  
 Know-1sg [sleep-Prog-Nominalizer.Real-3sg]-Acc  
 ‘I know that he is sleeping’

postverbal adverbial clauses:

postnominal RCs:<sup>61</sup>

*Kachi [qu-yku-ma-nqa-yki-ta] muna-n* (Lehmann 1984,58)  
 Salt [give-0-Obj.1-Nominalizer.Real-2]-Acc want-3  
 ‘He wants the salt that you gave to me’

**Sandawe** (Khoisan - M&B, 282)<sup>62</sup>

postverbal complement clauses:

*manaasi\* [happu n/emesuts'i tl'ape iE]*  
*manaa-si\* happu n/emesu-ts'i\*-i tl'ape ie-~*  
 know-1sg. you woman-?-2sg. beat stay-and  
 ‘I know you are beating a woman’

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<sup>61</sup>. (Ancash) Quechua also has prenominal and internally headed RCs (cf. Lehmann 1984,55-58, Cole 1987).

<sup>62</sup>. The Sandawe examples of complement and adverbial clauses were kindly provided by Helen Eaton of the Sandawe Project of SIL International, Dodoma (Tanzania), p.c. Also see the grammar sketch appearing in the Khoisan project website of the Department of Linguistics at Cornell University (<http://ling.cornell.edu/khoisan/index.htm>).

postverbal adverbial clauses:

*haanga-sa* [ *tl'wAga* *iE* // *'oosi'sa* ]

*haang-sa* *tl'wA-aa* *ie-~* // *'oo-si'-sa*

wake up rain (N)-nom. stay-and rain (V)-when-3f.sg.

‘she woke up [when it was raining]’

postnominal RCs:

*hă:w lá?'mū:* [ *k<sup>h</sup>ũ<sup>n</sup>désē:-gà?* ] *?i:é*

(Elderkin 1991,98)

that goat who.buttet-3Pl give.him

‘and they gave him the goat which butted (the chicken)’

**Santali** (Munda (Austro-Asiatic) – Neukom 2001)<sup>63</sup>

postverbal complement clauses:

(Neukom 2001,183)

*cekate am-dɔ -m badae-kid-iŋ -a* [ *iŋ -dɔ -ŋ maraŋ -ge-a m ε nte* ]

how you(s)-TOP-2sS know-PST:Act-1sO-IND [I-TOP-1sS big-FOC-IND COMP]

‘How did you know about me that I am the big one?’

postverbal adverbial clauses:

(Neukom 2001,196)

*thir-thir-te bɔ lɔ -k' -me,* [ *j ε mɔ n alo-ko disə -me* ]

quiet-Red-Conv enter-MID-2sS in order PROH-3pS notice-2sO

‘Go in quietly that they may not take notice of you’

postnominal RCs:

*ona dare* [ *oka-m mak' -akat'* ]

(Neukom 2001,200)

that(Inan) tree which-2sS cut-PF:ACT

‘the tree you have cut’

**Sentani** (Papuan (Trans-New Guinea) - Hartzler 1994)

postverbal complement clauses:

*nebei reyæ ubene nekaise* [ *reyæ e-me-i* ]

(Hartzler 1994,61)

that I thoughts I.think.them he neg-come-Nt

‘I think he will not come’

postverbal adverbial clauses:

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<sup>63</sup>. Santali’s adverbial clauses precede the main clause, except for purpose clauses employing a conjunction (*jɔmɔ n*) borrowed from Indo-Aryan. Besides postnominal relative clauses, Santali has prenominal and correlative ones.

*ako nœi holo-na mœi fafa-re a lækei helen sele eweyei jæ, [na hibi-hibi*  
 fathers their group-poss your children-to word strong much very don't say, pos immediately  
*kena beko konaiyende bele-ne]* (Hartzler 1994,59)  
 desire bad they.will.do.it not-because  
 'Fathers, don't speak strongly to your children, so that they will not want to do bad things.'

postnominal RCs:

*nane anuwau [ere-i-me-i-en-le] eyæ kena okoikoi* (Hartzler 1994,54)  
 that place see-Nt-come-Nt-3dsR-VE we want do not  
 'We don't want any of the places we have seen so far..'

### **Shipibo-Konibo** (Panoan – Valenzuela 2003)

postverbal complement clauses: (Valenzuela 2003,491)

*E-n-ra onan-ke [nato ochiti-nin bake natëshama-a]*  
 1-Erg-EV know-CMPL this dog-Erg child.Abs bite.Neg-PP2.Abs  
 'I know that this dog did not bite the child'

postverbal adverbial clauses: (Valenzuela 2003,497)

*xontako-bo-ra jawen papa betan ik-ai [beno-ai kaman]*  
 unmarried.girl-PL.Abs-EV Pos3 father COM do.I-INC marry.PP1 until  
 'Young girls live with their parents until they get married'

postnominal RCs: (Valenzuela 2003,247)

*jono [(ja) papa-n rete-ibat-a]-ra moa non-n keyo-ke*  
 c.peccary 3.Abs father-Erg kill-Pst2-PP2-EV already 1p-Erg finish-CMPL  
 'We already finished the collared-peccary father killed yesterday'

### **Skou** ((Non-Austronesian) Papuan – Donohue 2004)

postverbal complement clauses:

*Ni=lúe=te mè=ong fa.* (Donohue 2004,432)  
 1SG=hear=DIR 2SG=deceive use  
 'I know that you're fooling (me).'

postverbal adverbial clauses:

Nì=re pá=fue a pále=ing a nì=fu-fu li. (Donohue 2004,482)  
 1SG=go house=the pig=the 1SG=see.F-RED do  
 ‘I went to that house to look at the pig.’

postnominal RCs:

*naké hòe-nì=ne ke=k-ang=ing a* (Donohue 2004,271)  
 dog sago-1SG.GEN=1SG.DAT 3SG.NF=3SG.NF-eat=the  
 ‘the dog which ate my sago’

**Somali** (Cushitic) (Antinucci 1981; Antinucci and Puglielli 1980; Svolacchia and Puglielli 1999)

postverbal complement clauses: (Svolacchia and Puglielli 1999,109)

*wax-ay doonaysaa [in-ay bish-a dambe tagto ]*  
 Thing-SCL want-Pres.3sgF that-SCL month-the next go-Subj.3sg  
 ‘She wants to leave next month’

postverbal adverbial clauses: (Antinucci 1981,251)

*Af Soomaaliga waan baranayaa [maxaayeelay waxaan rabaa inaan*  
 language Somali-the Foc.Prt-I am-studying because Foc.Prt-I want that-I  
*Soomaaliya aadó]*  
 Somalia go  
 ‘I am studying Somali because I want to go to Somalia’

postnominal RCs:

*akhri buugagga [Cali kuu keenay]* (Antinucci and Puglielli 1980,87)  
 read books-the Ali you-to bring.PAST  
 ‘Read the books that Ali brought to you!’

**Svan** (Kartvelian – Tuite 1997)

postverbal complement clauses:

*mi lo:kar {xw-le:kar}, [ere mǝxar-iž an-qd-en-i-x]* (Tuite 1997,40)  
 I S1-say-Aor that tomorrow-QT PV-come-Pass-Sm-Pl  
 ‘I said that they would come the day after [lit. “they will come tomorrow”]’

postverbal adverbial clauses: (Tuite 1997,35)

*xexw-s dæ:r ž-a-hwed-da [hawe mi moma læ-m-(i) –maržw-*  
 wife-Dat nobody-Nom O2-ObjVers-give-Imperf except I not PV-O1sg-ObjVers-  
*æ:n]*

help-Plpf

‘Nobody would have given you a wife, if I had not helped you’

postnominal RCs:

(Tuite 1997,42)

*ež ma:re, [xedwæ:j ætɣwæč (←ad-x-e-ɣwæč)], gæč-d æd-(i)-sip’-*  
 that man-Nom which-Nom PV-O3-ObjVers-pursue:Aor knife-Adv PV-sbjVers-turn-  
*æ:n*

Pass.Aor

‘The man who was pursuing him turned into a knife’

**Teribe** (Chibchan – Quesada 2000)

postverbal complement clauses:

(Quesada 2000,160)

*Woydë-r [ga pa worong] pa llëbo shärio-no bor kong owa li kī*  
 Want –1sg CONN 2sg die 2sg thing do-PERF 1sg to bad REL because  
 ‘I want you to die because of the bad things you did to me’

postverbal adverbial clauses:<sup>64</sup>

*Yë-y dlo shko [dan wlo]* (Quesada 2000,164)

Put-1pl.INCL sun in dry PURP

‘We put it under the sun so it dries’

postnominal RCs:

*Domer [bor ĩ-ga li]* (Quesada 2000,129)

Man 1sg see-ABIL REL

‘The man who saw me’

**Tol (Jicaque)** (Hokan – Holt 1999a)

postverbal complement clauses:

*ma kelél [wa mó?o hák-c<sup>h</sup>a]* (Holt 1999a,50)

<sup>64</sup>. Also see the *because*-clause of the preceding example.



Neg Aux-want house into 3s.Pres.come-Imperf  
 ‘S/he didn’t want to come into the house’

postverbal adverbial clauses:

?amá k’a way [ma híβe mpes] (Holt 1999a,51)  
 land dry Cop Neg Pres.rain.3 because  
 ‘The land is dry because it doesn’t rain’

postnominal RCs:

híβe mpes nop<sup>h</sup> [ʔísís way t’-y-ína] (Holt 1999a,52)  
 Pres.rain.3 because corn good Cop gr-Pres-ow.3s  
 ‘Because it rains, corn that is good grows’

**Tùṇṇ** (Bantu – Dugast 1971)

postverbal complement clauses:

m`eko lefɛkak [a sɛ? ikitɕ báka menyama y’ ingìn] (Dugast 1971,311)  
 leopard thought that ram is an animal strong  
 ‘The leopard thought that the ram is a strong animal’

postverbal adverbial clauses:

mé ñòka mungɔl età<sup>2</sup>, [mbà bá s’ ibilɕ ka ton] (Dugast 1971,321)  
 I will medicine take, so that they Neg the palm nut cut no longer  
 ‘I will take the medicine so that they will no longer cut the palm nut’

postnominal RCs:

bùél [ò bóa nà bwɕsú tɕkɕsɕk]... (Dugast 1971,312)  
 thing that has us bothered...  
 ‘The thing that bothered us...’

**Turkish** (Turkic – M&B,283; Andrews 1975; Veld 1993; Kornfilt 1997; Kural 1997):<sup>65</sup>

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<sup>65</sup>. Normally RCs are non-finite and precede the noun, except for the (more literary) finite RCs introduced by the complementizer *ki* (borrowed from Persian), also introducing postverbal finite complement clauses (and one type of adverbial clause).

postverbal complement clauses:

*isti-yor-um* [ki yann ben-im-le sinema-ya gel-esin] (Kornfilt 1997,46)  
 want-Pr.Prog-1sg that tomorrow I-Gen-with cinema-Dat come-2sg.Opt  
 ‘I want you to come to the movies with me tomorrow’ (Literally: ‘I want that you should come’)

postverbal adverbial clauses:<sup>66</sup> (Veld 1993,304)

*o kadar yorul-muş-tu-ø* [ki konuş-ma-ya güç-ü yet-mi-yor-du-ø]  
 so much tired-perf-pst-3sg that talk-mE-Dat strength-3sg be.enough-neg-progr-pst-3sg  
 ‘He was so tired that he could not speak’

postnominal RCs:

*bir adam* [ki çocuk-lar-ın-ı sev-me-z] yalnız yaşa-malı-dır (Kornfilt 1997,60)<sup>67</sup>  
 a man [that child-pl.-3sg-Acc love-Neg-Aor alone live-Neg-Ep.Cop.  
 ‘A man who does not love his children must live alone’

### West Greenlandic (Eskimo-Aleut - Fortescue 1984)

postverbal complement clauses

*ilisima-vaa* [urni-ssa-giga] (Fortescue 1984,36)  
 know.3s-3s.ind. come-to future 1s-3s.part.  
 ‘He knew I would come to him’

postverbal adverbial clauses: (Fortescue 1984,95)

*uqar-puq* *ikinnguti-ni* *irniinnaq* *tiki-ssa-sut* [taku-juma-mmatigit]  
 say 3s-indic. friend his-refl.-pl right-away come fut 3p-part see want 3p-3p-caus  
 ‘He said his friends would come right away because they wanted to see them’

<sup>66</sup>. Veld (1993, §7.3.3) and Kural (1997,505) give other cases of adverbial clauses in Turkish which can be postverbal (though, differently from those introduced by *ki*, need not be).

<sup>67</sup>. The *ki* relative clause can also appear extraposed:

(i) *Ben-I unut-ma* [ki san-a yardım et-ti-m] (Lehmann 1984,144)  
 I-Acc forget-Neg [that you-Dat help do-Past-1s] “Don’t forget me, who helped you”

postnominal RCs:

*niviarsiaq [kalaallisut ilinnia-lir-suq]...* (Fortescue 1984,49)

girl Greenlandic learn-begin-intr.part...

‘the/a girl who has begun learning Greenlandic...’

**Wichita** (Caddoan – Rood 1973; Dryer 1980)

postverbal complement clauses:

*tac-i?i:khi::taw [kiri-?i:s-?ir?i:sti-s]* (Dryer 1980,131)

I-know neg-neg,3-steal-impf

‘I know that he did not steal it’

postverbal adverbial clauses:

*kiya?a:ʔákicta:ras?ak?ari:k [hikica:riyarih]* (Rood 1973,84)

person-past-horse-pl-stand-cause they graze

‘Someone took his horses to graze’

postnominal RCs:

*ka:hi:k?a [na:wi:c?i::s?áskih] a:kihi?inck* (Rood 1973,86)

woman sg.-man-see-come sg.-past-sleep

‘the woman who came to see the man slept’

**Xakas** (Turkic – Anderson 1998)

postverbal complement clauses:

*min xinminčam, [aniŋ paribisxanina]* (Anderson 1998,82)

I be.satisfied.w/-Neg-Pres.I.1 3-Gen go-Perf-Past.I-3.Dat

‘I wasn’t happy that he left’

postverbal adverbial clauses:

(Anderson 1998,78)

*kirleste turyan, [xažan orıs sem’yazı çaydapčatxanda]*

porch-Loc stand-Past.I when Russian family-3 approach-Pres.Loc

‘(he) stood on the porch when the Russian family was approaching’

postnominal RCs:

(Anderson 1998,84)

*ol tayyada, [xaydar pIs tanða pararbis], aŋ daa xuzux taa köp*  
 that taiga-Loc to.where we tomorrow go-Fut-1pl animal Emph nut Emph a lot  
 ‘there are a lot of animals and nuts in the taiga we’re going to tomorrow’

**Yaqui** (Uto-Aztecan - Lindenfeld 1969,1973; Givón 1975,64-65; Song 2001)

postverbal complement clauses:<sup>68</sup> (Lindenfeld 1973 – quoted from Dryer 1980,131)

*aapo hunen hia [ke hu humut tutu ?uli]*  
 he thus say COMP this woman pretty  
 ‘He said that this woman is pretty’

postverbal adverbial clauses:

*neé kaá pahkó bičá-k [bwe?itúk ne kookwé]* (Lindenfeld 1969,79)

I not fiesta see-Perf because I sick  
 ‘I did not see the fiesta because I am sick’

postnominal RCs:

*hu kari [in acai-ta hinu-k-a?u] wece-k* (Song 2001,252)

this house my father-Dep buy-Pfv-Rel fall-Pfv  
 ‘The house which my father bought fell down’

**Zazaki** (Indo-Iranian – Sandonato 1994)

postverbal complement clauses :

*εz wazon [kε t<sup>h</sup>i veng ne-k<sup>h</sup>ere]* (Sandonato 1994,134)

I-Dir want that you-Dir sound Neg-do.subj  
 ‘I want you not to make noise!’

postverbal adverbial clauses:

*Aε owa simit<sup>h</sup>ε [k<sup>h</sup>ε rεw t<sup>h</sup>esan mε-vo]* (Sandonato 1994,135)

She-Obl water drank that early thirsty Neg-become.subj  
 ‘She drank water so she wouldn’t soon get thirsty’

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<sup>68</sup>. Also see the double complementizer example (21) above.

postnominal RCs:

Her-e        [k<sup>h</sup>ε hegai dε tsk<sup>h</sup>εrεne] senik<sup>h</sup>-i e        (Sandonato 1994,141)

Donkey-Ez    that field in    graze    few-NO are

‘The donkeys that are grazing in the field are few’

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# ***CREDO* (I BELIEVE): Epistemicity and the syntactic representation of the speaker<sup>\*</sup>**

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## **0. Introduction**

In this paper we consider the dependencies in Italian from forms such as *credo* (I believe) and *dicono* (they say). The main focus will be on *credo*, and only at the end of the discussion we will extend the analysis to cover *dicono* as well. *Credo* (I believe) is the subject-less first person present tense verbal form of the epistemic verb *credere* (to believe). *Dicono* (they say) is the subject-less third person plural present tense verbal form of the verb *dire*.

These verbal forms can be followed by a subordinate clause. However, under certain circumstances – for instance in Complementizer Deletion structures – the (apparently) embedded clause exhibits several properties typical of main clauses, which are incompatible with the syntax of subordinate sentences. Moreover, in these cases, from the semantic point of view, both the main verbal form and the alleged complement clause present some peculiarities, which call for an explanation.

We will argue that the sequence consisting of *credo* or *dicono* followed by a complementizer-less clause should often be seen as a mono-clausal structure and that *credo* (I believe) and *dicono* (they say) are better treated as heads occupying functional projections, expressing an epistemic and an evidential value respectively.

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Other verbal forms exhibiting roughly the same properties as *credo* are: *immagino* (I imagine), *suppongo* (I suppose), *penso* (I think). The form *si dice* (impersonal clitic-says, i.e., ‘one says’) exhibits the core properties of *dicono*. Other items sharing the same properties as *dicono*/ *si dice* are *si mormora* (one murmurs) and *si favoleggia* (one narrates).<sup>1</sup>

We will not discuss in depth the very nature of the epistemicity and evidentiality. For the sake of this work we will use the term epistemicity as referring to the (internal) relationship between a subject and a given propositional content. The term *evidentiality*, on the other hand, refers to the source of the reported content, as known to the speaker. Implicitly, by means of an evidential the speaker often provides an assessment of the reliability of the information.

The fact that *credo* bears first person features, and that *dicono* – or *si dice* – third person ones, is therefore intuitively connected with the distinction between epistemicity and evidentiality: the internal state of the speaker, on one side, and the external source of information on the other one.<sup>2</sup>

In both cases, a content is presented by the speaker along with what we might call its source. The source, in turn, is somehow responsible for that content, in ways to be better investigated. These constellations distinguish the cases we are about here from the propositional attitudes, or, more properly, attribution of propositional attitudes. In the latter case, in fact, the believer, the person to whom the content is attributed is not the source.

The notion of source refers to a process of information transmission. With *credo* the source is the speaker and the process is the speech act in which *credo* is used. With *dicono*, the source is undetermined, and the process of information transmission is some communicative process.

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<sup>1</sup>. The first person plural form *speriamo* (we hope) shares (at least some of) the peculiarities of *credo*. With respect to the impersonal forms, alternating with the third person plural ones, we will have nothing special to say, in that we will not consider the properties of *si* cliticization in connection to these structures. Also, the third person plural forms *mormorano* (they murmur) and *favoleggiano* (they narrate) are less commonly used than the impersonal forms, with this particular meaning.

<sup>2</sup>. In section 3.2 below, we will also show that the epistemic state which can be expressed in the sentence is not always and necessarily the one of the speaker, but that in certain cases it can be relativized to the *bearer of the attitude* toward that content.



The theoretical question we address concerns the architecture of the so-called “left periphery” with respect to the epistemic and evidential projections in the clause. These projections are deeply connected with the speech event in itself and with the role of the speaker in the conversational situation. In this paper we propose that such a role should be further articulated into the speaker’s own psychological epistemic state – the epistemic projection – and her evaluation of the source of evidence – the evidential one. This issue is particularly relevant in that it contributes to clarifying what the representation of the speaker is in the *syntactic* structure of the sentence. The role of the speaker and the treatment of the conversational background from a *semantic* point of view, are in fact much clearer and have been long since addressed. But the interface level connecting the semantics with the syntactic representation is so far still vague and in demand of a systematic investigation.

Finally, let us stress that the role of the syntactic representation of the speaker has been argued to be crucial in other domains as well, such as sequence of tense phenomena and long distance anaphor binding. In the light of these considerations, it seems desirable to work for a general and comprehensive theory pointing in this direction.

This paper is organized as follows: In the first section we will briefly point out some properties of the first person present tense verbal form *credo* (I believe) with respect to Complementizer Deletion structures. In the second, we will consider the distribution of *credo* in comparison with other adverbs. In the third we will propose a theoretical account and in the fourth we will extend the hypothesis to the verbal form *dicono* (dicono). Finally, we will draw some conclusions and lines for future research on the topic.

## **1. *Credo* (I believe) and its pseudo-complement clause**

### **1.1. Some properties of Complementizer Deletion in Italian**

In this section we will consider the distribution of *credo* with respect to Complementizer Deletion phenomena– henceforth, CD. As is well known – see among the others, Poletto (1995, 2000, 2001), Scorretti (1994), Giorgi and Pianesi (1997, 2004a) – in Italian the complementizer can be omitted under certain conditions. Such conditions are peculiar of Italian, and do not parallel the omission of the complementizer in other languages, e.g., English. Simplifying somehow, the

complementizer in Italian can be omitted only if the sentence it introduces features a subjunctive verbal form, but not if the embedded verb is in the indicative mood:

- (1) Gianni ha detto \*(che) è partita  
Gianni said that she left (IND)
- (2) Gianni crede (che) sia partita  
Gianni believes that she left (SUBJ)

Giorgi and Pianesi (1997, 2004a) discuss this paradigm and point out some properties of CD construals. As a first consideration, not every subjunctive clause permits CD. For instance, subordinate clauses of factive verbs disallow it:<sup>3</sup>

- (3) Gianni rimpiange \*(che) sia partita  
Gianni regrets that she left

The distribution of the embedded subject also shows some peculiarities. Italian speakers divide in two groups: for some speakers CD is compatible with a preverbal lexical subject, for other ones, it is not. This property is not related to the regional/ dialectal background. Consider the following sentences (the symbol ‘#’ signals that the sentence is not acceptable for a group of speakers):<sup>4</sup>

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<sup>3</sup>. Dislocated construals, either to the left, or to the right systematically disallow CD:

- (i) \*(Che) sia partita, Gianni lo crede  
That she left (SUBJ), Gianni it- believes  
‘That she left, Gianni believes’
- (ii) Gianni lo crede, \*(che) sia partita  
Gianni it-believes, that she left (SUBJ)  
‘Gianni believes, that she left’

So do focus construals, subject sentences, and so on. We will not consider these cases here. For an analysis, see Giorgi and Pianesi (2004a).

<sup>4</sup>. Let us point out that one of the authors of this work finds the preverbal subject in these sentences grammatical, whereas the other one finds it ungrammatical. Both authors are from central Italy.

- (4) #Gianni crede Maria sia partita  
Gianni believes Maria left(SUBJ)
- (5) Gianni crede sia partita Maria  
Gianni believes left(SUBJ) Maria  
'Gianni believes Maria left'
- (6) Gianni crede sia partita  
Gianni believes (she) left(SUBJ)

For the second group of speakers sentence (4) is ungrammatical – namely, a preverbal lexical subject is impossible with CD – whereas a postverbal subject, as in (5), or a null subject, as in (6), are grammatical for everybody. The distribution of pronouns follows the same pattern:

- (7) #Gianni crede lei sia partita  
Gianni believes she left(SUBJ)
- (8) Gianni crede tu sia partita  
Gianni believes you left(SUBJ)

Only the weak pronoun *tu* is acceptable in prenominal position for all speakers; the third person singular pronoun *lei* is acceptable only for the second group.<sup>5</sup>

Another important property is constituted by the distribution of topic and focus projections in the embedded clause. Consider the following examples with a focus projection:<sup>6</sup>

- (9) \*Gianni crede A PARIGI che sia andata (non a Londra)  
Gianni believes TO PARIS that she went (not to London)

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<sup>5</sup>. For an analysis of subject positions in Italian and the typology of pronominal forms, see also Cardinaletti and Roberts (2002) and Cardinaletti (2004).

<sup>6</sup>. For analyses of these positions in Italian, see among the others Cecchetto (1999), Poletto (2000), Beninca' (2001), Beninca' and Poletto (2004).

- (10) Gianni crede che A PARIGI sia andata (non a Londra)  
 Gianni believes that TO PARIS she went (not to London)

As originally proposed by Rizzi (1997), in embedded clauses the focus projection cannot precede the complementizer projection – cf. (9) – and can only follow it – cf. example (10). Giorgi and Pianesi (2004a) pointed out that in CD clauses the presence of a focused phrase gives rise to ungrammatical – or at best very marginal – results:

- (11) \*Gianni crede A PARIGI sia andata (non a Londra)  
 Gianni believes TO PARIS she went (not to London)

Analogously, an embedded topic – i.e., Clitic Left Dislocation – is grammatical on the right of the complementizer *che*, and cannot appear on its left:

- (12) Gianni crede che a Parigi, ci sia andata il mese scorso  
 Gianni believes that in Paris, (she) there-went last month  
 ‘Gianni believes that in Paris she went last month’

- (13) \*Gianni crede a Parigi che ci sia andata il mese scorso  
 Gianni believes to Paris that (she) there-went last month  
 ‘Gianni believes to Paris that she went last month’

Again, Giorgi and Pianesi (2004a), point out that in CD structure the presence of a topic is marginal:

- (14) ?(?) Gianni crede a Parigi ci sia andata il mese scorso  
 Gianni believes to Paris (she) there-went last month  
 ‘Gianni believes to Paris she went last month’

In this work we are not going to provide a theoretical account for these patterns, and refer the reader to previous works on the topic.<sup>7</sup> Our goal here is to illustrate the basic properties of CD, so as to be able to emphasize the different behavior of sentences dependent on forms such as *credo* and *dicono*. We will analyze *credo* first.

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<sup>7</sup>. See Giorgi and Pianesi (1997, 2004a).

## 1.2. *Credo* (I believe) and Complementizer Deletion

Most literature about CD only considers examples where the main verb is in the first person singular, present tense, such as *credo* (I believe), *penso* (I think), *non so* (I do know), *mi domando* (I wonder) etc.

One reason for this choice might be that first person singular main clause verbal forms in the present tense make for very sharp judgments, emphasizing the distinctions between contexts where CD is not possible - as in the sentences containing an indicative - and the contexts allowing it, e.g., some of those featuring the subjunctive. The sharper contrasts are obtained between (ungrammatical) sentences with a third person main verb and (grammatical) sentences with a first person form:

(15) \*Ha detto ha telefonato  
(He) said that he called(IND)

(16) Credo abbia telefonato  
(I) believe that he called(SUBJ)

in Giorgi and Pianesi (2004a) we already cautioned against this practice, noting that the range of acceptable sentences with CD is much larger when a first person present tense verb is used in the main clause. Therefore, the mentioned procedure might introduce a so-called *systematic error* in the argument. In what follows we will try to show that construals involving a first person verb might have an additional analysis, beside the usual one, which sets these structures aside with respect to the other cases, both syntactically and semantically.

Compare now sentence (16) with the following example:

(17) Gianni crede che abbia telefonato  
Gianni believes that he called(SUBJ)

The verb *credere* (believe) in the two sentences does not have the same meaning. Intuitively, by means of (17) the speaker is reporting a belief by Gianni – the speaker refers to a psychological state of the subject – known to the speaker on the basis of whatever evidence might be relevant and available. Moreover, the speaker is not committed to the content of the embedded clause. She might very well assert ‘Gianni believes that the earth is flat’, without believing herself the content expressed by the embedded clause.

By means of sentence (16), the speaker – usually – is not reporting a belief by her own, while remaining neutral with respect to it. On the contrary, the speaker asserts the embedded content, providing attenuation, due to the presence of *credo* (I believe). *Credo*, in this case, simply signals that the speaker is not certain about the truth of that content. The same would hold with *suppongo* (I suppose), *spero* (I hope) and similar forms, when followed by CD structures.<sup>8</sup>

In other words, it looks like the full meaning of the verb is expressed in (17) – with a third person verbal form – but not in (16), with the first person one, followed by a complementizer-less clause. We will consider again this issue in the next section, where we will also analyze the role of other characteristics of the verbal form, such as for instance its temporal properties – i.e., past tense vs. present tense – or the presence of an overt subject – as in *io credo* (I believe).

The hypothesis is that in sentences like (16) the head *credo* is not to be analyzed as a main verb followed by a subordinate clause, but as an epistemic head, realized in the left periphery of the sentence. The whole structure therefore, must be analyzed as monoclausal.

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<sup>8</sup> The sentence therefore means something like: “He called, as far as I know”. Obviously, *credo* can also be used with its literal meaning, under specific circumstances. Consider for instance the following example:

- (i) Credo che Dio esista  
(I) believe that God exists

By means of this sentence the speaker expresses her own belief, analogously to what happens in example (17) in the text. The sentence could be paraphrased by something such as: ‘I have the belief that God exists’. Notice that the meaning of the following sentence would be very different:

- (ii) Dio esiste, credo  
God exists, (I) believe

By means of this sentence the speaker asserts a certain content – ‘God exists’ – but then by adding *credo*, she also expresses a doubt about that content. Something like ‘God exists, perhaps’. These post-sentential occurrences of *credo* can be assimilated with the parenthetical usage of *credo*, which we will briefly consider in section 2.2.

Let us consider now what happens with CD. The first relevant observation is that there is a contrast between ‘ordinary’ sentences with CD and those with *credo* and a preverbal subject:

- (18) #Maria crede Paolo abbia telefonato  
Maria believes that Paolo called

- (19) Credo Paolo abbia telefonato  
(I) believe Paolo has called

As we discussed above, Italian speakers divide into two groups with respect to (18). Crucially, for one group the sentence is ungrammatical, whereas for the other one is grammatical. This distinction disappears in (19), which is grammatical for all speakers. In this case the subject does not need to be postverbal, or null, as it was the case for speakers of group 2 in (4)-(8).

Consider now the distribution of focus and topic phrases, and contrast the sentences illustrated above (repeated here for simplicity) with the ones featuring the first person verbal form *credo* (I believe):

- (20) \*Gianni crede A PARIGI sia andata (non a Londra)  
Gianni believes TO PARIS (she) went (not to London)

- (21) (?)Credo A PARIGI sia andata (non a Londra)  
(I) believe TO PARIS (she) went (not to London)

The sentence in (21) is almost perfect, sharply contrasting with (20). With a third person main verb, it is very difficult to have both CD and Focus, but this option is definitely more acceptable with a first person verb. The same happens with a topic:<sup>9</sup>

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<sup>9</sup>. Rizzi (2001) points out that the complementizer *se* (if/whether) of indirect questions occupies a lower position with respect to the complementizer *che* (that). He dubs this position INT(errogative). He convincingly argues that such a position is higher than the focus projection on the basis of examples such as (i).

- (i) \*Gianni si domanda A PARIGI se sia andata (non a Londra)  
Gianni wonders TO PARIS whether she went (not to London)

- (22) ?(?) Gianni crede a Parigi ci sia andata il mese scorso  
 Gianni believes in Paris (she) there-went last month  
 ‘Gianni believes in Paris she went last month’

- (23) Credo a Parigi ci sia andata il mese scorso  
 (I) believe in Paris (she) there-went last month  
 ‘I believe in Paris she went last month’

Finally, with a first person main verb, CD improves even with factive verbs, which we showed above to be in general incompatible with CD:

- (24) Gianni rimpiange \*(che) sia partita così presto  
 Gianni regrets \*(that) she left so early
- (25) Rimpiango (che) sia partita così presto  
 (I) regret (that) she left so early

Summarizing so far, when the complementizer is omitted, the clause following a first person, present tense (epistemic) verb does not exhibit the syntactic properties that usually characterize Complementizer-less embedded clauses; our proposal is that it is better analyzed as a clause following an epistemic head.

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- (ii) Gianni si domanda se A PARIGI sia andata (non a Londra)  
 Gianni wonders whether TO PARIS she went (non to London)

Interestingly, when the first person present tense verbal form is used in the matrix clause, the grammatical status of (i) improves:

- (iii) (?)?Mi domando A PARIGI se sia andata (non a Londra)  
 I wonder TO PARIS whether she went (not to London)

The same pattern we illustrated for *credo* seems to be involved here.



In what follows we will try to provide arguments in favor of the idea that the structure is mono-clausal. One argument is constituted by the interpretation of temporal adverbs (avoiding any special intonation accompanying the temporal locution):

- (26) Ieri alle cinque credo Gianni mangiasse un panino  
 Yesterday at five (I) believe Gianni was eating a sandwich

This sentence means that the eating of the sandwich took place at five (according to the speaker's epistemic state). Consider however the following cases:

- (27) #Ieri alle cinque Paolo crede che Gianni mangiasse un panino  
 Yesterday at five Paolo believes Gianni was eating a sandwich
- (28) Paolo crede che ieri alle cinque Gianni mangiasse un panino  
 Paolo believes that yesterday at five Gianni was eating a sandwich

With a normal intonation – i.e., without inserting a topic-like or focus-like pause between the temporal locution and the rest of the sentence – example (27) cannot be interpreted in a way analogous to (28). In other words, the temporal adverb in (27) refers to the main verb and cannot specify the time of the embedded event. Since the main verb is a present tense form and the adverb identifies a past time, the whole sentence sounds odd and clearly contrasts with (28). On the contrary, (26) is perfectly grammatical and the adverb simply identifies the time of the eating. This evidence can be interpreted in the light of the mono-clausality hypothesis, suggesting that example (26) has this option, which is absent in (27).

### 1.3. Other properties

In this section we will discuss a series of minimal contrasts in order to show that in the structure illustrated above *credo* is a head. When the epistemic head analysis of *credo* cannot be provided, the clause following it must be analyzed as a subordinate one. Consequently, the syntactic and interpretive pattern is the one typical of embedded clauses.

If a complementizer is realized, the distribution of embedded Topic and Focus minimally contrasts with sentences (21) and (23) given above:

- (29) Credo che A PARIGI sia andata (non a Londra)  
(I) believe TO PARIS (she) went (not to London)
- (30) \*Credo A PARIGI che sia andata (non a Londra)  
(I) believe TO PARIS that (she) went (not to London)
- (31) Credo che a Parigi ci sia andata  
(I) believe to Paris (she) there-went  
'I believe that to Paris she went'
- (32) \*Credo a Parigi che ci sia andata  
(I) believe to Paris that (she) there-went  
'I believe to Paris that she went'

That is, analogously to what we just pointed out above, when the complementizer is overt, topicalized and focused phrases must follow and cannot precede it, as observed by Rizzi (1997, 2002). Therefore, even if the main verb is a first person one, the presence of the complementizer licenses a full embedded structures with positions for topic and focus constituents. In other words, *credo che* ((I) believe that) behaves like *Gianni crede che* (Gianni believes that), and differs with respect to *credo+ complementizer-less clause*.

Let us consider now what happens with overt subjects in the main clause – i.e., *io* (I):

- (33) #Io credo Paolo abbia telefonato  
I believe Paolo has called
- (34) Io credo abbia telefonato  
I believe (he) called

As expected, there is a group of speakers for which CD gives rise to ungrammaticality if the embedded subject is lexicalized in a preverbal position. For these speakers, example (33) contrasts with (34), where the embedded subject is null. Consider also the following examples:

- (35) ?\*Io Credo A PARIGI sia andata (non a Londra)  
I believe TO PARIS (she) went (not to London)

(36) ?(?)Io credo a Parigi ci sia andata il mese scorso

I believe in Paris (she) there-went last month

'I believe in Paris she went last month'

In (35) a focused phrase gives rise to ungrammaticality, and in (36) a topic phrase causes marginality, analogously to what we saw above for a third person main verb. Let's consider now factive predicates:

(37) Io rimpiango \*(che) sia partita così presto

I regret (that) she left so early

If we add the lexical subject *io* (I), factive verbs do not admit CD, exhibiting therefore the same properties they show when appearing with a third person ending.

In conclusion, the presence of the overt first person subject forces a verbal analysis of *credo*, and main+subordinate clause structure for the whole sentence.

The other interesting question concerns the presence of tenses other than the present tense. It seems to us that the peculiar epistemic reading is obtained only with the present tense and perhaps marginally with the imperfect. Consider for instance the following cases:

(38) Credevo Paolo avesse telefonato

(I) believed(IMPF) Paolo had called

(39) Credevo avesse telefonato

(I) believed(IMPF) (he) called

The contrast, if there is any, between (38) and (39), for the people who do not accept a preverbal lexical subject with CD, is not as sharp as the ones we saw above – cf. for instance (4) vs. (6). The reason might be that the Italian imperfect can be used as a modal (or pseudo-modal), beside expressing a past temporal value. In this sense, it would still be compatible with epistemic *credo*, not as a mark for past-ness, but as a sort of emphazier of its epistemic value. Let's look now at the other past forms of Italian:

(40) #Ho creduto/credetti Paolo avesse telefonato

I believed (pr perf/simple past) Paolo had called

In these examples the effect is much stronger and the speakers who reject a preverbal subject with CD do not accept them. The reason is that these forms *do* have a temporal value and this fact is incompatible with the head analysis of epistemic *credo*.

Consider also the following cases:

- (41) ?\* Ho creduto/credetti A PARIGI fosse andata (non a Londra)  
(I) believed(pr perf/simple past) TO PARIS (she) went (not to London)
- (42) ?(?) Ho creduto/credetti a Parigi ci fosse andata il mese scorso  
(I) believed(pr perf/simple past) in Paris (she) there-went last month  
'I believed in Paris she went last month'

The distribution of topic and focus is closer to that observed with third person main verbs and CD, where their positions – for whatever reason – are not available, or at least very marginal. Consider finally factive predicates:

- (43) Ho rimpianto/rimpiansi \*(che) fosse partita così presto  
(I) regretted(pr perf/simple past) (that) she left so early

Even in this case, CD is at best very marginal. In the end, the greater freedom in CD that sentences with first person main verb exhibit vanishes when the tense of the main verb is different from the present. These observations follow from the hypothesis that *credo* is a head in a functional position.<sup>10</sup>

Let us consider now other possible word orders. Focalization of the subordinate clause is available:

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<sup>10</sup>. In English the form *I think* seems to behave very similarly to the Italian *credo*, in spite of the fact that it has a subject. We will not address the comparative analysis of Italian and English in this work. Let us only point out that the form *think* without a subject would not bear any first person specification, which seems a necessary ingredient for a head to be epistemic – as we will better see in section 3.1. We might hypothesize, therefore, that *I think* in these constructions works as a head, incorporating the first person subject. Alternatively, it could be analyzed as a maximal projection, in the Spec of the epistemic projection. We leave this question open for future research.

- (44) CHE MARIA SIA PARTITA, *credo*  
 THAT MARIA LEFT (SUBJ), (I) believe

- (45) CHE MARIA SIA PARTITA, *crede*  
 THAT MARIA LEFT(SUBJ), (he) believes

A focused clause can precede both *credo* (I believe), and *crede* (he believes). Importantly, sentences (44) and (45) have the same interpretation – they merely express a belief by the speaker and the subject respectively. In particular sentence (44) is not expressing an epistemic evaluation by the speaker – i.e., the sentence doesn't mean *probably Maria left*. Notice that the presence of the complementizer is obligatory:

- (46) \*MARIA SIA PARTITA, *credo*  
 MARIA LEFT (SUBJ), (I) believe

As is well-known, CD is impossible in these cases.<sup>11</sup> Therefore, in this case focalization is the crucial property blocking the mono-clausal reading of the structure. If this is the case, a possible interpretation would be to say that no Focus position is available to the left of epistemic *credo*. We will consider again this evidence when discussing the differences between *credo* and *dicono* in section 4. Similar conclusions can be drawn from topicalization:

- (47) Che Maria sia partita, lo *credo*  
 That Maria left(SUBJ), (I) it-believe

Analogously to what we saw before, the sentence in (47) has the same interpretation, and the same properties, as the one in (48):

- (48) Che Maria sia partita, lo *crede*  
 That Maria left(SUBJ), (he) it- believes

In absence of focus and topic, the complementizer-less structure is available with *credo* (I believe), but not with *crede* (he believes):

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<sup>11</sup>. See fn (3) above.

- (49) Maria è/\*sia partita, credo  
 Maria left (IND/\*SUBJ), (I) believe

- (50) \*Maria è/sia partita, crede  
 Maria left (IND/SUBJ), (he) believes

Notice that sentence (49) has an indicative, and not a subjunctive, contrasting with the cases above.

Consider also that, in absence of topic or focus intonation, the complementizer *cannot* be inserted, and the following sentence is ungrammatical:

- (51) \*Che Maria è partita, credo  
 That Maria left(IND), (I) believe.

In other words, in Italian when a complement clause is neither focused nor topicalized, it must *follow* the main verb, and cannot precede it. Sentence (51) is ungrammatical because the presence of *che* forces the structure to be bi-clausal, hence the sentence can only be licensed if the preposed sentential content is interpreted either as a focus or as a topic and the verbal form is in the subjunctive. The grammaticality of (49), is due to the fact that the epistemic projection can appear to the right of its argument.

The data concerning the preposing of the sentential complement seem to go in the direction we are expecting, namely, to show the possibility of a mono-clausal interpretation with *credo*((I) believe) and, conversely, its unavailability with *crede* ((he) believes).<sup>12</sup>

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<sup>12</sup>. Recall also that in Italian the subjunctive is not available in regular main clauses. Indeed (i) is ungrammatical, supporting the idea that the preposed clause is a matrix one, and not derived via movement from the sentential complement position:

- (i) \*Maria sia partita, credo.  
 Maria left(Subj), (I) believe.

Finally, one might wonder whether the presence of the complementizer is by itself sufficient for triggering the *real* verbal reading of the verb:

- (ii) Credo sia partita alle 5

## 2. *Credo* (I believe) and the other left-periphery items

### 2.1. *Francamente* (frankly)

It is well-known that speech act adverbs - see among the others Jackendoff (1972) and Cinque (1999) - such as *francamente* (frankly) cannot be embedded:

(52) *Francamente*, Gianni si e' sbagliato

Frankly, Gianni was wrong

(53) \**Maria credeva che francamente si fosse sbagliato*

Maria believed that, frankly he was wrong

Recall that these adverbs, even in the grammatical cases such as (52), require a long pause before the rest of sentence, signaled in writing by the comma, as in parentheticals (see below). However, various orders are possible, again, provided that a long pause is realized between the adverb and the other constituents (the symbol ‘#’ signals here a long pause):

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(I) believe she left at 5

(iii) *Credo che sia partita alle 5*

(I) believe that she left at 5

The judgment in this case is rather difficult, given that the semantic difference would not be very clear.

The following case, however, might provide a better example:

(iv) *Credo la terra sia tonda*

(I) believe the earth is round

(v) *Credo che la terra sia tonda*

(I believe that the earth is round

It seems to us that there is a contrast between (iv) and (v). In (iv) the speaker – in particular, a speaker not accepting a preverbal subject with CD – is considering as not totally certain that the earth is round. No implication of this sort seems to arise in (v).

(54) Gianni, #francamente#, si e' sbagliato

Gianni, frankly, was wrong

(55) (?)Gianni si e', #francamente#, sbagliato

Gianni was, frankly, wrong

(56) Gianni si e' sbagliato, #francamente!

Gianni was wrong, frankly!

The impossibility of embedding the adverb persists even if it appears in sentence-final position:<sup>13</sup>

(57) \*Maria credeva che si fosse sbagliato, francamente

Maria believed that he was wrong, frankly

The embedding of the adverb doesn't seem to improve with CD (in the relevant reading, where the adverb is referring to Maria's thought):

(58) \*Maria credeva, francamente, si fosse sbagliato

Maria believed, frankly, (he) was wrong

(59) \*Maria credeva si fosse sbagliato, francamente

Maria believed (he) was wrong, frankly

As we will better see below in section 3.2, speech act adverbs establish a relation between the speech act and its agent. Therefore, we do not expect them to be acceptable in clauses dependent upon a propositional attitude, such as fearing, believing etc. It makes no sense to attribute to somebody a frank attitude in believing, fearing etc. something. On the contrary, we expect this to be possible with communicative acts:

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<sup>13</sup>. A long pause before *francamente* in this case would make the sentence grammatical. However, the only interpretation would be the one in which *francamente* refers to the speaker, not to Maria, and takes the whole sentence in its scope.



- (60) Mario disse a tutti che francamente era stanco di ascoltare sciocchezze  
 Mario told everybody that frankly he was tired of hearing silly things

In sentence (60) the adverb *frankly* can be attributed to the subject *Mario* as well. Let's compare now these cases with the clauses appearing with complementizer-less *credo*. The following sentence is perfectly grammatical:

- (61) Credo, francamente, si sia sbagliato  
 (I) believe, frankly, (he) was wrong

As illustrated by the following example, the post-sentential position of the adverb is grammatical as well:

- (62) Credo si sia sbagliato, francamente  
 (I) believe (he) was wrong frankly

These sentences all mean that the speaker judges frankly that x was wrong. There is therefore a systematic contrast between the *credo* cases and the sentences (53) and (57)-(59) with a third person main verb.

Let us see now if the pattern observed here is the same we illustrated above. First, notice that the grammaticality of the sentence decreases if the complementizer is introduced, either to the right of the adverb or to its left:<sup>14</sup>

- (63) ?(?)Credo che, francamente, si sia sbagliato  
 (I) believe that, frankly, (he) was wrong
- (64) ?(?)Credo, francamente, che si sia sbagliato  
 (I) believe, frankly, that (he) was wrong

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<sup>14</sup>. For at least one speaker sentence (64) is better than sentence (63). This might be due to the fact that the embedded clause in both cases contains a subjunctive form, and that the complementizer position with the subjunctive is lower than that of the indicative. However, since Italian speakers do not agree on this judgment, we do not pursue this consideration any further.

The contrast with (61) might be not very sharp, but it is still quite systematic. Consider also that as soon as the main verb is a past form, the sentence is strongly degraded:

- (65) ??Ho creduto/credetti, francamente, si fosse sbagliato  
 (I) believed(pr perf/simple past), frankly, he was wrong

The meaning of (65) is that at utterance time the speaker is frank when he says that he had a belief that such and such. In other words, the sentence is grammatical only if interpreted bi-clausally, where *frankly* modifies the main verbal form and the word order is acceptable only if there is a long pause between the *creduto/credetti* (I believed) and the adverb. Notice that we find a decreased grammaticality even when the subject, *io* (I) is overt, analogously to the cases we discussed in the previous section:

- (66) ??Io credo francamente si sia sbagliato  
 I believe frankly (he) was wrong

These data show that if we have a true main clause propositional attitude predicate, there is no room for an embedded *frankly*. This is not true with *credo* followed a complementizer-less clause.

If this is the case, our hypothesis seems correct: the complementizer-less clause following *credo* does not exhibit the properties of embedded clauses. On the contrary, the grammar for main clauses can accommodate the phenomena just described, under the hypothesis that *credo* occupies a head position in the left, pre-subject, layer of the sentence.<sup>15</sup>

## 2.2. Some remarks on parentheticals

Let us point out that *credo*, together with other similar verbal forms such as *suppongo* (I suppose), *temo* (I fear), *spero* (I hope) can be used as a parenthetical, occurring in

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<sup>15</sup>. Still, the presence of the subjunctive is a phenomenon mostly correlated with embedded clauses. Our position however is that the subjunctive is licensed whenever the relevant syntactic configuration of features is realized. As a matter of fact, the subjunctive is not present just in embedded clauses as shown by the pattern of exclamative and imperatives of Italian and other Romance languages. See Zanuttini and Portner (2000, 2003) and Poletto and Zanuttini (2003).

various positions inside the clause. The literature on parentheticals is huge and very complex, also because parentheticals come in many varieties. A possible exhaustive analysis and unification of their typology is not our goal here. The kind of parentheticals we are taking into account in this discussion is the one constituted in Italian by a single subject-less verb, as opposed to a whole sentence. Namely, we will very briefly consider *credo* (I believe), but not the so-called *as* parentheticals, such as *come Maria sostiene* (as Maria claims). Moreover, we will not consider the *free indirect speech*, which has sometimes been assimilated to parentheticals.<sup>16</sup>

Consider the following example:

- (67) Maria (credo)<sub>1</sub> è (credo)<sub>2</sub> andata (credo)<sub>3</sub> a Parigi (credo)<sub>4</sub>  
 Maria ((I) believe) has(IND) ((I) believe) gone ((I) believe) to Paris ((I) believe)

The single verb parentheticals, as shown by example (67), can appear in many positions inside the clause. These positions are also available for the left-periphery adverbs in general, such as *probabilmente* (probably), *forse* (perhaps), *sicuramente* (surely), *fortunatamente* (fortunately), *presumibilmente* (presumably), etc.:<sup>17</sup>

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<sup>16</sup> On parentheticals see among the others, Corver and Thiersch (2002), Potts (2002), Stowell (1987), Reinhart (1983), McCawley, (1982). Rooryck (2001a, 2001b) proposes a unification of parentheticals with evidentiality and treats evaluative and epistemic modals on a par with evidentials. In this paper, we consider them as belonging to different groups. The question concerning the similarities and the differences between these categories is an intriguing one, which we are not able to address here.

<sup>17</sup> Consider also that as soon as the head analysis is not available anymore, grammaticality decreases:

- (i) ??Maria, Gianni crede, è andata a Parigi  
 Maria, Gianni believes, has gone to Paris
- (ii) ??\*Maria è, Gianni crede, andata a Parigi  
 Maria has Gianni believes, gone to Paris
- (iii) ??\* Maria è andata, Gianni crede, a Parigi  
 Maria has gone, Gianni believes, to Paris
- (iv) ??Maria è andata a Parigi, Gianni crede  
 Maria has gone to Paris, Gianni believes

- (68) Maria (forse)<sub>1</sub> è (forse)<sub>2</sub> andata (forse)<sub>3</sub> a Parigi (forse)<sub>4</sub>  
 Maria (perhaps) has(IND) (perhaps) gone (perhaps) to Paris (perhaps)

The main differences between the parenthetical *credo* and the left-periphery one, is that the latter triggers the subjunctive mood, whereas all the positions in (67) do not:

- (69) \*Maria (credo)<sub>1</sub> sia (credo)<sub>2</sub> andata (credo)<sub>3</sub> a Parigi (credo)<sub>4</sub>  
 Maria ((I) believe) has(SUBJ) ((I) believe) gone ((I) believe) to Paris ((I) believe)

A possible hypothesis unifying the left-most *credo* structures we saw above, with the parenthetical construals like (67), would be to say that *credo* can occupy various head positions inside the clause, and that they are related through movement. The triggering of the subjunctive only takes place when it lands in the leftmost one.

According to Rizzi (2001, 2002), the basic position for adverbs is the one marked in (67) and (68) by subscript 2 – namely, the position inside the main VP. We can say that the position marked with the subscript 3 is inside the participial projection and basically given as well. *Credo* 1 might be in Rizzi's left-periphery position Mod, with topicalization of the subject. Therefore this case would be obtained by means of movement of *credo* to Mod. For the position in 4, various analyses seem to be possible. It might be obtained via movement of the participial projection, followed by movement of the rest of the clause to its left. Conversely, it might also be thought that the rightmost position is a basic position as well conveying a peculiar after-thought meaning. In this perspective, therefore, the parenthetical *credo* would be no parenthetical at all. It is always a functional head allowed to occupy several positions inside the clause.

Consider finally that both parenthetical *credo* and left-periphery *credo* cannot be embedded:

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With respect to these cases, there is a minimal contrast with *as* parentheticals:

- (v) Maria (come Gianni crede) è (come Gianni crede) andata (come Gianni crede) a Parigi (come Gianni crede)  
 Maria (as Gianni believes) has (as Gianni believes) gone (as Gianni believes) to Paris (as Gianni believes)

- (70) \*Paolo ha detto che Maria, credo, è andata a Parigi  
 Paolo said that Maria, (I) believe, went(IND) to Paris
- (71) Paolo ha detto che credo Maria sia andata a Parigi  
 Paolo said that (I) believe Maria went(SUBJ) to Paris

Sentence (71) is grammatical only for the speakers who accept a preverbal subject with CD. The question of embedding will be considered again in section 3.2.

### 2.3. *Fortunatamente* (luckily) and *sicuramente* (surely)

In this section we will analyze the order of left-peripheral adverbs. A *proviso* is in order: judgments in this area are often shaky and unstable. There are many reasons conspiring to this end. One reason was pointed out by Rizzi (2002), namely, the fact that adverbs can be topicalized. Depending on the context, they can appear in many different positions given that topic projections are available at every step in the left periphery. Therefore, a native speaker judging a sentence must avoid the slightest hint of topicalization. Furthermore, it is difficult to classify the various heads. We know for instance that evaluative adverbs precede epistemic ones. This might be clear in prototypical cases, but close attention must be paid to the precise meaning of the various heads, in order not to misclassify them. In a word, judgments about reciprocal order might not be very reliable and we will try to do our best, in order to signal the problems and exclude alternative interpretations. With this in mind, let us move further.

Evaluative and epistemic adverbs – such as *fortunatamente* (luckily) and *sicuramente* (surely) – give rise to an interesting pattern when combined with *credo* and CD. Consider the following paradigm:<sup>18</sup>

- (72) Gianni ha fortunatamente vinto  
 Gianni has luckily won
- (73) Gianni ha sicuramente vinto  
 Gianni has surely won

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<sup>18</sup>. Many scholars discussed the distribution of these adverbs. Cf. Among the others, Koster (1978), Cinque (1999), Poletto, (2000) and Rizzi (2001, 2002).

Notice that the evaluative adverb is higher than the epistemic one, as shown by the following contrast:

(74) Gianni ha fortunatamente sicuramente vinto  
Gianni has luckily surely won

(75) ?\*Gianni ha sicuramente fortunatamente vinto  
Gianni has surely luckily won

Both adverbs allow a sentence initial position:

(76) Fortunatamente, Gianni ha vinto  
Luckily, Gianni has won

(77) Sicuramente Gianni ha vinto  
Surely, Gianni has won

According to Rizzi (2002), the pre-sentential position is derived via movement from the sentence internal one. The position, which he dubs MOD(ifier), is lower than that where *wh*-items and interrogative phrases such as *perché* (why) appear. Rizzi (2002) does not consider epistemic and evaluative adverbs, but it seems to us that the relevant examples can be reproduced in these cases as well:<sup>19</sup>

(78) \*Fortunatamente, chi ha vinto la gara?  
Luckily, who won the race?

(79) \*Fortunatamente, perché Gianni ha vinto la gara?  
Luckily, why did Gianni win the race?

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<sup>19</sup>. Rizzi (2002) considers the position in Spec,MOD as recursive, in order to permit multiple adverbs to appear. However, this layer must be internally structured in a fixed hierarchical fashion, in order to cope with Cinque's (1999) observations. If we are correct in analyzing *credo* – and *dicono* as well – as heads, presumably Rizzi's suggestion cannot be maintained, given that multiple heads positions are also needed, beside the specifiers. We will not consider this point any further and from now on will take it for granted.

- (80) Chi fortunatamente ha vinto la gara?  
Who luckily won the race?
- (81) Perché fortunatamente Gianni ha vinto la gara?  
Why did luckily Gianni win the race?
- (82) \*Sicuramente, chi ha vinto la gara?  
Surely, who won the race?
- (83) \*Sicuramente, perché Gianni ha vinto la gara?  
Surely, why did Gianni win the race?
- (84) Chi sicuramente ha vinto la gara?  
Who surely won the race?
- (85) Perché sicuramente Gianni ha vinto la gara?  
Why did surely Gianni win the race?

These examples show that the interrogative phrase can precede, but not follow the adverb. We will go back to the reciprocal order of adverbs and interrogatives in the next section.

In embedded clauses the pre-clausal and the clause-internal positions are both available:

- (86) Maria credeva che fortunatamente Gianni avesse vinto  
Maria believed that luckily Gianni had won
- (87) Maria credeva che Gianni avesse fortunatamente vinto  
Maria believed that Gianni had luckily won
- (88) Maria credeva che sicuramente Gianni avesse vinto  
Maria believed that surely Gianni had won
- (89) Maria credeva che Gianni avesse sicuramente vinto  
Maria believed that Gianni had surely won

The two positions are available even with CD, as shown by the following examples.

- (90) Maria credeva fortunatamente (#Gianni) avesse vinto  
Maria believed luckily (Gianni) won
  
- (91) Maria credeva (#Gianni) avesse fortunatamente vinto  
Maria believed luckily (Gianni) won
  
- (92) Maria credeva sicuramente (#Gianni) avesse vinto  
Maria believed surely (Gianni) won
  
- (93) Maria credeva (#Gianni) avesse sicuramente vinto  
Maria believed that (Gianni) surely won

The notation *(#Gianni)* is adopted here to signal that the preverbal subject is available only for the speakers who generally accept it in CD structures. Recall also that the availability of a preverbal subject, for the group of speakers rejecting it in CD structures, constitutes a test for mono-clausality. I.e., the presence of the preverbal subject makes sure that at least for one group of speaker, the structure, when grammatical, is analyzed as a single clause. We will exploit this property in the discussion. Consider now the following sentences with *credo*, keeping in mind the *proviso* in the opening of this section:

- (94) (?)?Credo fortunatamente Gianni abbia vinto  
I believe luckily Gianni has won
  
- (95) Credo Gianni abbia fortunatamente vinto  
I believe Gianni has luckily won
  
- (96) (?)?Credo sicuramente Gianni abbia vinto  
(I) believe surely Gianni has won
  
- (97) Credo Gianni abbia sicuramente vinto  
(I) believe Gianni has surely won



These contrasts show that the complementizer-less clause following *credo* cannot be considered a subordinate one. If this were the case, in fact, example (94) and (96) should be on a par with (86)-(88) and (90)-(92) – namely, with the sentences following a third person verbal form. Moreover, they should not contrast with (95) and (97) – i.e., with the sentences where the adverb occupies a clause-internal position. In third person sentences, in fact, the adverbs in internal position do not give rise to a contrast with the sentences having the adverb in pre-subject position, as shown by the examples (86)-(93).

Analogously to what we saw above, if we introduce the complementizer, the grammatical status of the sentence improves:

- (98) Credo che fortunatamente Gianni abbia vinto  
(I) believe that luckily Gianni won

- (99) Credo che sicuramente Gianni abbia vinto  
(I) believe that Gianni surely won

Consider also that evaluative adverbs precede the epistemic ones even when they occupy a position in the left layer, as shown by the following contrast:

- (100) Fortunatamente sicuramente Gianni ha vinto  
Luckily surely Gianni won
- (101) ?\*Sicuramente fortunatamente Gianni ha vinto  
Surely luckily Gianni won

We will not address here the question if it is the syntax imposing the hierarchical order, or if the constraints on semantic interpretation do so. Let us only point out that by means of the (unacceptable) linear order in (101), the speaker would be expressing her epistemic status with respect to the fact that the circumstance of Gianni winning the race is lucky, and not with respect to the victory of Gianni itself. In other words, there is a scope effect and the epistemic adverb, in order to have the event – in this case, *Gianni won* – as its argument, cannot precede the evaluative one. As a consequence, example (100) contrasts with (101). Only in (100) in fact the event can be an argument of the adverb *sicuramente*.

Consider now the leftmost position of these adverbs with respect to *credo*:

(102) Fortunatamente credo Gianni abbia vinto

Luckily, (I) believe Gianni have won

(103) Sicuramente credo Gianni abbia vinto

Surely, (I) believe Gianni have won

The sentences in (102)-(103) are both acceptable – namely, *credo* can follow both the evaluative adverb and the epistemic one.

As we argued above, in Italian a first person singular present tense verbal form can occupy an epistemic head position. The “traditional” epistemic adverbs, such as *probably*, *surely*, etc., according to recent theories on adverb distribution (cf. Cinque 1999, 2002; Rizzi 2001, 2002) are located in the Specifier of an epistemic head.

Note that the possibility of assigning a bi-clausal structure to sentences such as (102) and (103), as well as to the other ones we gave above, is available for the speakers accepting a preverbal subject with CD, but – as we already remarked – this cannot be the case for the speakers rejecting it.

Summarizing, the data in sections 1 and 2 show that the C-less structure embedded under *credo* cannot always be considered as an ordinary subordinate clausal complement, strongly suggesting the existence of an alternative mono-clausal analysis.

Going back to the mono-clausal structure – where the preverbal subject is acceptable for everybody – recall that, given the hierarchical structure, an evaluative adverb must precede an epistemic one. Consequently, the grammaticality of (102) is accounted for, as well as the ungrammaticality of the reverse order exemplified by the example (94).

On the other hand, *credo* and *sicuramente* are both epistemic items, the only difference being that *sicuramente* is a specifier, whereas *credo* is a head. If *sicuramente* is the specifier of the epistemic projection and *credo* is its head, then the order in (102) is predicted to be grammatical, whereas the reverse order, exemplified by (94) is not.<sup>20</sup>

Consider finally the following pair and compare it with the one in (102)-(103) above:

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<sup>20</sup>. It might be difficult to assign a proper interpretation to (102), so that for some speakers it sounds slightly unnatural. The two epistemic items, in fact, must combine, in order to yield a single epistemic meaning at the maximal projection level and it is not clear to us how this might happen.

(104) Fortunatamente Gianni crede (#Mario) abbia vinto  
 Luckily Gianni believes (Mario) has won

(105) Sicuramente Gianni crede (#Mario) abbia vinto  
 Surely Gianni believes (Mario) has won

As far as the semantics is concerned, example (102) contrasts with (104), and example (103) contrasts with (105). Sentence (102) can mean that it was lucky for Gianni to win. This meaning is not available at all in (104), which can only mean ‘it is lucky that Gianni believes that Mario has won’. Analogously, for the pair in (103)-(105). This fact is expected, given the bi-clausal nature of (104)-(105), as opposed to the monoclausality of the *credo* sentences above.

### 3. A further look into epistemic adverb syntax and semantics

In this section we further compare the distribution of epistemic adverbs with that of *credo*. According to our hypothesis, so far the prediction would be that the head *credo* and the adverbs pattern alike, contrasting with the third person verbal form, and in general with *real* main+subordinate structures. We will see that this prediction is only partially borne out and we will show that the differences can be predicted on the basis of the inherent properties of the head *credo*, which are not shared by *probabilmente* (probably), *sicuramente* (surely), etc.

#### 3.1. *Credo* as an epistemic item

Let us observe first that there is no ban against a preverbal subject with an epistemic adverb:

(106) Probabilmente Paolo è uscito  
 Probably Paolo left

In this respect, *credo* and *probabilmente* behave alike, as expected. Analogously, the occurrence of topicalized constituents does not constitute a problem either, given that

their projections can either follow or precede epistemic adverbs in the syntactic hierarchy:

(107) Probabilmente, a Parigi c'è già stato  
Probably, in Paris, he there-has already been

(108) A Parigi, probabilmente c'è già stato  
In Paris, probably, he there-has already been

As we saw above in (23), here repeated, the same pattern is found with *credo*:

(109) Credo a Parigi ci sia andata il mese scorso  
(I) believe in Paris (she) there-went last month  
'I believe in Paris she went last month'

Consider also the following word order, which, as expected, is grammatical:

(110) A Parigi credo ci sia andata il mese scorso  
In Paris (I) believe (she) there-went last month  
'In Paris I believe she went last month'

Let us consider now the co-occurrence of epistemic items with a Focused phrase:

(111) A PARIGI, probabilmente Paolo è già stato (non a Londra)  
IN PARIS, probably Paolo has already been (not in London)

(112) A PARIGI, credo Paolo sia già stato (non a Londra)  
IN PARIS, (I) believe Paolo has already been (not in London)

In these cases there is no difference between *probabilmente* and *credo*, but the opposite ordering does not seem to us to yield identical results in the two cases. Let us reproduce here the sentence with *credo*, given above in (21):

(113) ??Probabilmente A PARIGI Paolo è già stato (non a Londra)  
Probably in Paris Paolo has already been (not in London)

- (114) (?)Credo A PARIGI Maria sia andata (non a Londra)  
 (I) believe TO PARIS Maria went (not to London)

The example (114) is actually better than (113). Consider also that, as pointed out in the first section, this word order does not obtain with *real* CD subordinate clauses:

- (115) \*Gianni crede A PARIGI (#Maria) sia andata (non a Londra)  
 Gianni believes TO PARIS (Maria) went (not to London)

Namely, in a complementizer-less embedded clause a Focus projection in the left periphery position is not acceptable. The word order in sentence (114) therefore, is possible in a mono-clausal structure, and not in a bi-clausal one.

Giorgi and Pianesi (2004a) propose an explanation for the ungrammaticality of (115), which we will not reproduce here. However, it is important to keep in mind that, whatever the explanation might be, it is a fact that there is a contrast between (115) and (114). We will argue that this contrast can be accounted for by means of the hypothesis discussed so far, i.e., that the sentence in (114) is a single clause and not a complex structure as (115).

The relevant question now concerns the position occupied by the adverb *probabilmente* and by the head *credo* in these cases. According to Rizzi (2001, 2002) and Cinque (2002), the Modifier position in the left-side layer of the clause should be lower than the Focus position. Suppose that we assign (111) the following analysis:

- (116) [[<sub>FocP</sub> A PARIGI] [<sub>ModP</sub> probabilmente] Paolo è già stato (non a Londra)]

Then the status of (113) would follow, as a consequence of a violation of the hierarchical ordering of functional positions in the left field. This account leaves two open problems, though. In the first place, an explanation should be given for the non-fully ungrammatical status of (113). In the second place, if *credo* behaves as an epistemic head that can sit in the same projections whose Spec can be occupied by *probabilmente*, e.g., ModP, then (114) should be on a par with (113) and strongly contrast with (111) and (112). But *credo* is almost perfect in (114).

The hypothesis we will argue for here is that Rizzi's proposal can be maintained, but that *credo* in mono-clausal structures, by virtue of its inherent properties, must move to a still higher position than Rizzi's ModP. Such a movement can be either overt or covert. Hence, both (112) and (114) are (almost entirely) grammatical: in (112) movement takes place covertly and in (114) overtly.

What's the trigger for movement? Morphologically, *credo* is a bi-morphemic verbal form: the verbal root *cred-* and *-o*, which the first person singular ending. Hence, even when it works as an epistemic adverb, it maintains its ordinary phi-features which need be checked/licensed. This cannot obtain, as is normal, in TP structures, because of *credo*'s peculiar syntax. The only possibility, we argue, is that *credo*'s first person singular phi-features are checked in the higher complementizer projection that Giorgi and Pianesi (1997, 2004a) labeled as C, and that is the place where the speaker's coordinates are represented.<sup>21</sup>

Therefore, *credo* is acceptable when preceding the focus projection, as in (114), because it has actually moved to a higher position than Rizzi's Mod (2001, 2002). On the other hand, this suggestion also explains the non full ungrammaticality of (113). In principle *probabilmente*, and epistemic adverbs in general, when referring to the speaker (see the next section), must be interpreted in connection with the speaker coordinate as well. Therefore we suggest that they move covertly to the position where the speaker's coordinate is represented. In sentence (113) such a movement, in itself licit, has taken place overtly. Given that *probabilmente* lacks any feature triggering overt movement the sentence is (mildly) ungrammatical.

Finally this analysis also provides an explanation for the presence of the subjunctive with *credo* only when sentence-initial, but not when used as a parenthetical form:<sup>22</sup>

- (117) Credo Gianni sia andato a Parigi  
(I) believe Gianni went(SUBJ) to Paris
- (118) Gianni, credo, è/\*sia andato a Parigi  
Gianni, (I) believe, went (IND/\*SUBJ) to Paris
- (119) Gianni è/\*sia, credo, andato a Parigi  
Gianni went(IND/\*SUBJ), (I) believe, to Paris

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<sup>21</sup>. See Giorgi and Pianesi (2001, 2003, 2004b) for arguments in favor of the idea that the speaker's coordinate must be represented in the high complementizer C. Giorgi and Pianesi consider C the leftmost complementizer position in the complementizer layer. However, we would not identify *tout court* that position with Rizzi's (1997) Force projection. The question concerning the conceptual correspondence between Giorgi and Pianesi's C and Rizzi's Force deserves further study.

<sup>22</sup>. See the considerations given in section 2.2 above.

The explanation again resorts to Giorgi and Pianesi's proposal. They argue, on the basis of independent evidence, that the head C is the syntactic location for the features *tau*, which determines the temporal properties of the sentence at the interface.

An epistemic adverb, by itself, does not trigger a special mood. However, *credo* maintains its categorial features, which are verbal, and by virtue of these features ending up in C, it can license a subjunctive.<sup>23</sup>

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<sup>23</sup> Notice finally that *credo* as an epistemic head does not exhibit the same properties as the main verb *credere*. In particular, it does not trigger theta-assignment. The internal argument of the *real* verbal form, cannot be omitted:

- (i) A: Maria è partita  
A: Maria left
- (ii) B: Anche io \*(lo) credo  
B: I believe (it) as well
- (iii) B' Anche io credo \*(che Maria sia partita)  
B': I believe as well (that Maria left)

In the dialogue in (i)-(iii) the omission of the clitic *lo* (it) would be impossible. If it does not appear, the whole sentence must be repeated. Consider now the following dialogue:

- (iv) A: Maria è partita, credo  
A: Maria left, (I) believe
- (v) B: Non credo  
B: Lit. (I) do not believe  
B: 'I'm not sure'
- (vi) B': Non (lo) credo (che Maria sia partita)  
B?: (I) do not (it) believe (that Maria left)

When the speaker utters A, B is a possible answer, even if neither the clitic nor the sentence are realized. In B', where either *lo*(it) or the sentence are present, we see a different meaning. The answer B, in fact

### 3.2. On the *shifting* of epistemic adverbs

The other important consequence of the fact that the epistemic head *credo* bears first person features is that it is incompatible with questions. Let us see how the reasoning runs.

We showed above in (78)-(85) that coherently with Rizzi's (2001, 2002) predictions, left-peripheral adverbs cannot precede an interrogative phrase, but can only follow it. Let us reproduce here the examples we gave above, together with other ones relevant for the present discussion:

- (120) \*Fortunatamente, chi ha vinto la gara?  
           Luckily, who won the race?
  
- (121) \*Fortunatamente, perché Gianni ha vinto la gara?  
           Luckily, why did Gianni win the race?
  
- (122) Chi, fortunatamente ha vinto la gara?  
           Who, luckily won the race?
  
- (123) Perché fortunatamente Gianni ha vinto la gara?  
           Why, luckily did Gianni won the race?
  
- (124) \*Sicuramente, chi ha vinto la gara?  
           Surely, who won the race?
  
- (125) \*Sicuramente, perché Gianni ha vinto la gara?  
           Surely, why did Gianni win the race?
  
- (126) Chi sicuramente ha vinto la gara?  
           Who, surely won the race?
  
- (127) Perché sicuramente Gianni ha vinto la gara?  
           Why, surely did Gianni won the race?

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has an epistemic meaning. *I am not certain the Maria left*, but B' means *I do not have the belief that P* – i.e., the person answering expresses her disbelief in what the speaker says.



*Credo* does not pattern with *sicuramente* with respect to interrogative phrases:

- (128) \*Chi credo abbia vinto la gara?  
Who do (I) believe won the race?
- (129) \*Perché credo Gianni abbia vinto la gara?  
Why do (I) believe Gianni won the race?
- (130) \*Credo chi abbia vinto la gara?  
(I) believe who won the race?
- (131) \*Credo perché Gianni abbia vinto la gara?  
(I) believe why Gianni won the race?

(128) can only be accepted as an echo question, when endowed with an appropriate intonation. The non-echo reading, in which I ask myself about who I believe has won the race, is syntactically available but semantically phony. As to (129), it can be used again as an echo question, on a par with (128), or as a way to ask the reason why I (the speaker) have that specific belief. Excluding the echo question case, therefore, the only possibility for these sentences to be grammatical consists in assigning them a bi-clausal analysis. Even this possibility, however, is ruled out in examples (130) and (131). Therefore, epistemic *credo* is incompatible with interrogative phrases, independently of linear order.

In order to provide an explanation, it is important to consider more closely the semantics of epistemic structures. Consider the basic cases:

- (132) Probabilmente Gianni è partito  
Probably Gianni left
- (133) Maria ha detto che probabilmente Gianni è partito  
Maria said that probably Gianni left(IND)
- (134) Maria crede che probabilmente Gianni sia partito  
Maria believes that probably Gianni left(SUBJ)

The adverb *probabilmente* (probably) in sentence (132) expresses the opinion of the *speaker* concerning the embedded event. Namely according to the speaker, the (past) leaving of Gianni is probable. The adverb in the embedded clause in examples (133) does not express the point of view of the speaker, but of the referent of the grammatical subject – that is, Maria. The same holds of (134): the bearer of the attitude with respect to the content expressed by the embedded clause, Maria, is the person whose epistemic point of view is reported by means of the epistemic adverb. On the other hand, the epistemic adverbs in (133) and (134) cannot be used to express the point of view of the speaker. In other words, they are interpreted *locally*, and, to the extent the metaphor goes, they cannot be interpreted *de-re*.

We can express these properties by saying that the epistemic adverb is *anchored* at the interface to the bearer of the attitude. The anchoring has the purpose and the effect of linking the epistemic state to a subject: the speaker in the case of main clauses, and the bearer of the attitude in the case of embedded ones. In a way, this process is analogous to what happens with the temporal interpretation – see Giorgi & Pianesi (2001, 2003, 2004b) – and with the binding of long distance anaphors – see Giorgi (to appear, 2004). Notice that a sentence featuring an adverb like *probably* is actually ambiguous, in that this adverb can also refer to *objective* probabilities, besides the speaker's opinion:<sup>24</sup>

- (135) Probabilmente il lancio del dado darà un numero da 1 a 5  
Probably the tossing of the dice will yield a number between 1 and 5

The context in (135) selects for the *objective* reading, even if the epistemic one is not totally excluded. The sentence means that the event of obtaining a number between 1 and 5 is more likely to occur than the other events, namely, number 6. *Credo* (followed by a complementizer-less clause) does not give rise to an ambiguity in this sense:

- (136) Credo il lancio del dado dia un numero da 1 a 5  
(I) believe the tossing of the dice will yield a number between 1 and 5

It is impossible—or at least very hard – to assign to (136) the interpretation: “*it is objectively probable that P*” and the only meaning available is the epistemic one. With these remarks in mind, let us consider what happens in the case of an interrogative sentence:

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<sup>24</sup>. We thank Jim Higginbotham for pointing out this property to us.

- (137) Chi probabilmente è andato a Parigi?  
Who probably went to Paris?

The adverb *probably* in this case does not refer to the epistemic state of the speaker. It can have the *objective* meaning – i.e., the speaker might be inquiring about the people having an objective probability of having left for Paris. The speaker might also be asking about the person who *probably* left *according to the hearer's opinion*. Namely, in this case the interpretation is epistemic again and the bearer of the epistemic state is the addressee. Even in this case, therefore, the anchoring of the epistemic adverb is shifted, in the sense that it is not referred to the speaker, but to another discourse participant.

This analysis provides an explanation for the incompatibility of *credo* with questions. On the one hand, *credo* has first person singular features that make it *speaker-oriented*. On the other hand, questions are, at least as far as the examples considered here go, hearer-oriented: it is the point of view of the addressee that they ask about. This analysis also predicts that *credo* is incompatible with embedded contexts:

- (138) (\*for group 2) Maria ha detto che credo Gianni si sia sbagliato  
Maria said that (I) believe (Gianni) was wrong
- (139) Maria ha detto a tutti che io credo che Gianni si sia sbagliato  
Maria told everybody that I believe that Gianni was wrong

Recall that a preverbal subject in CD structures is acceptable only for a group of speakers, call it group 1. For group 2 it is ungrammatical. For group 2 speakers, therefore, the presence of the embedded subject *Gianni* in (138) is a test for monoclausality. For these speakers the sentence in (138) is ungrammatical. This piece of evidence can be readily explained on the basis of our hypothesis: if in (138) *credo* is an epistemic head, it needs to check its phi-features against those encoded in the high C position. In this sentence, however, the embedded C encodes the coordinates of the attitude's subject, Maria. Hence *credo*'s features are non licensed. The sentence in (139), on the other hand, is a normal sentence, in which *credo* heads a VP and takes a CP as a complement – no CD – and is therefore grammatical for everybody.

Compare finally epistemic adverbs with speech act ones. As we pointed out above, *francamente* cannot be embedded. We reproduce here the examples given above in examples (52)-(53):

- (140) Francamente, Gianni si e' sbagliato  
Frankly, Gianni was wrong
- (141) \*Maria credeva che, francamente, si fosse sbagliato  
Maria believed that, frankly he was wrong

However, it can appear in interrogative clauses:

- (142) Francamente, chi si è sbagliato?  
Frankly, who was wrong?

Interestingly, this sentence is ambiguous. It can have a rhetorical meaning, to convey, e.g., that I, the speaker do not think that anybody was wrong: *Francamente, chi si e' sbagliato? Nessuno!* (Frankly, who was wrong? Nobody!). But if interpreted as a real question, *frankly* necessarily refers to the hearer —namely, the speaker is asking for the hearer's frank opinion: you, the hearer, be frank, and tell me who was wrong. This adverb therefore can shift from the speaker to the hearer, though it cannot shift to the bearer of an attitude. As it seems, the shifting is licensed in (142) because the hearer is supposed to be the performer of the following speech act.

We have therefore a tripartite picture: *Probably* can freely shift, as required by the context. *Credo* never shifts and can only refer to the speaker – as expected, given its first person features. *Frankly* can shift, but only as far as a communicative act is involved.

Speculatively, these facts might be accounted for by claiming that there is a very high left position including the *situation* coordinates where *frankly* ends up.

Concluding, we propose that *credo* moves to a position on the left of the sentence in the complementizer layer, either overtly or covertly. If the resulting surface order violates Cinque's (1999) hierarchy, overt movement is disfavored. This is the case of example (90) above, where *credo* precedes an evaluative adverb: “??*credo fortunatamente...*” ((I) believe luckily) vs. : “*fortunatamente credo...*” (luckily (I) believe). We briefly suggested above that this effect might be due to a scope requirement: evaluative must have scope on epistemics. The same might hold for the focus projection, which tends to have scope over epistemics.

#### 4. *Dicono* ("they" say)

In this section we are going to consider the distribution of the impersonal – or better to say *subject-less* – third person plural form of the verb *dire* (say), *dicono* (they say). We'll argue that, when it is not followed by the complementizer, it can function as an evidential adverbial. In this respect it is analogous to the verbal form *credo*. However, the first person features, which determine an important portion of the syntactic and semantic properties of *credo* do not appear on *dicono*.<sup>25</sup>

We will show that the distribution of *dicono* contrasts with that of *credo* exactly where those features come into play, constituting therefore a strong argument in favor of our view.<sup>26</sup>

##### 4.1. *Dicono* as an adverbial head

*Dicono* shares the same properties of *credo* in complementizer-less structures. Namely, the clause following the verbal form does not exhibit the properties typical of an embedded clause, but those of a main one. Consider the following case, where a complementizer-less clause has a preverbal subject:

- (143) *Dicono* Gianni sia partito all'alba  
 They say Gianni has(SUBJ) left at dawn

No anomaly seems to arise in this case, even for those speakers usually rejecting the preverbal lexical subject with CD. Importantly, the verb *say* in this case triggers the subjunctive - analogously to *credo*. This is impossible under the non-impersonal reading:

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<sup>25</sup>. For recent extensive reviews on evidentiality, see among the others Rooryck (2001a, 2001b) and Aikhenvald and Dixon (2003).

<sup>26</sup>. The form *si dice* (one says), with the impersonal clitic *si*, shares the properties of *dicono*. We suggest therefore that it is analyzed as a head as well, analogously to *dicono*, and the clitic is incorporated in the head.

- (144) Maria dice che Gianni è /\*sia partito all'alba  
 Maria says that Gianni has (IND/\*SUBJ) left at dawn

Moreover, only *dicono* can license the subjunctive mood.<sup>27</sup>

Let us consider now the distribution of this head with respect to topicalized phrases, in comparison with *crede* ((he) believes) and *credo* ((I) believe) – cf. also section 1:

- (145) ?(?)Gianni crede a Parigi ci sia andata il mese scorso  
 Gianni believes in Paris she there-went(SUBJ) last month
- (146) Credo a Parigi ci sia andata il mese scorso  
 (I) believe in Paris she there-went last month
- (147) Dicono a Parigi ci sia andata il mese scorso  
 They say in Paris she there-went(SUBJ) last month

The sentence in (147) does not contrast with (146), and both contrast with (145). Hence, we might conclude that *credo* and *dicono* occupy a similar position – though perhaps not the same, due to the difference in their feature specifications.

Consider however the following data:

- (148) \*Gianni crede A PARIGI sia andata (non a Londra)  
 Gianni believes TO PARIS she went(SUBJ) (not to London)
- (149) (?)Credo A PARIGI sia andata (non a Londra)  
 (I) believe TO PARIS she went(SUBJ) (not to London)
- (150) ?(\*)Dicono A PARIGI sia andata (non a Londra)  
 They say TO PARIS she went(SUBJ) (not to London)

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<sup>27</sup>. Impersonal *dicono* can trigger subjunctive also in bi-clausal structures, even if the indicative is still available:

- (i) Dicono che Maria è/sia partita  
 They say that maria left(IND/SUBJ)

A focused constituent with *dicono* does not give rise to an acceptable sentence, even if to our ears (150) is slightly better than (148). In this case, *dicono* contrasts with *credo*. The reason for this contrast can be traced back to the different feature specification of the two verbal forms. Recall that, as hypothesized by Rizzi (2001, 2002), the Mod(ifier) position in the CP layer, which is the landing site for preposed adverbials, follows the focus projection. As expected under this hypothesis, the following example is considerably improved with respect to the one given above:

- (151) A PARIGI dicono sia andata (non a Londra)  
TO PARIS they say she went (not to London)

The marginality of (150) can be explained as due to the difficulty for a Mod(ifier) head to occur in pre-focus position, and to the fact that *dicono*, differently from *credo*, cannot rise to the higher C position, given that it is not endowed with first-personal features.

The improved status of (150) with respect to (148) can be explained by means of the idea we already developed above for *credo*: sentence (148) is bi-clausal, whereas the one in (150) is mono-clausal.

We propose therefore to extend to these cases the mono-clausal analysis we gave for epistemic *credo*. According to this hypothesis, in the bi-clausal structure with CD, the clause-initial Focus position in the subordinate clause is not available. On the other hand, such a position is available in structures such as (150). The problem is just that *dicono* cannot move past it, given the lack of a proper trigger.

Finally, the data concerning *dicono* also confirm our hypothesis that the presence of the subjunctive is a function both of the semantics of the head – in this case evidential – and of the fact that the subjunctive is possible when the head lands in the left-most position of the CP-layer – Rizzi's Mod(ifier) projection – but not when it stays in an intermediate, non-CP layer, position. Consider in fact that in the parenthetical usage no subjunctive is triggered, analogously to what we saw for *credo* above:

- (152) Maria (dicono) è/\*sia (dicono) andata (dicono) a Parigi (dicono)  
Maria (they say) has(IND/\*SUBJ) (they say) gone (they say) to Paris (they say)

Whatever the position of *dicono* might be when used parenthetically, the subjunctive is not acceptable.

Summarizing so far, the data concerning *dicono* point to the conclusion that the structure is mono-clausal and that *dicono*, analogously to *credo*, is a head with an

evidential interpretation. The ordering with respect to the focus projection, which differs from the one observed with *credo*, follows from the different feature specification of the two forms.

Consider now that if the complementizer appears, a bi-clausal structure is projected and therefore the properties we just observed do not hold anymore. Consider the following example, with an overt main subject – i.e., *Loro* (they):

- (153) Loro dicono \*(che) Paolo ha/\*abbia telefonato  
they say that Paolo has(IND/\*SUBJ) called

The first observation is that CD is not available, as we already discussed above. Moreover, as we pointed out above, *dicono*, analogously to other verbs of *saying* in Italian, triggers the indicative and not the subjunctive. Recall also that CD is impossible with the indicative.

As further evidence in the same direction, let us consider now the properties of the past form of *dire*.<sup>28</sup>

- (154) Hanno detto (che) è/\*sia andata a Parigi  
They said (that) she went(IND/\*SUBJ) to Paris

We can conclude that, as expected, only the third person plural subject-less present tense, form *dicono* can work as an evidential head.

As a final argument in favor of our analysis of *dicono* as a functional head, note that the verb *dire* can take an indirect object, as in the following sentence:

- (155) Gianni ha detto a Paolo che Maria è partita  
Gianni said to Paolo that Maria has(IND) left

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<sup>28</sup>. Notice that the imperfect tense gives much better result than the present perfect:

- (i) Dicevano fosse andata a Parigi  
They said she went(SUBJ) to Paris

This fact can be explained by suggesting that the imperfect form can (marginally) be used to strengthen an evidential.



The presence of the dative is totally excluded in the construal under scrutiny here:

- (156) \*Dicono a tutti Maria sia partita  
(They) say to everybody Maria has(SUBJ) left
- (157) Dicono a tutti che Maria è partita  
(They) say to everybody that Maria has(IND) left

There is a clear contrast between these examples: the sentence in (157) can only have the literal meaning as a *saying* predicate. Therefore, it must be followed by the complementizer *che* (that) and an embedded indicative verbal form.

#### 4.2. The distribution of *dicono* and the other items of the left-periphery

In this section, we consider the distribution of *dicono* with respect to evaluative and epistemic adverbials.

According to Cinque (1999) the evidential projection intervenes between the evaluative and the epistemic projection, as exemplified by the relative orders of adverbs (Cf. Cinque, 1999, Ch.4):

- (158) Fortunately<sub>evaluative</sub> > allegedly<sub>evidential</sub> > probably<sub>epistemic</sub>

Let us consider now the distribution of *dicono* with respect to the evaluative adverb. The meaning relevant for our investigation is the one where *fortunatamente* refers to the leaving of Gianni:

- (159) Fortunatamente dicono Gianni \*è /sia partito  
Fortunately (they) say, Gianni has(\*IND/SUBJ) left

This sentence shows that *dicono* behaves according to Cinque's hierarchy, following the evaluative. As expected grammaticality requires the embedded subjunctive, whereas the indicative is unavailable. Consider now epistemic adverbs:

- (160) Dicono probabilmente Gianni \*è/ sia partito  
(They) say probably Gianni has(\*IND/SUBJ) left

Again, the order of words in (156) is predicted by Cinque's hierarchy, given that the evidential projection precedes the epistemic one. Consistently, the mood appearing in the embedded clause is the subjunctive and cannot be the indicative.

Let us consider the other possible orders, which are not the ones expected under Cinque's analysis. If *dicono* appears on the left of the evaluative adverb, the sentence is still grammatical, even if to our ear slightly marginal:<sup>29</sup>

- (161) (?)?Dicono fortunatamente Gianni \*è /sia partito  
 Fortunately, (they) say, Gianni has(\*IND/SUBJ) left

This sentence reminds us of example (150) above, where *dicono* appears on the left of the focus projection. As an account, we suggested that *dicono* can marginally move to a higher position, i.e. in the head C – in Giorgi and Pianesi's terms, roughly equivalent to Rizzi's head Force. As discussed above, the result is marginal, given that the movement is not triggered.

Consider now the following cases, apparently contrasting with the examples we just discussed:<sup>30</sup>

- (162) Credo dicano Maria sia partita  
 (I) believe (they) say Maria left(SUBJ)

- (163) \*Dicono creda Maria sia partita  
 (They) say (I) believe Maria left(SUBJ)

This word order is not predicted by the hierarchy given above. As just discussed, the licit order should be the one in (163), which on the contrary is highly disfavored and contrasts with the example in (160), where the epistemic adverb *probabilmente*

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<sup>29</sup>. Let us recall here once more that these sentences might be pronounced with various intonational patterns. This might give rise to a variety of possible judgments. It is extremely important therefore, to keep the intonation as 'flat' as possible, unless differently signaled by punctuation.

<sup>30</sup>. We thank Memo Cinque for pointing out this contrast to us. Note also that, as expected, the string in (163) has the interpretation in which the verb *believe* expresses its literal meaning: *they say I believe so and so*. The star is relative to the epistemic reading: *they say perhaps (according to my opinion) so and so*. This reading is totally out.

(probably) appears. This contrast is predicted by the hypothesis we suggested above: *credo* must move to a higher position, to check its first person, speaker oriented features, whereas *dicono* does not.<sup>31</sup>

Let us consider the contrast between (162) and (163) more closely. From what we saw up to this point, we can say that *credo can* move overtly, but so far we didn't see cases where it *must* do so. Therefore in principle, (163) should not be that bad, since, after all, the raising of *credo* should not be obligatory. To solve this problem, consider again the semantics of the two heads. *Dicono* means that the speaker takes what she heard from other people as the relevant source of the propositional content and crucially she signals that she is not taking full and direct responsibility with respect to the following content. Consequently, an epistemic adverb following *dicono* cannot be anchored to the speaker, given that she diverts the responsibility from herself. On the contrary, it must be anchored to the source of the evidence. Therefore, an epistemic adverb such as *probabilmente* must shift. It seems to us that as a matter of fact this is precisely the meaning of a sentence such as (160) above. *Probabilmente* (probably) refers to the epistemic state of the generic *they* constituting the source of the information.

We saw however, that *credo*, due to its features, cannot shift. Hence, it cannot stay in the scope of an evidential, but must appear in a position higher than the evidential, so that it can still be anchored to the speaker. The meaning obtained in this way, is that “according to the epistemic state of the speaker – i.e., one lower than absolute certainty – there is evidence – coming from an external unspecified source – that P”.

In a word, the only meaning which can be expressed by means of *credo* is the one roughly equivalent to *probabilmente dicono Gianni sia partito* (probably they say Gianni left), where *probabilmente* precedes, and has scope over, the evidential.

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<sup>31</sup>. Notice that in these examples *credo* and *dicono* when preceded by the other head appear in the subjunctive. This means that the subjunctive is triggered in the head in the left periphery, and spread over all the items specified by a verbal feature.

### Concluding remarks

In this paper we pursued two goals. The first one is merely descriptive: in Italian – contrary to what assumed so far – it is possible to find evidential and epistemic heads, exhibiting the peculiar distribution predicted by Cinque’s hierarchy. These heads are ‘disguised’ as verbs, but do not give rise to a bi-clausal structure and do not provide a regular theta-grid. On the contrary, several arguments show that the structure is a mono-clausal one.

The other goal is theoretical: The analysis of *credo*, contrasted with that of *dicono* shows that there is a *syntactic* position where the speaker coordinate is represented. This result is in line with other achievements, coming from the analysis of the temporal interpretation of embedded clauses and the binding of long distance anaphors. Such a position is in the left-periphery and is the highest one, preceded only by the projection occupied by speech act adverbs, such as *francamente* (frankly). *Francamente* is interpretively connected with the conversational background and we hypothesized that there might be a dedicated position in the syntax. The left-periphery we are arguing for, therefore, is the following:

- (164) [Speech act (conversational background) *francamente* [C (Speaker’s coordinate) *credo* [INT [FOC  
[MODIFIER...]

- (165) MODIFIER has to be expanded as: [evaluative[*evidential*[epistemic...]

*Credo* is moved to C from the epistemic position. This movement can be overt, due to its first person features. *Dicono* can only move covertly, analogously to the other non-first person epistemic, evaluative, and evidential items.

Let us now briefly address a pending question. Sentence (162) in principle should violate the Head Movement Constraint – or whatever equivalent principle – given that the epistemic head *credo* crosses the evidential one occupied by *dicono*. Since the sentence is grammatical, we have to explain why no violation arises. Recall that the sentence (163) is ungrammatical because, as we explained above, *credo* cannot shift – due to its feature specification, which always and only refers to the speaker – and shifting is obligatory. Therefore, the evidential head cannot interfere with *credo* and no violation arises in this connection.

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# **On the adjective in Korean**

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## **0. Introduction**

Traditionally Korean adjectives are analyzed as stative verbs (Maling and Kim 1998, Lee 1997). Recently several linguists (Kim 1996, Kim 2002a and b) have reanalyzed them as reduced relative clauses. Since only predicative adjectives can be analyzed as reduced relative clauses, this entails there are no attributive adjectives in Korean. In this paper, however, I will show some evidence for the existence of attributive adjectives. In section 1, I will give a short overview of the properties of Korean adjectives which led some linguists to the idea that Korean adjectives in general are reduced relative clauses. In section 2, I will show some purely attributive adjectives in Korean. In section 3,

I will present Cinque's proposal for the two origins of adjectives in the extended nominal projection. Following this, I will give evidence that Korean adjectives can also have non-intersective meanings, thus qualifying as purely attributive. The final section will also show some adjectives that cannot be analyzed as reduced relative clauses but seem to be purely attributive adjectives.

## **1. Some properties of Korean adjectives**

Korean is a rigid OV language. The verb always is in the final position.

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- (1) hakseng-i chayk-ul ilknun-ta.<sup>1</sup>  
 Students-Nom book-Acc read-Dcl  
 'the student is reading a book'

Predicative adjectives also occupy the sentence final position.

- (2) na-nun hayngbokha-ta.  
 I -Top happy-Dcl  
 'I am happy'

The morpheme *-ta* indicates declarative force and attaches to the last word of the sentence which is in general the verb. Just by looking at examples like these, one could argue that Korean is a language without an overt copula. However this is not the case, as can be seen in examples with nouns in predicative position.

- (3) na-nun haksayng-i-ta.  
 I - Top student-Cop-Dcl  
 'I am a student'

The morpheme *i* represent the copula in Korean. Precisely because of the lack of the copula in (2), *hayngbokha* (happy) was analyzed as a stative verb. The same adjectives can be used attributively in front of the Noun, but in this case the morpheme *-n* has to be attached to them.

- (4) hayngbokha-n haksayng  
 happy-N student  
 'a happy student'

Additional evidence for the verbal character of these adjectives comes from their temporal behaviour. When describing a state in the past Korean adjectives take an additional morpheme representing aspect and past tense.

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<sup>1</sup>. Nom: nominative case, Acc: accusative case, Cop: copula, Dcl: declarative sentence marker, Aff: affix, Pst: past tense, Top: topic, Rel: relative clause marker.



- (5) haengbokha-ess-ten<sup>2</sup> hakseng  
 happy -Pst-Ten student  
 ‘a student who was happy’

As the English translation suggests ‘haengbokhaessten’ can be analyzed as a reduced relative clause. In Korean relative clauses apparently occupy the same position as the above attributive adjectives and employ the same morpheme *-n*.

- (6) norayhanu-n yeca  
 sing-Rel woman  
 ‘a woman who sings a song’

- (7) ece noreha-ess-ten yeca  
 yesterday sing -Pst-Rel woman  
 ‘a woman who sang a song yesterday’

Kim (1997) and Kim (2002a and b) note that the relativizer *-n* has the same form as the attributive marker in the cases above. This is claimed to be additional evidence that adjectives in attributive position are reduced relative clauses as the attributive marker is identical to the relativizer.

It is because of these facts that Korean adjectives have been considered to be stative verbs in reduced relative clauses. According to this analysis Korean does not have purely attributive adjectives. I will, however, show some evidence that Korean does have attributive adjectives.

## 2. Non-predicative adjectives

Given the fact that only predicative adjectives can be analysed as reduced relative clauses, the above hypothesis would predict that pure attributive adjectives do not exist in Korean. An attributive adjective can never function as the main predicate of a clause. A typical example in English is the adjective ‘former’.

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<sup>2</sup>. *-ten* is an allomorph of *-n*.

- (8) a. a former president  
 b. \*the president was former  
 c. \*a president who was former

In the following section, I want to present a group of Korean adjectives which are purely attributive.

## 2.1. Existence of non-predicative adjectives in Korean

In Korean there is a closed group of nominal modifiers which show the same behaviour as the English adjective 'former'. It consists of the following elements: *say* 'new', *hen* 'old', *cen* 'former' *ye* 'ancient', *sun* 'pure'. They are found only in (prenominal) attributive position and can never constitute the predicate of the clause:

- (9) a. *cen*      *taytongreyng*  
       former    president  
       'a former president'  
 b. \**taytongreyng-i cen-ta.*  
       President-Nom    former-Dcl  
       'the president was former'

- (10) a. *say*      *cip*  
       new      house  
       'a new house'  
 b. \**cip-I            say-ta.*  
       house-Nom    new-Dcl  
       'a/the house is new'

They are sometimes analysed as "adnominal modifiers", or "attributive determinatives"<sup>3</sup> since they constitute a closed class. But this is also true of class of the

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<sup>3</sup>. Some linguists (cfr. Kim 2002a) assume that Korean has a peculiar category of "attributive determinatives" which is a cover term for demonstratives, numerals, and pure attributive adjectives. Together with Mok (2002), I propose that we should not consider them to constitute the same category. As they can occur together in a specific order :

exclusively attributive adjectives in English like ‘principal’, ‘former’, ‘alleged’, etc. Though the class is very small its members are always considered to be adjectives.

### 3. Non-intersective adjectives

Adjectives can usually have two different interpretations depending on their position internal to the DP. I want to present here some examples from English and Italian.

#### *English*

- (11) Peter is an **old** friend. (ambiguous)  
       a. Peter is old. (intersective)  
       b. The friendship is old. (non-intersective)

- 
- (i) a. ce say cha (Dem>A>N)  
       that new car  
       b. \*say ce cha  
           new that car  
           ‘that new car’
- (ii) a. ce tu cha (Dem>Num>N)  
       that two car  
       b. \*tu ce cha  
           two that car  
           ‘that two cars’
- (iii) ce tu say cha (Dem>Num>A>N)  
       that two new car  
       ‘that two new cars’

The examples above exhibit the order Dem>Num>A>N, which Cinque (2000, 2005) takes to be the universal order of merge of these elements.

- (12) Olga is a **beautiful** dancer. (ambiguous)  
 a. Olga is a dancer who is also a beautiful person. (intersective)  
 b. Olga dances beautifully. (non-intersective)

*Italian*

- (13) Peter è un attore **grande**. (ambiguous)  
 a. Peter is an actor and is big. (intersective)  
 b. Peter is great as an actor. (non-intersective)
- (14) Un attaccante **buono** non farebbe mai una cosa del genere. (ambiguous)  
 a. A good-hearted forward would never do such a thing. (intersective)  
 b. A forward good at playing forward would never do such a thing.  
 (non-intersective)

Adjectives like *old* and *beautiful* in English (examples 11 and 12) as well as adjectives like *grande* and *buono* in Italian (examples 13 and 14) are ambiguous between an intersective and a non-intersective interpretation. With respect to these ambiguities, Cinque (1994, 2005b) proposes that these adjectives have two different origins: either sitting in specifiers of functional projections directly associated with the class of adjective (direct modification adjectives) or in a position higher up in the extended nominal projection that is reserved for reduced relative clauses (indirect modification adjectives).

Cinque proposes the following generalizations:

1. Indirect modification adjectives have the same readings of predicative adjectives in relative clause.
2. Direct modification adjectives have only the ‘adverbial’, non-intersective reading.
3. The APs which have a reduced relative clause source precede direct modification adjectives.
4. Only direct modification allows idiomatic interpretations.

### 3.1. Non-intersective adjectives in Korean

If all adjectives in Korean were to be analyzed as reduced relative clauses then Cinque's generalisation would predict that they could only modify their nouns indirectly, having only an intersective interpretation. That this is not the case can be seen in the Korean equivalent of example (13), *Peter è un attore grande*:

- (15) Peter-nun **ku-n** payu-i-ta. (ambiguous)  
 Peter-Top big-n actor-Cop-Dcl  
 a. Peter is big/tall. (intersective)  
 b. Peter is great as an actor. (non-intersective)

The adjective *ku-n* in example (15) is ambiguous between having an intersective and a non-intersective interpretation. In the intersective interpretation it has two possible meanings: tall and heavy/big.

- (16) a. Peter-nun [ki-ka **ku]-n** payu-i-ta.  
 Peter-Top height-Nom tall-N actor-Cop-Dcl  
 'Concerning Peter, he is a tall actor.'  
 b. Peter-nun [momcip-i **ku]-n** payu-i-ta.  
 Peter-Top body-Nom big-N actor-Cop-Dcl  
 'Concerning Peter, he is a big actor.'

If all Korean adjectives were to derive from a relative clause they should only have intersective interpretations. However, the adjective *ku-n* can have a non-intersective interpretation, independent of the existence of the suffix *-n*. Note, that this suffix becomes obligatory if the adjective is in prenominal position as shown in the following examples<sup>4</sup>:

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<sup>4</sup>. Chinese makes use of suffix *-de*, similar to the Korean *-n*, the difference being that unlike the Chinese *-de*, Korean *-n* is obligatory.

- |   |   |
|---|---|
| (i) a. xiaǒ- <b>de</b> lǜ- <b>de</b> hua-ping<br>small-DE green-DE vase<br>'a small green vase' | b. xiaǒ lǜ hua-ping<br>small green vase<br>'a small green vase' |
|---|---|

(from Sproat & Shih 1991)

- (17) a. **ku-\*(n)** payu  
           big-N actor  
           ‘a great actor’  
       b. payu-ka **ku-(\*n)**-ta.  
           actor-Nom big-Dcl  
           ‘an/the actor is great’

There is also a contrast between intersective and non-intersective adjectives with respect to temporal inflection:

- (18) a. Peter-nun **ku-ess-ten** payu-i-ess-ta. (only intersective)  
           Peter-Top great-Pst-Ten actor-Cop-Pst-Dcl  
           ‘Peter was an actor who was big/ \*who was great’  
       b. Peter-nun **ku-n** payu-i-ess-ta. (ambiguous)  
           Peter-Top great-N actor-Cop-Pst-Dcl  
           ‘Peter was a great actor/an actor who is big’

In example (18) we see that the past morpheme *ess* is not possible with every interpretation. It seems that the origin of the adjective determines whether it is possible for the past morpheme to attach to the adjective. In example (18a) where the morpheme *-ess* has attached there is no ambiguity any more between an intersective and a non-intersective interpretation. Only the intersective interpretation is now available. In (18b), however, where the suffix has not attached, the ambiguity remains.

Now, let’s have a look at the analogous cases of examples (11), *Peter is an old friend* and (12) *She is a beautiful dancer*. The corresponding Korean adjectives *nulku-n*, ‘aged’ and *alumtau-n* ‘beautiful’ do not show this ambiguity. They have only an intersective interpretation in example (19). Therefore one could infer that all adjectives in Korean are predicative adjectives inside a reduced relative clause. But this is not the case. There are other adjectives in Korean which express non-intersective meanings (see example (20)a, c, e), and are incompatible with the past tense morpheme *ess* (see the corresponding example (20)b, d, f):

- (19) a. Peter-nun **nulku-n** chinku-i-ta. (only intersective)  
           Peter-Top old-N friend-Cop-Dcl  
           ‘Peter is an aged friend’

- b. Olga-nun **alumtau-n** dancer-i-ta. (only intersective)  
 Olga-Top beautiful-N dancer-Cop-Dcl  
 ‘Olga is a dancer and she is beautiful’
- c. **chakha-n** kongkeyksu-nun kulen il-ul celtay an han-ta.  
 (only intersective)  
 Good-hearted-N forward-Top such thing-Acc never Neg do-Dcl  
 ‘A good-hearted forward would never do such a thing’
- (20) a. Peter-nun **olay-n** chinku-i-ta. (only non-intersective)  
 Peter-Top longtime-N friend-Cop-Dcl  
 ‘Peter is an old friend’
- b. \*Peter-nun **olay-ess-ten** chinku-i-ta.  
 Peter-Top longtime-Pst-Ten friend-Cop-Dcl  
 ‘Peter is old, and he is a friend’
- c. Olga-nun **mesci-n** dancer-i-ta. (only non-intersective)  
 Olga-Top wonderful-N dancer-Cop-Dcl  
 ‘Olga is an wonderful dancer’
- d. ??Olga-nun **mesci-ess-ten** dancer-i-ta.  
 Olga-Top wonderful-Pst-ten dancer-Cop-Dcl
- e. **cohu-n** kongkeyksu-nun kulen il-ul celtay an han-ta.  
 (only non-intersective)  
 good-n forward-Top such thing-Acc never Neg do-Dcl  
 ‘A forward good at playing forward would never do such a thing’
- f. \***coh-ass-ten** kongkeyksu-nun kulen il-ul celtay an han-ta.  
 good-Pst-ten forward-Top such thing-Acc never Neg do-Dcl

In Korean the relevant non-intersective meanings are expressed by means of the adjectives *olay-n* ‘longtime’, resp. *mesci-n* ‘wonderful’ and *cohu-n* ‘good’. As seen in the above cases they can be accompanied by the suffix *-n*. This is clear evidence that this suffix cannot be interpreted as a relative clause marker. Therefore, the presence of *-n* does not allow us to always analyse the adjective as a reduced relative clause.

Furthermore, one can establish also in Korean an unmarked order between intersective and non-intersective adjectives. This order becomes evident in the cases where we have two identical adjectives, one generated as a reduced relative clause and the other in a

functional projection. Then the first has to be the intersective one. Take the English and Italian examples in (21)<sup>5</sup>:

- (21) a. a beautiful beautiful dancer  
       b. an old old friend  
       c. un attaccante buono buono  
           ‘a good good forward’

The interpretation of the adjectives ‘beautiful’, ‘old’ and ‘buono’ depend on their relative position. The adjective that is inserted in a structurally lower position has to be interpreted non-intersectively, while the intersective one is inserted in a higher position in a reduced relative clause. In the English case this results in the surface order intersective adjective – non-intersective adjective – noun, while in Italian we get the surface order noun – non-intersective adjective – intersective adjective<sup>6</sup>.

The same holds for the above Korean adjectives<sup>7</sup>:

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<sup>5</sup>. Cinque (2005b) proposes the following order:

English (Germanic): AP from reduced RC > “direct modification” AP > N > AP from reduced RC

Italian (Romance) : “direct modification” AP > N > “direct modification” AP > AP from reduced RC.

<sup>6</sup>. See Cinque (2005b) for discussion.

<sup>7</sup>. In Korean, non-predicative adjectives always precede other types of adjectives (cfr. Note 3 – see Mok 2002):

- (i) a. yeppu-n      say      cip  
       beautiful-N   new   house  
       b. \*say   yeppu-n      cip  
           new   beautiful-N   house  
           ‘a/the new beautiful house’
- (ii) a. wytayha-n    cen      tatongryung  
       great-N       former president  
       b. \*cen   wytayha-n   tatongryung  
           former great-N      president  
           ‘a/the great former president’



- (22) a. **alumtau-n mesci-n** dancer  
           beautiful-n wonderful dancer  
       b. ??**mesci-n alumtau-n** dancer  
           wonderful beautiful dancer  
           ‘a beautiful beautiful dancer’  
       c. **nulku-n olay-n** chinku  
           aged longtime friend  
           ‘an old old friend’  
       d. ??**olay-n nulku-n** chinku  
           longtime aged friend  
           ‘an old old friend’

As we see in example (22), we find a fixed order between the two types of adjectives. The intersective adjectives always precede the non-intersective ones. But also note, that both adjectives take the suffix *-n*. In the case of two reduced relative clauses in the form of adjectives we would not expect ordering restrictions. This is another reason to abandon a unified interpretation of the suffix *-n* as a relative clause marker.

### 3.2. Direct modification in Korean

In Korean, a pro-drop language, there is co-reference between a noun and an empty element of a relative clause that modifies it. In the following example we have the head noun *namca* (man) and a relative clause headed by an intransitive verb.

- (23) [ *e<sub>i</sub>* ece **ttena**]-n namca<sub>i</sub> (*e* = empty category)  
       [ yesterday left ]-Rel man  
       ‘a/the man who left yesterday’

The same is true for adjectives that derive from a reduced relative clause:

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Therefore, the hierarchy of Korean adjectives seems to be the following:

IntersectiveAPs > Non-intersective APs > Non-predicative APs > N

- (24) [<sub>i</sub> **yeppun**]-n yeca<sub>i</sub>  
 [ pretty ]-N woman  
 ‘a/the pretty woman’ (from Kim 2002a)

The noun *yeca* ‘woman’ and its modifying adjective *yeppu-n* ‘pretty’ can also appear in a subject-predicate relationship:

- (25) yeca-ka yeppu-ta.  
 woman–Nom pretty–Dcl  
 ‘a/the woman is pretty’

But in Korean there are also examples of AdjP–NP constructions (26), usually idiomatic expressions that do not allow for subject-predicate pairs (27).

- (26) a. **mukeyu-n** chimmuk  
 heavy-N silence  
 ‘an awkward silence’  
 b. **sayppalga-n** kecinmal  
 red-N lie  
 ‘whopping lie’  
 c. **kemu-n** ton  
 black-N money  
 ‘a black money’
- (27) a. \*chimmuk-i **mukeyu**-ta.  
 silence-i heavy-Dcl  
 ‘a/the silence is awkward’  
 b. \*kecinmal-i **sayppalga**-ta.  
 lie –Nom red-Dcl  
 ‘a/the lie is whopping’  
 c. \*ton-i **kemu**-ta.  
 money-Nom black-Dcl  
 ‘a/the money is black’

These examples show that the adjectives in (26) are not used predicatively and therefore cannot be analyzed as reduced relative clauses<sup>8</sup>. Further evidence comes from the following examples that show that the adjectives in question cannot employ the past morpheme *ess*:

- (28) a. **\*muke-ess-ten** chimmuk  
           heavy-Pst-Ten     silence  
           ‘an awkward silence’  
       b. **\*sayppalga-ss-ten** kecinmal  
           red-Pst-Ten         lie  
           ‘whopping lie’  
       c. **\*kemmu-ess-ten**     ton  
           black-Pst-Ten       money  
           ‘a black money’

Hence, the adjective *ku-n* ‘big’ can be ambiguous in the following way<sup>9</sup>:

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<sup>8</sup>. Cinque (2005b) proposes that idiomatic readings are only possible with direct modification APs

- (i) a. A white lie  
       b. ??A lie white and without malice  
       c. ??A lie which is white
- (ii) a. A red herring  
       b. ??A herring red in character  
       c. ??A herring (which) is red (on the intended meaning)

<sup>9</sup>. A similar example can be found in Serbian/ Croatian/ Bosnian. These languages have two types of adjectives: short- form and long-form adjectives. Syntactically both types can appear prenominal as in (i), but in predicate position, only the short-form adjectives can appear, as in (ii) (Cinque 2005b):

- |        |                  |       |    |                  |       |
|--------|------------------|-------|----|------------------|-------|
| (i) a. | nov              | kaput | b. | novi             | kaput |
|        | new (short)      | coat  |    | new (long)       | coat  |
|        | ‘a/the new coat’ |       |    | ‘a/the new coat’ |       |

- (29) **ku-n** son (ambiguous)  
 big-N hand  
 a. son-I ku-ta. (intersective)  
 hand-Nom big-Dcl  
 ‘a/the hand is **big**’  
 b. ce salam-un jusiksijang-uy [**ku-n son**]-i-ta. (idiomatic)  
 That person-Top stockmarket- of big-N hand-Cop-Dcl  
 ‘That is an **important person** on the stockmarket’

In example (29a) the adjective has an intersective interpretation. But in (29b) it has an idiomatic interpretation. According to Cinque (2005b), idiomatic interpretations are allowed only by direct modification. Therefore, the adjective in (29b) would be supposed to have an attributive origin.

#### 4. Concluding remarks

In the present work I have argued that Korean adjectives, which traditionally were analyzed as stative verbs and more recently as deriving from reduced relative clauses, cannot all be so analyzed. There exist both direct and indirect modification adjectives as well as adjectives with both types of interpretation, depending on their structural

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- (ii) a. Njegov kaput je nov/\*novi  
 his coat is new (short)/\*new (long)

Long form adjectives have attributive origin (direct modification), but short-form adjectives have relative clause origin (indirect modification). And when they appear prenominally, only long-form adjectives allow for idiomatic readings:

- (iii) a. slijepi (long) miš (idiomatic)  
 blind mouse  
 ‘a bat’  
 b. slijep (short) miš  
 blind mouse  
 ‘a blind mouse’

position in the extended noun phrase. This makes a unified interpretation of the (adjectival) suffix *-n* as a reduced relative marker impossible.

Differently from what is generally thought, it seems that Korean is less different from languages like English or Italian.

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# On the order of wh-phrases in Bulgarian multiple wh-fronting<sup>1</sup>

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## 1. Introduction

This paper is more an attempt to enlarge the empirical basis of multiple wh-questions in Bulgarian than to present a new analysis of the quite complex issue of Superiority (only in the last section we briefly discuss some implications which the data seem to point to). Bulgarian, as opposed to other Slavic languages, is known to display a rather rigid ordering of wh-phrases in (non-echo) multiple wh-fronting, a consequence, it is generally assumed, of Superiority (Rudin 1988; Bošković 1997, 1998a, 2002, Richards 1997/2001, Pesetsky 2000, Grewendorf 2001, among others). See, e.g., (1) and (2):

- (1) a. Koj kakvo pravi? (Rudin 1988,481)  
who what does  
'Who is doing what?'  
b. \*Kakvo koj pravi? (Rudin 1988,482)  
what who does  
'What is who doing?'
- (2) a. Kogo kak e tselunal Ivan? (Bošković 1997,234)  
whom how is kissed Ivan  
'How did Ivan kiss who?'

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<sup>1</sup>. We wish to thank Adriana Belletti, Željko Bošković, Richard Kayne, Luigi Rizzi, and Steven Franks for their comments on a previous version of this work.

- b. \*Kak kogo e tselunal Ivan?  
 how whom is kissed Ivan

The literature, nonetheless, reports cases of apparently freely ordered multiple wh-phrases (in fact, with one of the two orders preferred over the other). Cf., e.g., (3)-(7). Moreover some of the possible orders even appear to violate Superiority (see in particular (6)b, where a wh-direct object precedes the wh-subject and (7)b, where a wh-adjunct precedes the wh-subject):

- (3) a. Kogo kâde ste videli? (cf. Bošković 1997, 234)  
 whom where were-you seen  
 ‘Who have you seen where?’  
 b. ?(?)Kâde kogo ste videli? (cf. Bošković 1997, 234)  
 where whom were-you seen  
 ‘Where have you seen who?’
- (4) a. ?Kakvo kâde šte složiš?  
 what where will put-you  
 ‘What will you put where?’  
 b. Kâde kakvo šte složiš?  
 where what will put-you  
 ‘Where will you put what?’
- (5) a. ?Kakvo na kogo mu xaresva? (Billings and Rudin 1996, 40)  
 what to whom to-him appeals  
 ‘what appeals to whom?’  
 b. Na kogo kakvo mu xaresva? (Billings and Rudin 1996, 40)  
 to whom what to-him appeals  
 ‘what appeals to whom?’
- (6) a. ?(?)Kakvo kogo e spoletjalo? (cf. Billings and Rudin 1996, 38)  
 what whom is stricken  
 ‘What struck whom?’  
 b. Kogo kakvo e spoletjalo? (cf. Billings and Rudin 1996, 38)  
 whom what is stricken ‘What struck whom?’

- (7) a. ?Kakvo kâde raste? (Billings and Rudin 1996, 42, and fn.10)  
       what where grows  
       ‘What grows where?’  
       b. Kâde kakvo raste? (Billings and Rudin 1996, 42, and fn.10)  
       where what grows  
       ‘What grows where?’

Despite appearances, we will try to show that the free ordering of wh-phrases is only apparent and that there may be no real Superiority violations. A wh-phrase will turn out to occupy different positions as a consequence of its internal makeup and interpretation, arguably in compliance with (a generalized version of) Superiority (see section VII).<sup>2</sup>

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<sup>2</sup>. We leave aside cases with more than two wh-phrases, which are said to allow free ordering of all but the first wh-phrase (Bošković 1997, 1999, 2002; Richards 1997/2001; Pesetsky 2000, among others). The reason we do that is that there are exceptions to this freedom, a fact which clearly requires further investigation. So, for example, while (i)a and b are equally acceptable (cf. Bošković 1997, 239), our informants do not seem to allow free ordering of the second and third wh-phrase in cases like (ii), (iii) and (iv), among others:

- (i) a. Koj kogo kak e tselunal?  
       who whom how is kissed                   ‘Who kissed whom how?’  
       b. Koj kak kogo e tselunal? (cf. (2)b)
- (ii) a. Koj kogo po kakâv naĉin e tselunal?  
       who whom in what way is kissed       ‘Who kissed whom in what way?’  
       b. \*Koj po kakâv naĉin kogo e tselunal?
- (iii) a. Koj kâde kolko e poharĉil?  
       who where how much is spent           ‘Who spent how much where?’  
       b. \*Koj kolko kâde e poharĉil?
- (iv) a. Na kogo koga kak ŝte pomogneŝ?  
       to whom when how will you help       ‘To whom will you help when how?’  
       b. \*Na kogo kak koga ŝte pomogneŝ?

Our first piece of evidence for this conclusion comes from the relative order of *wh*-adjuncts.

## 2. The order of *wh*-adjuncts

As shown by (8) and (9), the order of *wh*-adjuncts appears to be very strict: *koga* ‘when’ necessarily precedes *kâde* ‘where’, and *kâde* ‘where’ necessarily precedes *kak* ‘how’. If transitivity holds, *koga* ‘when’ should also precede *kak* ‘how’. (10) shows that this is precisely the case, which in turn suggests that the overall order of the *wh*-adjuncts is: *koga* > *kâde* > *kak*.

- (8) a. *Koga kâde šte hodiš tova ljato?*  
       when where will go-you this summer  
       ‘When will you go where, this summer?’  
    b. *\*Kâde koga šte hodiš tova ljato?*  
       where when will go-you this summer

---

We also leave aside embedded contexts, which seem to rescue some of the orderings which are excluded (or dispreferred) in matrix questions. For example, while (19)b in the text below is quite marginal as a matrix question, it improves considerably as an embedded question:

- (v) *Iskam da mi kažes koga kogo posreštaš utre.*  
       want-I to me tell-you when whom meet-you tomorrow  
       ‘I want you to tell me when whom you will meet tomorrow’

The contrast between (v) and (19b) may have to do with the fact that in Bulgarian, a separate contrastive focus position above the interrogative *wh*-phrase is available in embedded contexts but is quite marginal in root contexts, cf. (vi). (Note that in (v) above, *koga* is pronounced with heavier stress than *kogo*):

- (vi) a. ??UTRE kogo da izpitam?  
       Tomorrow (focus) whom to examine-I ‘TOMORROW, who should I examine?’  
    b. *Nikoj ne mi kaza UTRE kogo da izpitam.*  
       nobody not me told tomorrow (focus) whom to examine-I  
       ‘Nobody told me TOMORROW whom I should examine’

- (9) a. *Kâde kak si se dâržal?*  
 where how are-you behaved  
 ‘Where did you behave how?’  
 b. *\*Kak kâde si se dâržal.*  
 how where are-you behaved
- (10) a. *Koga kak si se dâržal?*  
 when how are-you behaved  
 ‘When did you behave how?’  
 b. *\*Kak koga si se dâržal?*  
 how when are-you behaved

### 3. The order of wh-objects w.r.t wh-adjuncts

The rigid ordering of wh-adjuncts proves instrumental in revealing the distribution of wh-arguments. As we will see, a wh-argument bearing a certain grammatical relation (say, direct object), does not occupy one and the same position w.r.t. the wh-adjuncts, but comes to occupy different positions depending on its internal makeup (w.r.t. such features as [human] and [D-linked]).

Consider first prepositional indirect objects (similar facts hold for other prepositional objects).

The examples below show that *na kogo* ‘to whom’ must precede all of the adjuncts, while *na kolko* N ‘to how many N’ phrases occupy a lower position – they follow *koga* ‘when’ and *kâde* ‘where’, but precede *kak* ‘how’:<sup>3</sup>

- (11) a. *Na kogo kak šte prepodadeš tozi urok?*  
 to whom how will teach-you this lesson  
 ‘To whom will you teach this lesson how?’  
 b. *\*Kak na kogo šte prepodadeš uroka?*
- (12) a. *Na kogo kâde si daval podarâci?*  
 to whom where are-you given presents  
 ‘To whom did you give presents where?’  
 b. *???Kâde na kogo si daval podarâci?*

---

<sup>3</sup>. We come back later to the (quite) marginal, rather than totally ungrammatical, status of (12)b/(13)b.

- (13) a. Na kogo koga šte se obadiš?  
           to whom when will call-you  
           ‘Who will you call when?’  
       b. ??Koga na kogo šte se obadiš?
- (14) a. Koga/kâde na kolko xora si pomagal?  
           when/where to how many people are-you helped  
           ‘How many people did you help when/where?’  
       b. \*?Na kolko xora koga/kâde si pomagal?
- (15) a. Na kolko xora kak možeš da pomogneš?  
           to how many people how can-you to help  
           ‘How many people can you help how?’  
       b. \*Kak na kolko xora možeš da pomogneš?

Putting together the order of the adjuncts with the relative positions of the two types of indirect *wh*-objects illustrated above, we arrive at the following order:

- (16)    *na kogo* > *koga* > *kâde* > *na kolko* N > *kak*  
           ‘to whom’ ‘when’ ‘where’ ‘to how many’ ‘how’

We submit that the different distribution of the indirect objects is related to their different feature specification: while *na kogo* is positively specified for the feature [human], *na kolko* N phrases are underspecified for that feature, since their head N can have human, but also non-human reference (e.g., *na kolko studenti* ‘to how many students’, *na kolko bolnitsi* ‘to how many hospitals’, etc.).<sup>4</sup>

Multiple questions containing two [+human] *wh*-objects also show a strict ordering. As noted by Billings and Rudin (1996, 41), and confirmed by our informants, the direct *wh*-object must always precede the indirect *wh*-object. Cf. (17):

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<sup>4</sup>. The relevance of the feature [human], which was first noted in Billings and Rudin (1996), will be shown below to play a role also in the distribution of direct *wh*-objects, and subjects.

- (17) a. Kogo na kogo šte predstaviš?  
           whom to whom will introduce-you  
           ‘Whom will you introduce to whom?’  
       b. \*Na kogo kogo šte predstaviš?

We expect, then, on the basis of both (16) and (17), that by transitivity *kogo* should precede whatever *na kogo* precedes, i.e. all of the wh-adjuncts, as well as *na kolko* N phrases. That this is correct is shown by the a) examples of (18)-(21). We come back to the more marked (and prima facie unexpected) alternative orders of (18)b and (19)b:

- (18) a. Kogo kâde šte nastaniš?  
           whom where will accommodate-you  
           ‘Whom will you accommodate where?’  
       b. ?Kâde kogo šte nastaniš?

- (19) a. Kogo koga šte posreštaš?  
           whom when will meet-you  
           ‘Whom will you be meeting when?’  
       b. ??Koga kogo šte posreštaš?

- (20) a. Kogo kak šte posrešneš?  
           whom how will meet-you  
           ‘Whom will you meet how?’  
       b. \*Kak kogo šte posrešneš?

- (21) a. Kogo na kolko studenti šte predstaviš?  
           whom to how many students will introduce-you  
       b. \*Na kolko studenti kogo šte predstaviš?

(22) summarizes the relative order of the wh-phrases considered so far:

- (22) *kogo* > *na kogo* > *koga* > *kâde* > *na kolko* N > *kak*  
       ‘whom’ ‘to whom’ ‘when’ ‘where’ ‘to how many’ ‘how’

Looking at the distribution of other direct wh-objects, we find that wh-objects which are specified negatively, or are underspecified, for the feature [human] show a distribution

which is markedly different from that of the [+human] *kogo* ‘whom’. This is shown by the examples below: (23)a and (25)a, alongside (4)b, feature the [-human] *wh*-object *kakvo* ‘what’<sup>5</sup>; (24)a features the *wh*-phrase *kolko* (N) ‘how much/how many (N)’. Both types of direct *wh*-objects (similarly to *na kolko* N phrases seen above) ordinarily follow the adjuncts *kâde* and *koga*, and precede *kak*:<sup>6</sup>

- (23) a. *Koga/kâde kakvo kupuvaš?*  
           when/where what buy-you  
           ‘When are you buying what?’  
       b. *?(?)Kakvo koga/kâde kupuvaš?*
- (24) a. *Koga/kâde kolko (pari) si poxarčil?*  
           when/where how much (money) are-you spent  
           ‘How much (money) did you spend when/where?’  
       b. *\*Kolko (pari) koga/kâde si poxarčil?*
- (25) a. *Kakvo kak šte napraviš?*  
           what how will do-you  
           ‘What will you do how?’  
       b. *\*Kak kakvo šte napraviš?*

The low position of *kakvo* and *kolko* (N) phrases leads to certain expectations. If a strict hierarchical order is assumed, such phrases should be preceded by whatever *wh*-material precedes the adjuncts. In other words, we expect that the direct and indirect *wh*-objects *kogo* and *na kogo* should appear to their left. That this is indeed the case can be seen from the following examples, some well-known from the literature (cf. in particular Bošković 1997):

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<sup>5</sup>. *Kakâv/kakva/kakvo/kakvi* N ‘what (kind of) N’ phrases pattern with *kakvo* and *kolko* (N) phrases in terms of distribution. Like *kolko* (N) phrases, they are also underspecified for the feature [human] (cf. *kakâv student* ‘what student’, *kakâv stol* ‘what chair’, etc.).

<sup>6</sup>. In fact, *kak* must follow all *wh*-phrases (cf. (2), (9)a, (10)a, (11)a, and (15)a above), though direct object *kolko* (N) phrases for some (semantic?) reason do not easily combine with *kak*, in any order.



- (26) a. Kogo kakvo e pital Ivan (Bošković 1997 [20])  
 whom what is asked Ivan  
 ‘Who did Ivan ask what?’  
 b. \*Kakvo kogo e pital Ivan
- (27) Na kogo kakvo e pokazal Ivan?<sup>7</sup>  
 to whom what is shown Ivan  
 ‘What has Ivan shown to whom?’
- (28) a. Na kogo kolko pari šte dadeš?  
 to whom how much money will give-you  
 ‘Whom will you give how much money?’  
 b. \*Kolko pari na kogo šte dadeš?

Summing up what we said so far, the relative orders among object wh-phrases and wh-adjuncts appear to conform to the following generalizations:

1. (Non-D-linked) [+human] wh-objects move to a space above the space to which *koga* ‘when’ and *kâde* ‘where’ move to.
2. (Non-D-linked) wh-objects which are either negatively specified or underspecified for the feature [human] (namely, wh-phrases like *kakvo* ‘what’ and (*na*) *kolko* N ‘how much/many N’) move to a space below *koga* ‘when’ and *kâde* ‘where’ and above *kak*.

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<sup>7</sup>. According to our informants, *kakvo* may more markedly precede the prepositional indirect object (cf. (i) below). Some speakers seem to fully accept such examples (cf. Grewendorf 2001, fn.19) while others seem to fully exclude it (cf. Rudin 1985, 119):

- (i) (? )Kakvo na kogo e pokazal Ivan  
 what to whom is shown Ivan  
 ‘What did Ivan show to whom?’

Table 1 summarizes the orders of the *wh*-phrases so far reviewed:

<i>kogo</i> 'whom'	<i>na kogo</i> 'to whom'	<i>koga</i> 'when'	<i>kâde</i> 'where'	( <i>na</i> ) <i>kolko</i> N 'to how many N'	<i>kak</i> 'how'
				<i>kakvo</i> 'what'	

Table 1.

#### 4. The order of *wh*-subjects w.r.t. *wh*-adjuncts

A comparable situation is found with *wh*-subjects because they also come to occupy different positions, depending on their internal makeup. As expected, [+human] *koj* 'who' patterns with [+human] *kogo* and *na kogo* in having to precede *kâde*, *koga* ((29)-(30)), and *kak*.

- (29) a. *Koj kâde šte spi?* (Billings and Rudin 1996, 41)

who where will sleeps

'Who will sleep where?'

- b. \**Kâde koj šte spi?*

- (30) a. *Koj koga pristiga?*

who where arrives

'Who will arrive when?'

- b. \**Koga koj pristiga?*

On the other hand, subject *kakvo* and *kolko* (N) phrases pattern together with their object counterparts in that they follow *kâde* and *koga*:

- (31) a. *Koga kakvo te pravi šťastliv?*

when what you-acc makes happy

'What makes you happy when?'

- b. ??*Kakvo koga te pravi šťastliv?*

- (32) a. *Kâde kakvo stava sega po sveta?*  
 where what happens now in world-the  
 ‘What is happening where around the world?’  
 b. \**Kakvo kâde stava sega po sveta?*
- (33) a. *Kâde/koga kolko se investira v častnija sektor?*  
 where/when how much refl.cl. invests in private-the sector  
 ‘Where/when how much is invested in the private business?’  
 b. \**Kolko kâde/koga se investira v častnija sektor?*

These data are summarized in Table 2:<sup>8</sup>

[+human]					[-human] or underspecified for [human]		
					Subject	(indirect/direct) Object	
<i>koj</i>	<i>kogo</i>	<i>na kogo</i>	<i>koga</i>	<i>kâde</i>	<i>kakvo/kolko</i> N	<i>kakvo/ (na) kolko</i> N	<i>kak</i>

Table 2.

Some of the alternative orders in the examples above were seen to vary in marginality. For some speakers *kakvo* (whether object or subject) can appear to the left of the following wh-phrases: *kogo* ((6)a), *na kogo* ((i) of fn.6), *kâde* ((4)a, (7)a, (23)b), and *koga* ((23)b, (31)b).

<sup>8</sup>. Within the same slot wh-subjects appear to precede wh-objects. See, e.g., (i)a-b, exemplifying the case of wh-phrases underspecified for the feature [human]:

- (i) a. *Kakvi grupi xora po kolko pari xarčat na mesets*  
 what groups people each how much money spend-they in a month  
 ‘What groups of people spend monthly how much money’  
 b. \**Po kolko pari kakvi grupi xora xarčat na mesets*

Here, we abstract away from a number of complications, like the apparent ban on combining a *kakvo* subject with a *kakvo* object, as well as with a *kolko* object, regardless of order.

Similarly, for some speakers, *kâde* and *koga* can precede *kogo* (cf. (18)b, (19)b, Bošković 1997, fn. 7, and Billings and Rudin 1996, 42), as well as *na kogo* (cf. (12)b and (13)b). Such possibilities are thus in apparent violation of the orders in Table 2.

We submit that the problem posed by these marked orders of *kakvo* and *kâde/koga* can be made sense of if they are taken to access (more markedly) a higher position, the one reserved for D-linked phrases (see the next section).

One first piece of evidence comes from the contrast between the impossible (32)b, which contains a non easily D-linkable *kakvo*, and (4)a/(7)a above (repeated as (34)a-b), which more readily allow for a D-linked interpretation of *kakvo*.

- (34) a.=(4)a. ?Kakvo kâde šte složiš?  
           what where will put-you  
           ‘What will you put where?’  
       b.=(7)a. ?Kakvo kâde raste?  
           what where grows  
           ‘What grows where’

A second piece of evidence comes from the distribution of *koe* ‘which’ (the inherently D-linked counterpart of *kakvo*),<sup>9</sup> which obligatorily precedes the *wh*-adjuncts (and, more generally, all non-D-linked *wh*-phrases):

- (35) a. Koe (spisanie) kâde si složil?  
           which journal where are-you put  
           ‘Which [one] did you put where?’  
       b. \*Kâde koe (spisanie) si složil?  
           where which journal are-you put
- (36) a. Koe kâde otiva?  
           which where goes  
           ‘Which [one] goes where?’  
       b. \*Kâde koe otiva?  
           where which goes

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<sup>9</sup>. D-linked *wh*-phrases can show up either as full *which*-phrases or in a reduced (elliptical) form in which the head noun is missing but implicitly understood from previous context. The ‘which’ paradigm displays the following gender and number forms:

- (i) *koj* (*student/stol*) ‘which (student/chair) – masculine, singular  
       *koja* (*žena/kniga*) ‘which (woman/book) – feminine, singular  
       *koe* (*momče/spisanie*) ‘which (boy/journal) – neuter, singular  
       *koi* (*studenti/knigi/spisanija*) ‘which students/books/journals) – m/f/n plural

## 5. The order of D-linked and non-D-linked wh-phrases

Phrases in which *koj* functions as a specifier, i.e. *koj/koja/koe/koi* (N) ('which' phrases) are inherently D-linked and must precede all non-D-linked wh-phrases. This may lead to the reversal of the canonical order specified in Table 2, as in (37)a (vs. (38)a, where both wh-phrases are non-D-linked)<sup>10</sup>, and may also lead to apparent violations of Superiority (for previous discussion, see Richards 1997/2001, Grohmann 1998, 2000, and Jaeger 2003, 2004).

- (37) a. *Koi kartini na kogo za Boga iskaš pak da podarjavaš?*  
           which paintings to whom for God's sake want-you again to donate-you  
           lit. 'Which paintings do you want again to donate to whom on earth'  
       b. \**Na kogo za Boga koi kartini pak iskaš da podarjavaš?*
- (38) a. *Na kogo za Boga kakvi kartini pak šte davaš?*  
           to whom for God's sake what paintings again will give-you  
           'What paintings will you again be giving to whom?'  
       b. \**Kakvi kartini na kogo za Boga pak šte davaš?*

The only exception to the order D-linked > non-D-linked seems to be the fronting of a D-linked wh-phrase over a *koj*-subject (cf. Krapova 2002b and Jaeger 2004), which is unacceptable under a true question reading in a matrix question (the order becoming more acceptable in an indirect question - cf. fn.1):

- (39) a. \*?*Koja studentka koj šte izpita?*  
           which student who will examine  
       b. *Koj koja studentka šte izpita?*  
           who which student will examine

The ungrammaticality of (39)a may be taken to suggest that *koj* 'who' actually belongs to the same paradigm as *koj* (N) 'which', with the head N left implicit and interpreted necessarily as [+human]. This conclusion appears supported by the similar case of the

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<sup>10</sup>. We use *za Boga* 'for God's sake' (one Bulgarian equivalent of "the hell" phrase) to force the non-D-linked reading of *na kogo*.

quantifier *vsički* ‘all’, which also requires a [+human] interpretation when it occurs without the head noun (*Utre šte potârsja vsički* ‘Tomorrow I will look for all (=everyone/\*all books, etc.)’). If so, the ungrammaticality of (39a) is no longer unexpected as both wh-phrases belong to the same D-linked “space”, within which subjects precede objects. (Cf. fn.7, and section VII below.)

The results so far are summarized in Table 3:<sup>11</sup>

D-linked wh- <sup>12</sup>	Non-D-linked wh-phrases						
<i>koj/koja/koe/koi</i> (N)							
( <i>kogo</i> )	<i>kogo</i>	<i>na</i>	<i>koga</i>	<i>kâde</i>	<i>kakvo</i> <sub>Subj</sub>	<i>kakvo</i> <sub>Obj</sub>	<i>kak</i>
( <i>na kogo</i> )		<i>kogo</i>			<i>kolko</i> <sub>Subj</sub> N	( <i>na</i> ) <i>kolko</i> <sub>Obj</sub> N	
(marked) <i>kakvo</i> <sub>Sub/Obj</sub>							
(marked) <i>kâde/koga</i>							

Table 3

<sup>11</sup> Things are actually more complex in that (39)a seems to improve if the *wh*-phrase refers to a non-human entity:

- (i)  $?(?)$ Koja knjiga koj e napisal  
which book who is written  
'Who wrote which book?'

We submit that the contrast between (39)a and (i) is related to the contrast between (ii)a and (ii)b, which suggests that, in Bulgarian, phrases referring to non-human entities are easier to enter a null Operator Topic construction (cf. fn.13 below) than phrases referring to human individuals:

- (ii) a. Filma šte gleda Maria  
film-the will watch M.  
'Maria will watch the film'
- b. \*?Ivan šte gleda Maria  
I. (obj) will watch M. (subj.)  
'Maria will look after Ivan'

This in turn suggests that *koja kniga* in (i) is located in an operator topic position (giving rise to an apparent Superiority violation).

<sup>12</sup>. In the D-linked column we have also indicated the possibility of D-linking *kogo* and *na kogo*, although we are not giving evidence for that here.

## 6. The order of clitic resumed and non-clitic resumed wh-phrases<sup>13</sup>

Let us now turn to another type of multiple wh-constructions, containing an inherently D-linked phrase resumed by a clitic.

From cases such as (40) it would seem that clitic resumption is optional:

- (40) Koja kartina na kogo/na koj prijatelj si (ja) posvetil?  
 which painting to whom/to which friend have-you it dedicated  
 ‘Which painting have you dedicated to whom/to which friend?’

This is, however, dubious. For one thing, as (41) shows, clitic resumption is not available for the second of two wh-phrases when the first is not itself resumed by a clitic.

Moreover, as (42) shows, clitic resumption becomes obligatory if the leftmost D-linked wh-phrase is separated by a parenthetical from the second wh-phrase (D-linked or not). (cf. Krapova 2002b):

- (41) a. Na kogo koja kartina si (\*ja) posvetil?  
 to whom which painting have-you it dedicated  
 ‘Which painting did you dedicate to whom?’  
 b. Na koj prijatelj koja kartina si mu ja posvetil
- (42) a. Koja kartina, spored tebe, kâde \*(ja) e risuval tozi xuzdonik?  
 which painting, according to you, where it is painted this artist  
 ‘According to you, which painting did this artist paint where?’  
 b. Koja kniga, spored tebe, na koj prijatelj da (\*mu) ja dam?  
 which book, according to you, to which friend should (him) it give-I  
 ‘According to you, which book should I give to which friend?’  
 c. Na koj prijatelj, spored tebe, koja kniga da mu (\*ja) dam?  
 to which friend, according to you, which book to him (it) give-I  
 ‘According to you, to which friend should I give which book?’

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<sup>13</sup>. This section has gained considerably from extensive discussions Iliyana Krapova had with Željko Bošković.

What these facts seem to suggest is that material preceding the parenthetical correlates with obligatory presence of a resumptive clitic, while material following the parenthetical correlates with obligatory absence of such a clitic. This in turn means that the apparent optionality in (40) should be interpreted as representing two different structures: one involving a position (call it XP) which can be targeted only by clitic resumed (inherently) D-linked *wh*-phrases; the other involving a position (call it YP) which can be targeted only by non-clitic resumed (inherently) D-linked *wh*-phrases. XP and YP occur, respectively, to the left and to the right of the parenthetical. (Cf. Krapova 2002a,b, and Jaeger 2003, 2004 for observations apparently leading in the same direction). This is sketched in (43):

- (43) [XP *Cl-D-linked wh* [ parenthetical [YP *non-Cl-D-linked wh* [ZP *non-D-linked wh* [IP ..cl...

A strong indication that XP and YP are distinct projections comes from the contrast between (44a) and (44b):

- (44) a. *Koe* (meroprijatie), spored tebe, koj trjabva da \*(go) provežda?  
 which (initiative), according-to you, who must Prt it carry out  
 ‘Which (initiative), according to you, who should carry out?’  
 b. \**Kakvo* (ot tezi nešta), spored tebe, koj trjabva da go svârši?  
 what (of these things), according-to you, who must to it finish  
 c. ?*Kakvo* (ot tezi nešta), spored tebe, na kogo da zanesa?  
 what (from these things), according to you, Prt whom to bring-I  
 ‘What [which] (of these things) should I bring to whom?’

(44b) contains the *wh*-phrase *kakvo* ‘what’ (the non-D-linked counterpart of *koe*) which has been forced into a D-linked reading by including it into a partitive phrase. Nevertheless, the question is ungrammatical. *Kakvo* cannot be clitic resumed in true questions (according to most speakers), although as we mentioned earlier, in the absence of an inherently D-linked phrase, it is in principle possible to D-link it (as also indicated by the possible alternative order *kakvo* > *na kogo* in (44c) apparently violating their canonical order). The contrast between (44b) and (44c) thus shows that the highest position *kakvo* can target is still lower than the position occupied by *koe* in (44a). Therefore, we can conclude that the pre-parenthetical position cannot be occupied by non-clitic resumed D-linked material.



The parenthetical, in addition to the position it occupies in (44), can also occupy a sentence initial position (cf. (46)), as shown by the examples in (45):

- (45) a. Vpročem, koja kartina, spored tebe,      koj \*(ja) e narisual?  
by-the-way which painting according-to-you who it is painted  
‘By the way, according to you, who painted which painting?’  
b. Vpročem, koja kartina, spored tebe,      koj xudožnik \*(ja) e narisual?  
by-the-way which painting according-to-you which artist it is painted  
‘According to you, which painting did which artist painted?’

(46)

parenthetical [XP	parenthetical [YP	[ZP	[IP cl <sub>XP</sub>
<i>Cl-D-linked wh-</i>	<i>D-linked wh-</i>	<i>non-D-linked wh-</i>	

Within a finer-grained CP structure (cf. Rizzi 1997), XP can be identified with the CLLD Topic position (TopP)<sup>14</sup> (cf. also Krapova 2002b, Jaeger 2003, 2004, Grohmann to appear); YP with a position specialized for D-linked phrases (D-LP); and ZP with a position specialized for non-D-linked phrases, the traditional CP, we may assume.<sup>15</sup>

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<sup>14</sup>. Richards (1997/2001, 95) and Grohmann (1998, 44, 2000, 278) propose that all D-linked wh-phrases target a (Wh-)Topic position (though neither discusses the issue of clitic resumption). This would need to be qualified in view of the apparent existence of two distinct Topic constructions in Bulgarian: Clitic Left Dislocation and one involving (null) operators, given in (i) and (ii), respectively (see Krapova 2002a, and Lambova 2000, 2001 for some relevant examples). However, the question still remains whether D-linked wh-phrases target the Operator Topic position or some other position (cf. section VII below for further discussion).

(i) [<sub>T</sub>Kufara] Ivan NA MARIA li      šte \*(go) dade?  
suitcase-the Ivan to Mary Interr/Foc PRT will it give  
‘The suitcase, is it to Mary that Ivan will give?’

(ii) [<sub>T</sub>Kufara] koj šte prenese do garata?  
suitcase-the, who will carry until railway station

<sup>15</sup>. We take each “space” (non-D-linked, D-linked, Cl-D-linked) to involve a hierarchy of projections hosting the different wh-phrases.

In addition to the presence vs. absence of a corresponding clitic, the two D-linked positions can be differentiated on the basis of their quantificational status. While XP, like topical projections in general, is non-quantificational, YP is quantificational, as shown by the systematic contrasts below.

#### *WCO effects*

Lack of WCO effects is one of the properties characterizing CLLD Topic structures in contrast to quantificational structures (cf. Rizzi 1997).

In Bulgarian, all Clitic Left Dislocated (CLLD) material (indefinite affirmative quantifiers with specific interpretation, D-linked universal/distributive quantifiers, partitive phrases, Topics, etc.) do not show WCO effects. The same is true for the clitic resumed wh-phrases illustrated in (47)a. On the other hand, WCO effects are present with exactly the same types of elements if the clitic is missing, cf. (47)b. We therefore conclude that *na koj student* occupies an operator position in (47b) but not in (47a):

- (47) a. Na koj student<sub>i</sub> mu e daval pari bašta mu<sub>i</sub>? cf. Na Ivan mu e dal pari bašta mu  
to which student him is given money father his to Ivan him is given money  
father his
- b. Na koj student<sub>i</sub> e daval pari bašta mu<sub>\*i/j</sub> cf. \*Na Ivan e dal pari bašta mu.  
to which student is given money father his to Ivan is given money father his

#### *Interaction with quantifiers*

Another distinction between the two types of positions comes from their interaction with quantifiers (Roumyana Pancheva, p.c.). (48a) shows that while D-linked phrases may have both wide and narrow scope with respect to the (non-D-linked) distributive quantifier *vseki* ‘everybody’. Cl-D-linked phrases necessarily have wide scope (cf. (48)b):

- (48) a. Koja kniga e pročel vseki? *wide and narrow scope*  
which book is read everyone  
‘Which book did everyone read?’
- b. Koja kniga ja e pročel vseki? *wide scope only*  
which book it is read everyone

The evidence that we presented so far shows that Spec,TopP is a non-quantificational position, while Spec,D-LP (the lower position hosting D-linked wh-phrases) is a

quantificational position. The results are summarized in Table 4. In the Clitic resumed Topic wh- “space” we have indicated the non-bare inherently D-linked wh-phrases, as well as the D-linkable bare wh-phrases *kogo* and *na kogo*, which can also be clitic-resumed (cf. Dimitrova-Vulchanova & Hellan 1999, Jaeger 2004).

clitic resumed Topic wh-	D-linked wh-	non-D-linked wh-						
<i>(na) koj/koja/koe/ koi</i> (N)	<i>(na) koj/koja/koe/ koi</i> (N)	<i>kogo</i>	<i>na kogo</i>	<i>koga</i>	<i>kâde</i>	<i>kakvo</i> <sub>Subj</sub>	<i>kakvo</i> <sub>Obj</sub>	<i>kak</i>
<i>kogo</i>	<i>(kogo)</i>					<i>kolko</i> <sub>Subj</sub> N	<i>(na) kolko</i> <sub>Obj</sub> N	
<i>na kogo</i>	<i>(na kogo)</i>							
<i>*?kakvo</i>	<i>kakvo</i> (marked) <i>kâde/koga</i> (marked)							

Table 4

## 7. Concluding remarks.

The deeper question of what determines the relative order of the various wh-phrases seen above is beyond the scope of this article. We can only hint here at a possible way of approaching it that looks to us promising.

Various clues seem to suggest that such ordering reflects the order of wh-phrases prior to wh-movement (cf. also Bošković 1997, 1998, 1999).

Consider non-D-linked wh-phrases. The order of the adjuncts (*koga* > *kâde* > *kak*) seems to conform to the UG hierarchy of Merge of these adjuncts, according to which Temporal adjuncts are higher than Locative adjuncts, which are in turn higher than Manner adjuncts (Boisson 1981, Nilsen 2000, Cinque 2002, Schweikert 2004).<sup>16</sup> This appears supported by the fact that in German the corresponding existentially interpreted wh-phrases are ordered within IP in the same way, with Temporal phrases obligatorily preceding (i.e., higher than) Locative phrases:

<sup>16</sup> As there is reason to assume that they do not move to higher IP-internal licensing positions, their position prior to wh-movement presumably coincides with their Merge position.

- (49) Hans sollte **wann wo/\*wo wann** darüber vortragen (Frey 2000, 113)  
 Hans should sometimes somewhere about-that talk

Likewise, the surface order of Bulgarian [+human] *wh*-phrases (*koj*, *kogo*, and *na kogo*) with respect to the temporal and locative *wh*-adjuncts (*koga* and *kâde*), and to *wh*-phrases underspecified (or negatively specified) for the feature [human] (*kakvo* and *kolko/kakâv* N) (cf. Table 4) appears to reflect their relative order prior to *wh*-movement. This is once again suggested by the relative order in IP of the corresponding German existentially interpreted *wh*-phrases. As (50)-(53) show, [-human] subject *was*<sup>17</sup> has to follow the temporal and locative adjuncts *wann* and *wo*, while [+human] *wer* has to precede the adjuncts:<sup>18</sup>

- (50) Ich weiss nicht ob dort **wann was /\*was wann** geschehen ist (Josef Bayer p.c.)  
 I don't know if there sometime something happened has
- (51) Ich glaube dass **wo was/\*was wo** geschehen ist (Josef Bayer p.c.)  
 I believe that somewhere something happened has
- (52) Ich weiss nicht ob hier **wer wann/\*wann wer** geschlafen hat (Josef Bayer p.c.)  
 I don't know if here someone sometime slept has
- (53) Weil **wer wo/\*wo wer** das Buch verloren hat... (Frey 2000, 132)  
 Because someone somewhere the book lost has...

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<sup>17</sup>. The same appears true of object *was*.

<sup>18</sup>. This suggests that arguments move from their Merge position to different “spaces” depending on their specification for the feature [human] (cf. the Animacy Hierarchy of the typological tradition). Concerning the relative ordering of elements which bear the same specification for the feature [human], if subjects are merged higher than direct and indirect objects, the pre-*wh*-movement position of [+human] subject *koj* ‘who’ will be higher (more to the left) than that of [+human] *kogo* ‘whom’ and *na kogo* ‘to whom’ (if not higher, given the discussion following (39)). As to the relative order of *koga* and *na kogo*, we must assume that direct objects move to a pre-*wh*-movement position higher than that of indirect objects, since the Merge position of indirect objects is presumably higher than that of direct objects.

It seems to us that this identity of ordering at the IP level in one language and at the CP level in the other can hardly be accidental.<sup>19</sup>

If the order of (non-D-linked) wh-phrases simply reflects their order prior to wh-movement, some principle will have to ensure that this order is preserved under wh-movement. While there have been a number of proposals to capture this (selective) effect (cf. Richards 1997/2001, Müller 2002, among others) we think that it can be derived in an interesting way by slightly modifying, and extending to A-bar chains, a principle originally proposed in Chomsky (2000, section 6; 2001, (17)) for A-chains. We will phrase such principle in terms of Rizzi's (2001) notion of Relativized Minimality, which is formulated as a condition on chain links ((54)), itself based on the Minimality notion in (55):

- (54)  $(A_1, \dots, A_n)$  is a chain iff, for  $1 \leq i < n$
- (i)  $A_i = A_{i+1}$
  - (ii)  $A_i$  c-commands  $A_{i+1}$
  - (iii)  $A_{i+1}$  is in a Minimal Configuration with  $A_i$

In other words "each chain link involves identity (under the copy theory of traces), c-command and Minimality" (Rizzi 2001, 91)

- (55) Y is in a Minimal Configuration with X iff
- there is no Z such that
  - (i) Z is of the same structural type as X, and
  - (ii) Z intervenes between X and Y

In the spirit of Rizzi (2001), we take Z to count as an intervener between a trace Y and a target X if Z c-commands Y without c-commanding X, and if it is specified with the same feature as the target (quantificational; modifier (non-quantificational); etc). Cf. the ill-formedness of (56)a-b vs. the well-formedness of (57)a-b:<sup>20</sup>

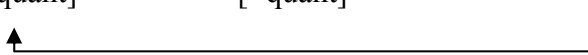
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<sup>19</sup>. This identity, however, is concealed in many circumstances by the application of additional (focus-related) movements and becomes visible only when such movements are blocked (as happens with wh-phrases interpreted existentially in languages like German, or with interrogative wh-phrases in languages like Bulgarian).

<sup>20</sup>. Note that (56)a does not become better if the closest quantifier is attracted (*\*Beaucoup a-t-il consulté combien de livres?* 'A lot has he consulted how many of books?'). This implies that, unlike

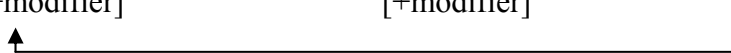
- (56) a. \*Combien a-t-il beaucoup consulté de livres?

‘How many has he a lot consulted of books?’

\* \_\_\_\_\_ a-t-il **beaucoup** consulté **combien** de livres  
 [+quant] [+quant]  


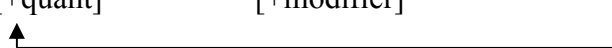
\*Rapidamente, i tecnici hanno probabilmente risolto il problema

‘Rapidly, the technicians have probably solved the problem’

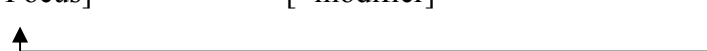
\* \_\_\_\_\_, i tecnici hanno **probabilmente** risolto **rapidamente** il problema  
 [+modifier] [+modifier]  


- (57) a. Combien a-t-il attentivement consulté de livres?

‘How many has he carefully consulted of books?’

\_\_\_\_\_ a-t-il **attentivement** consulté **combien** de livres  
 [+quant] [+modifier]  


- b. RAPIDAMENTE, i tecnici hanno probabilmente risolto il problema (non lentamente)  
 ‘Rapidly (focus), the technicians have probably solved the problem (not slowly)’

\_\_\_\_\_, i tecnici hanno **probabilmente** risolto **RAPIDAMENTE** il problema...  
 [+Focus] [+modifier]  


Within a system in which Superiority is subsumed under Relativized Minimality, the preservation of the pre-wh-movement order of the wh-phrases in the case of multiple

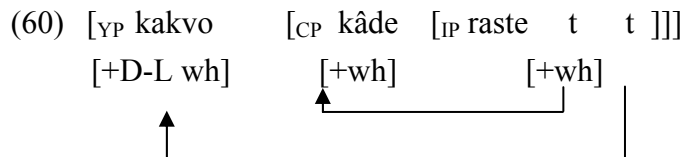
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Relativized Minimality, Attract Closest cannot relate the violation in (56)a-b to standard Superiority violations like *\*What did who buy?* or *\*Who did you persuade who to invite?*, even though the two cases seem to involve similar intervention effects (cf. Rizzi 1990, 2001).



In (59)a there is only a *link* of a chain (not an entire chain) intervening between the trace of *kak* and the target of *kak*, and similarly only a link of a chain between the trace of *kakvo* and the target of *kakvo*. Not so, in (59)b, where the entire (non trivial) chain *kakvo* intervenes between the trace of *kak* and its target. (58) has in fact the quite general consequence of forcing a crossing (rather than a nesting) derivation of *wh*-phrases.

If D-linked *wh*-phrases have special features matching corresponding features in their target (say, +D-L *wh* – but see fn.22), it is understandable why they can reverse the order holding strictly within the “space” of non-D-linked *wh*-phrases. In the slightly more marked, yet acceptable, (7)a above, even if the whole (non trivial) chain of *kâde* intervenes between the trace of *kakvo* and its target, the feature of the intervener is distinct from that of the target, so that no violation of Relativized Minimality is triggered:<sup>23</sup>



A comparable case is provided by the apparent violation of Superiority in e.g. (44)a, where the target is specified for the feature [Cl-D-L *wh*] while the intervening chain bears no such feature.

To summarize, the facts discussed here seem to us to provide evidence for two conclusions: 1) that the order of *wh*-phrases in Bulgarian multiple *wh*-fronting reflects, up to the finest degree, their pre-*wh*-movement order, and 2) that all cases which seem to go against preservation of order (leading to seeming violations of Superiority) involve selective movements triggered by a feature that is not present in any of the intervening elements. More tentatively, we also proposed to capture Superiority effects under a version of Rizzi’s Relativized Minimality which incorporates Chomsky’s insight that links of a chain do not count as interveners.

<sup>23</sup>. If D-linking is related to Specificity, given that specific indefinites are higher than existentially interpreted ones (cf. Diesing 1992), it could be that in (60) *kakvo* has moved higher than *kâde* prior to *wh*-movement (which would impose distinctness of features at the IP, rather than at the CP level).



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# **The position of prepositional modifiers in the adverbial space**

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## **1. Introduction**

In Schweikert (2005) I showed that prepositional sentence modifiers can be grouped into several classes according to the thematic role that they express (section 3). These thematic roles respect a base order analogous to that of Cinque's hierarchy of adverbs and functional heads (section 2). What was missing so far was the relationship of these two hierarchies. Here, I want to fill this gap, using scope interpretations of adverbs with respect to the prepositional modifiers (section 4). I will show that we can use this properties to detect the positions of the thematic roles inside the Cinque hierarchy. Section 5 will propose a possible derivation of surface order and scope properties.

## **2. Cinque's hierarchy of functional projections**

For a long time sentential modifiers such as adverbs and prepositional phrases were considered to be sitting in a position adjunct either to VP (or vP in VP shell theories) or IP. The situation changed with the publishing of Kayne (1994). In his antisymmetric theory there is only one adjunct position available for each projection, which could be identified with the specifier position. Since sentences can easily have more than two adverbs, for each of them there had to be a different specifier position available. Cinque (1999) offered a solution to the problem. He started from the observation that adverbs can be divided into different classes which among themselves obey a (nearly) strict

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ordering relation. Cross linguistic research from many different languages shows that this order seems to be universal. Furthermore, Cinque showed that this order is mirrored in a correspondent order of verbal affixes, also universal. If the affixes are realised as suffixes they always appear in reverse order. If they are prefixes, in most cases they obey the same order as the adverbs. Only in few languages such as Navajo they appear in reverse order. To explain this behaviour Cinque (1999) proposed a universal hierarchy of functional projections above the VP (shell). Affixes and certain auxiliaries and modals are sitting in head positions of these projections. Their specifier can host the associated adverbial phrases. Subsequent research from many languages revealed the validity of this universal hierarchy. I want to present here the hierarchy with its original labels together with prototypic adverbs in English and Italian as originally presented in Cinque (1999) and my own translation into German.

<b>Funct. Proj.</b>	<b>English</b>	<b>Italiano</b>	<b>German</b>
<b>Mood</b> <sub>speech act</sub>	frankly	francamente	offen gesagt ehrlich gesagt
<b>Mood</b> <sub>evaluative</sub>	fortunately	fortunatamente	glücklicherweise
<b>Mood</b> <sub>evidential</sub>	allegedly	evidentemente	angeblich offensichtlich
<b>Mod</b> <sub>epistemic</sub>	probably	probabilmente	wahrscheinlich
<b>T (Past)</b>	once		einmal
<b>T (Future)</b>	then	ora?	jetzt, dann
<b>Mood</b> <sub>irrealis</sub>	perhaps	forse	vielleicht
<b>Mod</b> <sub>necessity</sub>	necessarily	necessariamente	notwendigerweise unbedingt zwangsläufig
<b>Mod</b> <sub>possibility</sub>	possibly	possibilmente	möglicherweise
<b>Mod</b> <sub>volition</sub>	willingly	volontariamente	gerne freiwillig
<b>Mod</b> <sub>obligation</sub>	inevitably		unausweichlich zwangsläufig
<b>Mod</b> <sub>ability, permission</sub>	cleverly	intelligentemente	klugerweise geschickt
<b>Asp</b> <sub>habitual</sub>	usually	solitamente di solito usualmente normalmente	normalerweise gewöhnlich

<b>Asp</b> <sub>repetitive I</sub>	again	da nuovo	wieder noch einmal
<b>Asp</b> <sub>frequentative I</sub>	often	spesso	oft
<b>Asp</b> <sub>celarative I</sub>	quickly	rapidamente	schnell
<b>T (Anterior)</b>	already	già poi non...ancora	schon
<b>Asp</b> <sub>terminative</sub>	no longer	non ...più	nicht mehr nicht länger
<b>Asp</b> <sub>continuative</sub>	still	ancora	noch
<b>Asp</b> <sub>perfect</sub>	always	sempre mai	immer nie
<b>Asp</b> <sub>retrospective</sub>	just	appena recentemente ultimamente	gerade eben gleich
<b>Asp</b> <sub>proximative</sub>	soon	presto?	bald
<b>Asp</b> <sub>durative</sub>	briefly	brevemente	kurz knapp
<b>Asp</b> <sub>generic/progressive</sub>	characteristically		typisch
<b>Asp</b> <sub>prospective</sub>	almost		fast beinahe
<b>Asp</b> <sub>SgCompleative I</sub>	completely	completamente parzialmente interamente in parte	komplett vollständig völlig
<b>Asp</b> <sub>PlCompleative</sub>	everything	tutto niente	alles
<b>Voice</b>	well	bene molto poco, male	gut
<b>Asp</b> <sub>celarative II</sub>	fast early		schnell früh
<b>Asp</b> <sub>SgCompleative II</sub>	completely		komplett völlig total
<b>Asp</b> <sub>repetitive II</sub>	again	da nuovo	wieder
<b>Asp</b> <sub>frequentative II</sub>	often	frequentemente	oft

### 3. The hierarchy of thematic roles

In Schweikert(2005) I established a syntactic order of thematic roles, usually expressed by means of modifying prepositional expression. I used mainly three syntactic tests in order to find out whether these roles have different base positions:

In the Quantifier Scope Test I tested sentences with two prepositional phrases in the Mittelfeld, one modified by a universal and the other by an existential quantifier. In case of movement I could detect a scope ambiguity of the moved quantifier:

- (1) Hans hat in mindestens einer Stadt an jedem Tag gearbeitet.  
 Hans has in at\_least one city on every day worked  
 ‘Hans worked every day in at least one city.’

This sentence is ambiguous between the interpretation:

*There is at least one city in which Hans worked on each day.*

and

*For each day there exists at least one city – not necessarily the same – in which Hans worked on this special day.*

This ambiguity does not exist in case of base order – or at least is less salient.

The Pair List Reading test exploits the fact that wh-elements which have moved across a universal quantifier allow for a list of answers.

- (2) Wo hat Hans an jedem Tag gearbeitet?  
 Where has Hans on every day worked  
 ‘Where did Hans work each day?’

This question allows two types of answers. The first consist of just one place, for instance “Venice”. The other possible type is a list which consists of pairs of days and places, e.g. “On Monday he worked in Venice, on Tuesday he worked in Paris,...”. This kind of list is not possible if the questioned element starts from position above the universal quantified element.

The Informational Focus test makes use of the focus properties in the German Mittelfeld. There are two strategies of putting one element in the Mittelfeld into focus. One strategy is “focus in situ” and the other “focus to the right”. In case of two elements in the Mittelfeld these strategies coincide for the lower element, but give two different



orders if the higher element can be the answer to a constituent question. If the question is:

- (3) Wann hat Hans in Venedig gearbeitet?  
 ‘When did Hans work in Venice?’

two answers are possible:

- (4) Hans hat AM DIENSTAG in Venedig gearbeitet.

and

- (5) Hans hat in Venedig AM DIENSTAG gearbeitet.

These three test gave coherently a base order of at least 15 distinct roles. Unlike the more rigid adverbial order of Cinque’s hierarchy, however, PPs provide more flexibility. The basic order between two PPs, let’s say a causal and a locative expression can be reversed for instance for scope reasons. If we have a sentence like

- (6) Vincent hat wegen des guten Lichtes in Arles gemalt.  
 Vincent has because\_of the good light in Arles painted  
 ‘Vincent painted in Arles because of the splendid light.’

the meaning is not an intersection of one event of painting in Arles which happens to be done because of the splendid light and happens to be in Arles. The meaning is rather that the splendid light (in Arles) had an influence on the choice of the place. Thus, the locative expression is under the scope of the causal expression. In fact it can be shown that stative locative expressions are base generated higher than causes.

Another motive for changing the base order is given by information packaging. A higher PP can be passed by a lower in order to put it into informational focus.

- (7) Wann hat Hans in Venedig gearbeitet?  
 When has Hans in Venice worked  
 When did Hans work in Venice?

- (8) Hans hat in Venedig am Montag gearbeitet.  
 Hans has in Venice on Monday worked  
 Hans worked on Monday in Venice.

In order for the temporal expression (am Montag) in example (3) to be understood as answer of question (2) it appears to the right of the locative, though base generated in a higher position.<sup>1</sup>

Here is a short description of the thematic roles examined in Schweikert (2005). The roles appear in decreasing order from the highest (temporal) to the lowest (manner) followed by exemplifying PPs in German and English. For an exact definition see Schweikert (2005) but also Schweikert (2004).<sup>2</sup> For some neighbours an order could not be established. Therefore I inserted dashed lines between clear steps.

#### Temporal

am Dienstag	on Tuesday
Starting Point of ongoing event	
seit Dienstag	since Tuesday
Starting Point of closed event	
ab Dienstag	from Tuesday on
Elapsed Time of ongoing event	
seit drei Tage	for three days (now)

---

<sup>1</sup>. Things are slightly different if the questioned element is taken from a list already mentioned in the discourse. So, if the question adds a list from which to choose, i.e.

Wann hat Hans in Venedig gearbeitet, Montag oder Freitag?  
 When did Hans work in Venice, Monday or Friday?

it is better to answer with the questioned constituent in situ:

Hans hat am Montag in Venedig gearbeitet.

<sup>2</sup>. I renamed some of the thematic roles. So *Source Temporal 1* became *Elapsed Time of Ongoing Event*, *Source Temporal 2* became *Starting Point of Ongoing Event*, *Source Temporal 3* became *Starting Point of Closed Event*, *Duration 1* became *Secondary Duration*, *Duration 2* became *Telic Duration* and *Duration 3* became *Atelic Duration*.

## Atelic Duration

3 Tage lang	for three days
-------------	----------------

## Locative

in Venedig	in Venice
------------	-----------

## Comitative

mit Franz	with Franz
-----------	------------

## Benefactive

für Franz	for Franz
-----------	-----------

## Reason

wegen Schmerzen	because of pain
-----------------	-----------------

## Directional Source

von Hamburg	from Hamburg
-------------	--------------

## Telic Duration

in zwanzig Minuten	in twenty minutes
--------------------	-------------------

## Secondary Duration

für drei Tage	for three days
---------------	----------------

## Directional Goal

nach München	to Munich
--------------	-----------

## Malefactive

gegen Fritz	against Fritz
-------------	---------------

## Instrumental

mit einem Pinsel	with a paint brush
------------------	--------------------

## Means of Transport

mit der U-Bahn	with the subway
----------------	-----------------

## Path

durch den Fluss	across the river
-----------------	------------------

-----  
 Matter

über Philosophie                      about philosophy

-----

Manner

auf besondere Art                      in a special way

#### **4. Setting the two hierarchies in relation to each other**

In order to position the thematic roles with respect to Cinque's hierarchy of adverb classes some additional considerations have to be made. The usual tests that I applied for determining the PP order do not work here. The Quantifier Scope test requires both elements to be quantifiable, which is not the case for adverbs. Something like

- (9) \* Er hat jedes vielleicht an mindestens einem Tag geschlafen  
 He has every maybe on at+least one day slept

is totally ungrammatical. The Pair List Reading test requires one element to be quantifiable and the other being able to be questioned. While the first condition is always available for the PP, the second is problematic for the adverb. The only possible question word is „wie“ (how), which is not specific enough and does not allow in all cases to answer with the adverb in question:

- (10) Wie hat er an jedem Tag geschlafen?  
 How has he on every day slept  
 'How did he sleep on every day?'

The answer

- (11) Er schlief vielleicht an jedem Tag,

is not fully acceptable. And a list such as:

- (12) Er schlief vielleicht am Dienstag, sicherlich am Donnerstag und möglicherweise am Freitag.

is very odd as an answer for semantic reasons. In addition the Pair List Reading test is only reliable in comparison to the partner sentence where the universal quantified element is exchanged with the question element. Since the adverb cannot be quantified this is not possible.

The Informational Focus is test also problematic because of the bad questioning properties of adverbs. But one can always question the PP and look which positions in the Mittelfeld with respect to the adverb are available for the PP in the answer:

- (13) Wann hat er vielleicht geschlafen?

When has he maybe slept

When did he maybe sleep?

- (14) Er hat vielleicht am Montag geschlafen.

?? Er hat am Montag vielleicht geschlafen.

Though the question itself is not fully acceptable we encounter a sharp asymmetry in the answer. The second is far less acceptable. A close inspection, however, reveals that the sentence itself is problematic even in a context when it is not meant as an answer to the question. It is only possible when including high pitch to the main stress on the verb:

- (15) Hans hat am Montag vielleicht GESCHLA 'FEN.

Hans has on Monday maybe slept

'On Monday Hans maybe slept.'

The interpretation of this sentence is

*There was an event that took place on Monday. It is possible that this event was sleeping (Hans being the subject).*

This observation puts us on the right track. The adverbs in this sentence takes only the verb in its narrow scope. The first sentence has the interpretation:

*There is maybe an event of sleeping on Monday (Hans being the subject).*

The adverb takes scope over the whole event, including the verb and the PP.

In order to examine this phenomenon in more detail here is a more complex example with three prepositional phrases:

- (16) Hans hat es (das Buch) am Dienstag in Venedig mit einem Füller geschrieben.  
 Hans has it (the book) on Tuesday in Venice with a pen written  
 ‘Hans wrote it (the book) with a pen in Venice on Tuesday.’

Inserting the adverb “angeblich” (allegedly) in front of the first prepositional phrase we get:

- (17) Hans hat es angeblich am Dienstag in Venedig mit einem Füller geschrieben.

This sentence has two possible interpretations with respect to the scope of “angeblich”. In the first case it has wide scope over the whole event:

*Someone reported that Hans wrote the book with a pen in Venice on Tuesday.*

In the second interpretation the adverb has only narrow scope over the immediate element to its right:

*It is taken as a fact that Hans wrote the book with a pen in Venice. Someone reported that this event has take place in Venice.*

Interpretations which successively add constituents to the right of the temporal as being under the scope of the adverbial are also remotely possible:

*It is taken as a fact that Hans wrote the book with a pen. Someone reported that this event took place in Venice on Tuesday.*

and

*It is taken as a fact that Hans wrote the book. Someone reported that this event took place in Venice on Tuesday using a pen.*

If however, the adverb moves<sup>3</sup> one constituent to the right as in:

- (18) Hans hat es am Dienstag angeblich in Venedig mit einem Füller geschrieben.

only the interpretation with “in Venedig” under the narrow scope becomes available:

*It is taken as a fact that Hans wrote the book with a pen on Tuesday. Someone reported that this event took place in Venice.*

No wider scope interpretation is possible. Moving the adverb across the next PP has a similar effect:

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<sup>3</sup>. Of course ‘moving’ is here just meant descriptively.

(19) Hans hat es am Dienstag in Venedig angeblich mit einem Füller geschrieben.

Here, also, we get only narrow scope of the adverb over the next constituent to its right:

*It is taken as a fact that Hans wrote the book in Venice on Monday. Someone reported that this event was done by means of a pen.*

Moving the adverb further to the immediate position in front of the verb renders the sentence nearly ungrammatical:

(20) ??Hans hat es am Dienstag in Venedig mit einem Füller angeblich geschrieben.

The only interpretation is the one that takes the main verb in narrow scope:

*It is given as a fact that there was an event of Hans doing something on Monday in Venice to the book. Someone reported that this “doing something” was writing (as opposed for instance to reading or signing)*

The deviation of the sentence is probably due to the specific semantics of the verb. If we take a verb for which it is more natural to be taken into narrow scope we get a fully acceptable sentence:

(21) Hans hat sie (die Prüfung) am Dienstag in Venedig angeblich bestanden.

Hans has her (the exam) on Tuesday in Venice allegedly passed

Hans allegedly passed it in Venice on Tuesday.

(18) can have the implication that the speaker wanted to set the locative “in Venedig” in contrast to anything else which could be paraphrased as:

*It is taken as a fact that Hans wrote the book with a pen on Tuesday. Someone reported that this event took place in Venice and not somewhere else.*

This implication of contrast might lead to the assumption that the described phenomenon is more one of focus than scope. But note first, that the implied contrast is still under the scope of the adverb. We do not get the interpretation that it was Venice and not another (aforementioned) city in which Hans wrote the book with a pen on Tuesday and someone reported the whole fact. That Hans wrote the book with a pen in Venice is taken as a fact. Only the place where this event took place is reported.

If it were a real contrastive focus we would expect sentence (18) to be possible as a correction of a sentence like:

(22) Hans hat es am Dienstag in Padua mit einem Füller geschrieben.

But for me, (18) is not a possible correction of statement (22). The adverb „angeblich“ would not be possible in this case. If I want to make a correction of the place and want to add the information that I have this information from hearsay, I have to express this fact with a more explicit paraphrase:

(23) Aber ich habe gehört, Hans habe es (am Dienstag) in Venedig (mit einem Füller) geschrieben.

‘But I hear, Hans wrote it (with a pen) (on Tuesday) in Venice.’

Neither can (18) be interpreted as the answer to a constituent question such as:

(24) Wo hat es Hans am Dienstag mit einem Füller geschrieben?

‘Where did Hans write it with a pen on Tuesday?’

This time it is possible to add the adverb “angeblich” to the answer but the position of the questioned constituent would be different from that in (18):

(25) Hans hat es am Dienstag mit einem Füller angeblich in Venedig geschrieben.

For these reasons I continue to analyse the difference in interpretation of (17) – (20) as difference in scope of the adverb.

“Angeblich” is not the only adverb with these scope properties. In fact, this behaviour can be observed with all higher adverbs from „glücklicherweise“ (fortunately) to “freiwillig” (voluntarily) in combination with any of the above in section 3 listed prepositional groups. Here are the relevant examples for “freiwillig” including the possible interpretations:

(26) Hans hat es freiwillig am Dienstag in Venedig mit einem Füller geschrieben.

‘Hans voluntarily wrote it with a pen in Venice on Tuesday.’

with the possible interpretations:

a) wide scope:

*Hans voluntarily chose the whole act of writing the book with a pen in Venice on Tuesday*



b) salient narrow scope:

*Hans wrote the book with the pen on Tuesday. He had a choice of date and voluntarily chose Tuesday, even if it was not the best day for him.*

c) less salient narrow scope readings:

*Hans wrote the book with a pen on Tuesday. He had a choice of place and voluntarily chose Venice.*

*Hans wrote the book in Venice on Tuesday. He had a choice of instrument and voluntarily chose a pen.*

(27) ?Hans hat es am Dienstag freiwillig in Venedig mit einem Füller geschrieben.

only possible interpretation:

*Hans wrote the book with a pen on Tuesday. He had a choice of place and voluntarily chose Venice.*

(28) Hans hat es am Dienstag in Venedig freiwillig mit einem Füller geschrieben.

only possible interpretation:

*Hans wrote the book in Venice on Tuesday. He had a choice of instrument and voluntarily chose a pen.*

(29) ?Hans hat es am Dienstag in Venedig mit einem Füller freiwillig geschrieben.

only possible interpretation:

*Hans performed an act with a pen in Venice on Tuesday which involved the book. Though the special act of writing had some disadvantages (cumbersome, took a long time etc.) he voluntary performed this special act.*

Now compare this to the following sentences:

(30) ??Hans hat oft seit letztem Jahr in Venedig mit einem Pinsel gemalt.

Hans has often since last year in Venice with a paint brush painted

‘Often, since last year, Hans painted with a paint brush in Venice.’

This sentence sounds odd. The reason is not an incompatibility of the adverb with the source temporal prepositional expression. This can be verified by moving the adverb to the left.

(31) Hans hat seit letztem Jahr oft in Venedig mit einem Pinsel gemalt.

From our above experience we would expect that now only “in Venedig” is under the scope of the adverb. This interpretation is in fact available:

*Starting from last year there were several events of Hans painting with a paint brush.*

*Amongst those the number of events that took place in Venice is high.*

Surprisingly, one also gets a wide scope interpretation:

*Starting from last year there were several events of Hans painting with a paint brush in Venice. Their number is high compared to a contextual dependent standard.*

Another narrow scope interpretation is also remotely available:

*Starting from last year there were several events of Hans painting in Venice.*

*Amongst those the number of events in which he used a paint brush is high.*

If we move the adverb across the next prepositional phrase to the right

(32) Hans hat seit letztem Jahr in Venedig oft mit einem Pinsel gemalt.

we get only the narrow scope interpretation:

*Starting from last year there were several events of Hans painting in Venice.*

*Amongst those the number of events in which he used a paint brush is high.*

Moving across the last PP gives the slightly degraded sentence

(33) ?Hans hat seit letztem Jahr in Venedig mit einem Pinsel oft gemalt.

Here I get only an interpretation with the verb in narrow scope:

*Starting from last year there were several events in Venice featuring Hans using a paintbrush. Amongst those the number of events in which he painted is high.*

The less acceptability of the sentence is probably due to pragmatic reasons since “painting” is the standard activity that one would do to a paintbrush and it seems strange to have it under these circumstances under the scope of “oft”.

If we abstract away from the leading source temporal we find the same behaviour as with the high adverbs together with a group of (lower) prepositions. And if we omit this problematic PP nothing changes with respect to scope properties. The problem seems to

be this expression “seit letztem Jahr”. It belongs to the group of source temporals, in particular it is what I called “Starting point of ongoing event”. Together with ordinary temporals this group forms the highest part of the hierarchy of thematic roles<sup>4</sup>. In Schweikert(2005) I was not able to establish an ordering relation amongst the members of this group, though there was some data that hinted that ordinary temporals were higher. Therefore, I want to have a look what happens if we exchange “seit letztem Jahr” with “im letzten Jahr”.

(34) ?Hans hat oft im letztem Jahr in Venedig mit einem Pinsel gemalt.

The sentence is better now and I can attribute to it the following interpretation:

*There are several events of Hans painting with a paint brush in Venice. Amongst those was a great number which took place in the last year.*

Exchanging “seit letztem Jahr” with “im jetzten Jahr” in the sentences (31) – (33) does not change the relevant scope properties.

The following adverbs share this behaviour: “normalerweise” (usually), “wieder” (again), “mal eben schnell” (Cinque’s ‘quickly I’), “schon” (already), “nicht mehr” (no longer), “noch” (still), “immer” (always), “gerade” (just), “bald” (soon), “kurz” (briefly), “typischerweise” (typically), “beinahe” (nearly). If the adverb precedes a group of PP of which the highest is a locative expression, we get ambiguity between wide and narrow scope interpretation as in the above case. If, however, a PP from the group Temporal / Starting\_Point\_of\_ongoing\_event / Starting\_Point\_of\_closed\_event / Elapsed\_Time\_of\_ongoing\_event / Atelic\_Duration follows the adverb, the sentences becomes either degraded (to being ungrammatical) or the only possible interpretation is a narrow scope interpretation. Here is another example, this time using the adverb “beinahe” (nearly):

(35) Hans hat beinahe im letztem Jahr in Venedig mit einem Pinsel gemalt.

has the interpretation

*It was nearly last year, when Hans painted with a paint brush in Venice.*<sup>5</sup>

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<sup>4</sup>. Evidential expressions with “gemäß” (according to) are actually even higher, but I do not consider them here

<sup>5</sup>. Remotely possible seems to me in this case also a wide scope interpretation.

(36) Hans hat im letztem Jahr beinahe in Venedig mit einem Pinsel gemalt.

with the interpretations:

*Last year Hans nearly painted with a paint brush in Venice.*

and

*Last year Hans painted with a paint brush. He nearly did this in Venice.*

The lower adverbs like “völlig, komplett” (completely), “gut” (well), “schnell” (quickly II) and also “geschickt” (able) show yet another behaviour. They are all pretty bad if found in front of a PP and produce, in this case, a narrow scope interpretation. Found to the right of the PPs, however, the sentences are all grammatical.

(37) Hans hat am Dienstag in Venedig gut gearbeitet.

Hans has on Tuesday in Venice well worked

‘Hans worked well in Venice on Tuesday’

We get the only interpretation:

*There was an event of working in Venice on Tuesday and this event was done in a good manner.*

(38) ?Hans hat gut am Dienstag in Venedig gearbeitet.

Here we get only a narrow scope interpretation:

*Hans worked several times in Venice of which (only) the one done on Tuesday was done in a good manner.*

(39) ?Hans hat am Dienstag gut in Venedig gearbeitet.

The only possible interpretation is:

*Hans worked in several places on Tuesday of which (only) the one in Venice was done in a good manner.*

Cinque’s hierarchy of adverbs can be subdivided into three different groups with respect to scope relations. The first group consists of all adverbs sitting in Mod<sub>volitional</sub> or above. If we find them in front of any thematic role (temporal or lower, not evidentials) they are ambiguous between a wide scope and a narrow scope interpretation. If one PP of the

kind under consideration is found to their left, they have only narrow scope over the constituent immediately to their right.

The second group – between prospective and habitual aspects– have the above behaviour with respect to locative and lower thematic roles. With higher thematic roles they show a different behaviour. If they precede these PPs they get only narrow scope interpretation and the sentence get slightly degraded down to ungrammatical.

The third group consists of the lowest part up to  $\text{Mod}_{\text{ability}}$ . All adverbs found here have their unmarked position to the right of all prepositional sentence modifiers. If we find them to the left of one, they take it into narrow scope and the sentence becomes less acceptable. Interestingly, this group constitutes exactly the adverbs that we find in English to the right of the verb (The fact that we find the adverb “geschickt” in this very low group is in favour of Cinque’s own revision of the position of  $\text{Mod}_{\text{permission/ability}}$  which he assumes in Cinque(2004:133) to be between  $\text{Asp}_{\text{Completive}}$  and  $\text{Asp}_{\text{prospective}}$ ).

I conclude from these observations that the position of temporal and source temporal is situated between  $\text{Asp}_{\text{habitual}}$  and  $\text{Mod}_{\text{volitional}}$ . The rest of the thematic roles from Manner to Locative are seated as a block between  $\text{Asp}_{\text{completive}}$  and  $\text{Asp}_{\text{habitual}}$ .

## 5. A derivational approach

A generalisation that can be made immediately from the observations in section 4 is to that an adverb takes wide scope over the whole event to its right and optionally narrow scope over each constituent to its right if the adverb and the elements to the right are in base order. If the adverb appears to the left of a higher PP or to the right of a lower PP it has in its (narrow) scope only the constituent immediately to its right.

To analyze this phenomenon in terms of syntactic structure and derivations is not an easy task. The first idea that comes to mind might be to analyze sentences in which the surface order mirrors the base order such as

(40) Hans hat es angeblich am Dienstag in Venedig mit einem Füller geschrieben.

or

(41) Hans hat seit letztem Jahr oft in Venedig mit einem Pinsel gemalt.

as being structures in which neither PP nor adverb has moved. All other sentences are derived from this base order by movement of the adverb. But this analysis is impossible for a sentence like:

(42) Hans hat es am Dienstag angeblich in Venedig mit einem Füller geschrieben.

or

(43) Hans hat es am Dienstag in Venedig angeblich mit einem Füller geschrieben.

A movement to the right would clearly correspond to a movement down the tree since the temporal is higher than the locative expression. This implicates that the trace would C-command the moved element and not vice versa. Movements of this type are excluded by most generative theories (Kayne 1994, Chomsky 1995). Furthermore, a movement of this kind does not explain the different behaviour of (40) and (42) with respect to scope. In (42) we would also expect a wide scope interpretation of the whole event to the right of the (moved) adverb.

Another idea that might come to mind would be to explain the observed word orders and their correspondent scope property with the particular semantics of the involved elements. Adverbs according to this theory are inserted freely in the structure in order to satisfy the scope properties. But this would not account for relationship of the availability of wide scope and the position of the adverb.

The fundamental question is: Why does the adverb take wide scope over everything to its right or alternatively narrow scope over each constituent to its right only in a certain position? And moreover: Why does it take only narrow scope over its immediate constituent in any other position?

Usually it is assumed that an operator should C-command the elements in its scope at least at one point of the derivation. Or in other terms: it should either C-command the element itself or one of its traces. If we look at this from the other side this means that each element which by itself is C-commanded or whose trace is C-commanded by an operator can be interpreted as being under its scope. In order to take only the constituent immediately to its right into its scope the adverb has to C-command only this element at any step of the derivation. In the case of (42) or (43) this becomes a problem. We assume that the adverb “angeblich” is merged after the other three PPs – Instrumental, Locative and Temporal – are already inserted into the structure. This would usually mean that it C-commands the subtree it is merged to and thus all PPs individually and

the whole event, independent on further movements. The only way to prevent this would be to first construct a constituent with the adverb deeply imbedded and then to merge this constituent to the rest of the tree. But then there will never be a landing position for a lower PP available, that is at the same time C-commanded by the adverb and C-commanding the trace of that PP. If my analysis of the scope properties of these adverbs so far is correct, C-command is not a possible relationship in order to establish the scope relation.

Kayne (2000) presented a different approach for operators as “only”, “even” or “too”. The basic idea is that the relevant operator is inserted in a head position higher as usually assumed and attracts a DP (e.g. an object) into its specifier. It is this head specifier relationship in which the scope of the operator over the DP is established (checked, licensed, assigned ... choose your favourite theory). Subsequent movements create the surface order. The important point in his analysis is that all movements are made before spell out. I want to exemplify this mechanism with one of his examples (Kayne 2000:238f). The sentence to be derived is:

(44) John spoke only to Bill.

In Kayne’s analysis the prepositional expression “to Bill” is directly merged to the verb. The operator “only” is merged as a head afterwards. It attracts the PP to its specifier. After this, a light head “W” is merged and attracts the operator head. “Only” moves via head movement across the PP and adjoins to “W”. The rest of the VP is attracted to the specifier of “W”:

				spoke	to Bill
			only	spoke	to Bill
	to Bill <sub>i</sub>	only	spoke	t <sub>i</sub>	
W	to Bill <sub>i</sub>	only	spoke	t <sub>i</sub>	
W+only <sub>j</sub>	to Bill	t <sub>j</sub>	spoke	t <sub>i</sub>	
spoke <sub>k</sub>	W+only <sub>j</sub>	to Bill	t <sub>j</sub>	t <sub>k</sub>	

This proposal seems to me a promising approach to solve the scope riddle of German adverbs. There is, however, one difference between operators like “only” and the adverbs in Cinque’s hierarchy. As Cinque (1999) showed, these adverbs are not single heads. They are full XPs sitting in a specifier position. In order to accommodate this with Kayne’s theory I assume that the operator which attracts lower elements for scope

reason is an empty category OP while the adverbs are sitting in the specifier of the W head. Attraction of other lower material to a position higher has to be attributed to other heads. (Or take the adverbs as sitting in an intermediate position between W and OP). A noticeable advantage is that there is no movement of the adverb from a lower position to W.

However, possible derivations become complicated. I present here one possible solution, starting with a derivation for the unmarked sentence

(45) Hans hat angeblich am Dienstag in Venedig mit einem Pinsel gemalt.

First, the full VP (shell) is constructed, including verb and object (I abstract away from the subject here). Then all three PPs are merged, first the Instrumental, then the Locative and last the Temporal. In the next step the empty operator head OP is merged and attracts the whole lower part. Now the whole constituent “am Dienstag in Venedig mit einem Pinsel gemalt” sits in its specifier and is thus under the scope of the adverb (“angeblich”) related to this operator. A phrase with the adverb in its specifier is merged last.

am Dienstag in Venedig mit einem Pinsel gemalt  
 OP am Dienstag in Venedig mit einem Pinsel gemalt  
 [am Dienstag in Venedig mit einem Pinsel gemalt]<sub>i</sub> OP t<sub>i</sub>  
 W [am Dienstag in Venedig mit einem Pinsel gemalt]<sub>i</sub> OP t<sub>i</sub>  
 angeblich [am Dienstag in Venedig mit einem Pinsel gemalt]<sub>i</sub> OP t<sub>i</sub>

As reported above, not only the whole constituent to the right “am Dienstag in Venedig mit einem Pinsel gemalt” can be interpreted as being under the scope, but also the highest subconstituent “am Dienstag” and marginally the lower subconstituents “in Venedig” und “mit einem Pinsel”. This resembles a case presented by Kayne (2000:245) exemplified with the sentence:

(46) John gave Bill a book, too.

Here, the whole IP “John gave Bill a book”, the subject “John” and the indirect object “Bill” (and marginally “a book”) can be interpreted as being under scope of too. Kayne assumes that the whole IP moves into the specifier of the operator, “*and IP or one of its subconstituents can be focused*” (Kayne 200:246).



In analogy to this case we could account of the above ambiguity in the same way: the whole constituent and each of its subconstituents can be interpreted as being under the foscopus of the adverb.

If we want to relate different interpretations to different structures things become more complicated. For the interpretation with narrow scope only over the Instrumental “mit einem Pinsel” there has to be a landing site for the higher constituent “am Dienstag in Venedig” between the adverb and OP. I do not want to pursue this line in this work.

If the adverb is directly in front of the Instrumental only a narrow scope interpretation is possible:

(47) Hans hat am Dienstag in Venedig angeblich mit einem Pinsel gemalt.

It is expected therefore, to find just the Instrumental in the specifier of OP. Since the adverb is merged above all PPs but the Temporal and the Locative precede it in surface order they have to be moved across the adverb. One possibility is that they are moved individually out of specifier positions. In this case there have to be available landing sites for each overt constituent above the element under narrow scope. This is an option that seems difficult to extend to a universal theory. It seems to me more plausible that they move together as one constituent. But in this case they can move only as a remnant, since they select the lower material. The VP has to be moved out prior into a position between OP and the highest PP:

am Dienstag in Venedig mit einem Pinsel gemalt  
 [gemalt]<sub>i</sub> am Dienstag in Venedig mit einem Pinsel t<sub>i</sub>  
 [mit einem Pinsel t<sub>i</sub>]<sub>j</sub> OP [gemalt]<sub>i</sub> am Dienstag in Venedig t<sub>j</sub>  
 W [mit einem Pinsel t<sub>i</sub>]<sub>j</sub> OP [gemalt]<sub>i</sub> am Dienstag in Venedig t<sub>j</sub>  
 angeblich W [mit einem Pinsel t<sub>i</sub>]<sub>j</sub> OP [gemalt]<sub>i</sub> am Dienstag in Venedig t<sub>j</sub>  
 [am Dienstag in Venedig t<sub>j</sub>]<sub>k</sub>X angeblich W[mit einem Pinsel t<sub>i</sub>]<sub>j</sub>OP[gemalt]<sub>i</sub> t<sub>k</sub>

Now for the derivation of the unmarked sentence (31) which has an interpretation with the adverb “oft” taking wide scope over the final part “in Venedig mit einem Pinsel gemalt” as well as narrow scope over the individual parts of it.

(48) Hans hat seit letztem Jahr oft in Venedig mit einem Pinsel gemalt.

Here first the VP with the two lower PPs is constructed. Then the operator OP is merged and attracts the whole lower constituent into its specifier. It follows the adverb (in a specifier of a higher empty head) and finally the merge of the higher (source) temporal PP:

in Venedig mit einem Pinsel gemalt  
 OP [in Venedig mit einem Pinsel gemalt  
 [in Venedig mit einem Pinsel gemalt]<sub>i</sub> OP t<sub>j</sub>  
 W [in Venedig mit einem Pinsel gemalt]<sub>i</sub> OP t<sub>j</sub>  
 oft W [in Venedig mit einem Pinsel gemalt]<sub>i</sub> OP t<sub>j</sub>  
 seit letztem Jahr oft W [in Venedig mit einem Pinsel gemalt]<sub>i</sub> OP t<sub>j</sub>

Sentences where the adverb is in front of a PP that is inserted into the structure after the adverb as in sentence (49) provide the most problematic cases and the least acceptable sentences.

(49) ?Hans hat oft im letztem Jahr in Venedig mit einem Pinsel gemalt.

The adverb and its operator have to move across the higher adverb to the left before they can attract the Temporal. The easiest way to do this is to assume that the operator itself can freely be merged into the structure any time. In this case the single constituents VP, Instrumental, Locative, Adverb and Temporal are merged one after the other. Then the operator is merged and attracts the Temporal. Since the operator has to be licensed by the adverb, the latter has to be moved to a higher specifier in front of the Temporal-OP complex:

im letztem Jahr oft in Venedig mit einem Pinsel gemalt  
 OP im letztem Jahr oft in Venedig mit einem Pinsel gemalt  
 [im letztem Jahr]<sub>i</sub> OP t<sub>i</sub> oft in Venedig mit einem Pinsel gemalt  
 W [im letztem Jahr]<sub>i</sub> OP t<sub>i</sub> oft in Venedig mit einem Pinsel gemalt  
 [oft]<sub>j</sub> W [im letztem Jahr]<sub>i</sub> OP t<sub>i</sub> t<sub>j</sub> in Venedig mit einem Pinsel gemalt

This derivation shows more movements than are usually found in minimalist theories. This might be surprising at first view but the presented data show (as many other results of linguistic research) that sentences of human language are interpreted in a highly complex manner which is related intimately with their syntactic structure.

## 6. Conclusions

I have shown that scope properties of adverbs with respect to sentence modifying PPs give rise to a subdivision of the Cinque hierarchy of adverbs into three groups which are separated by two blocks of thematic roles. Thus the position of these roles can finally be situated with respect to adverbs resulting in the following combined hierarchy<sup>6</sup>:

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> > ModP<sub>alethic</sub> > Temporal / Starting Point of ongoing event / Starting  
 Point of closed event / Elapsed Time of ongoing event / Atelic Duration > AspP<sub>habitual</sub>  
 > AspP<sub>repetitive(I)</sub> > AspP<sub>frequentative(I)</sub> > ModP<sub>volitional</sub> AspP<sub>celerative(I)</sub> > TP(Anterior) >  
 AspP<sub>terminative</sub> > Asp<sub>continuative</sub> > AspP<sub>proximative</sub> > Asp<sub>durative</sub> > AspP<sub>generic/progressive</sub> >  
 AspP<sub>prospective</sub> > Locative > Comitative > Benefactive > Reason > Source > Telic  
 Duration / Secondary Duration > Goal > Malefactive > Instrumental / Means / Path >  
 Matter > Manner > ModP<sub>obligation</sub> / ModP<sub>permission&abilitz</sub> > AspP<sub>Completive</sub> > VoiceP >  
 AspP<sub>celerative(II)</sub> > AspP<sub>repetitive(II)</sub> > AspP<sub>frequentative(II)</sub>

Whether the temporal roles are really below MoodP<sub>irrealis</sub> and ModP<sub>alethic</sub> or not better in the same position as TP(Past) or TP(Future) has to be examined in detail. The exact position of the three durative roles is also worth of a detailed examination.

Comparing the above hierarchy with adverb positions in English gives another interesting result. The adverbs of group III which are lower than all modifying PPs coincide with those that are found in English to the right of the verb. For these reasons I assume that the verb even in English is not in its base position but instead has moved across the lower adverbs of group III and the PPs. If we add the hypothesis that by doing this it pied pipes the crossed PPs we get an explanation for the fact that the unmarked order for these prepositional modifiers is the reversed one behind the verb.

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<sup>6</sup>. The order of adverbs is based on Cinque (2004:133)

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