

## **Against complementizers**

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### **1. What's in a C°?**

In this programmatic work we intend to explore the possibility that the way we conceive complementation in Romance and Germanic has to be entirely rethought. The basic proposal is that what we call ‘complementizer’ and place in the head of C° is actually not a complementizer but a sort of determiner-like category which is also found in relative clauses as proposed in Manzini and Savoia (2003, 2011) and Kayne (2010). However, differently from the previous accounts, we propose that as in relative clauses, the ‘complementizer’ partially spells out either the nominal element internal to the relative/complement clause or the external nominal modified by the relative/complement clause itself. The different position of the ‘complementizer’ derives the well-known presence and lack of asymmetries in word orders between main and subordinate clauses in respectively German and Italian. In addition, we propose a solution for the difference in terms of extraction from relative and complement clauses, which has remained up to now unaddressed, and thus problematic, in the previous accounts that equate complement to relative clauses. The empirical testing ground is mainly limited to a selection of Romance and Germanic languages, namely Italian, Italian varieties, English, and German. The idea that complementizers are not merged in a C° position is actually not new: Leu (2015) has proposed that Germanic complementizers are merged inside the relative/complement clause and then moved to the left periphery in the light of Kayne’s (2010) intuition that all embedded clauses are in reality relative clauses. In more recent work, Kayne (to appear) proposes that the general distinction in the form of the complementizer found between Romance and Germanic, i.e. the fact that Germanic complementizers have the form of demonstratives while Romance complementizers never do is related to the fact that determiner stranding is impossible in Romance but allowed in Germanic. He notices that in

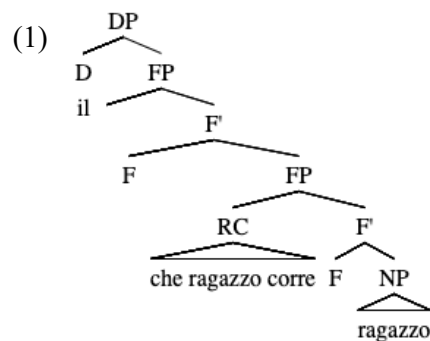
Romance determiners of the demonstrative type are never found as relativizers in relative clauses contrary to what we observe in Germanic. However, Poletto and Sanfelici (2015, 2018b) have shown that there are Italian dialects where this is the case: the distal demonstrative followed by the complementizer-like element *che* is the relative pronoun in some Italian dialects, e.g., in Marebbano, in a way that resembles the Bavarian relative pronoun *der wo* ‘that that’. Hence, Kayne’s observation that the complementizer system of the two language families is different has to be technically implemented in a different way.

Maintaining the general setting of this framework, i.e. that embedded clauses are all relative clauses as already put forth by Kayne (2010) for complement clauses and by Haegeman (2003, 2006, 2010) for some kinds of adjunct clauses (like temporal clauses), we will not take Kayne’s raising analysis but rather capitalize on the analysis of relative clauses originally proposed in Cinque (2013). In this approach, relative clauses are treated as a special type of adjectives, which are thus merged in the same domain in which adjectives are. Therefore, relative clauses modify a nominal expression. In addition, relative clauses contain another nominal expression, which is the relativized phrase and is non-distinct from the nominal expression modified by the relative clause itself. Hence, two nominal expressions are involved in Cinque’s derivation (see already Sauerland 2003): one internal to the relative clause and one external to it and modified by the relative clause itself, which we will refer to as internal and external Head<sup>1</sup> respectively. In other words, all relative clauses amount to correlative structures where one of the two correlative nominal expressions remains unpronounced, at least in languages like German and Italian. Moreover, we follow Poletto & Sanfelici (2018a) in proposing that all relativizers are a determiner-like element paired with the nominal expression (as originally envisaged for *which* relativizers by Kayne 1994). Abstracting away from various technical details, the sentence *il ragazzo che corre* ‘the boy

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<sup>1</sup> We use the term Head with capital H to refer to the nominal element that is relativized or modified by the RC, following the tradition on RCs. Hence, the nominal Head is not a head but a phrase from a syntactic viewpoint.

that runs' has the underlying structure in (1). The external Head is the NP *ragazzo* which is modified by the relative clause. The relative clause is merged in the functional layer dedicated to adjectives, which in Cinque's view is pre-nominal. The internal Head, *che ragazzo*, is a non-distinct copy of the external one.



We frame the proposal for relative clauses within the Featural Relativized Minimality (Starke 2001; Rizzi 2004, 2011, 2013) according to which movement is constrained by a locality condition, which is not absolute but relative to the kind of features involved in the movement as in (2).

(2) In . . . X . . . Z . . . Y . . . A local relation is disrupted between X and Y when:

- a. Z structurally intervenes between X and Y
- b. Z matches the specification in morphosyntactic features of X

Intervention is defined in hierarchical terms through c-command: Z structurally intervenes between X and Y when Z c-commands Y and Z does not c-command X.

On this basis, we propose that complementizers in modern Romance are different from those in some Germanic languages because they realize (part of) the external head, i.e. the object of the main clause, and are therefore to be conceived as part of the main clause, and

not of the embedded clause. The distinction is actually not Romance versus Germanic, since it is possible to find main clause ‘complementizers’ also in Germanic. In Gothic, the complementizer is marked for the case selected by the main verb, i.e. accusative or dative (see Harbert 1983, 1992; Axel-Tober 2017, among others). In (3) the verb *frapjan* ‘understand, perceive’ assigns dative case: the complementizer shows dative case, i.e. *þammei* as shown by the dative form of the ‘complementizer’:

(3) Gothic

ni	<b>frapjip</b>	<b>þammei</b>	all	þata	utapro	inngaggando	in
neg	perceive	that.dat.sg.n.comp	all	that	from.outside	in.going	
mannan		ni	mag	ina	gamainjan		
in	man	neg	may	him	defile		

‘do you not perceive this that whatever enters a man from outside cannot defile him’

(Mark 7:18)

The fact that some ‘complementizers’ can actually be the internal or the external Head of the relative clause fits well with the observation that Germanic languages generally have a rather sharp main versus embedded asymmetry in terms of elements that can be located in the left periphery of embedded clauses (see the well-known V2 phenomenon but also the distinction between central and peripheral adverbial clauses proposed by Haegeman 2003, 2006 on the basis of English corpus data). This is not the case in Romance, where generally FocusP and TopicP are active throughout and can be occupied also in embedded clauses. Assuming that the ‘complementizer’ of the Romance languages does not interfere with the left periphery of the clause because it is in fact not in the embedded clause solves the problem of the lack of main/embedded asymmetry we find in Romance. In other words, the presence of an asymmetry in word orders between main versus embedded clauses can be accounted for in

terms of featural relativized minimality (Rizzi 1990, 2004): the focalized or topicalized phrases do not count as interveners in the ‘complementizer’ movement to CP in Romance languages, more precisely in Italian, since the complementizer is the external Head, and as such it does not belong to the embedded clause. In German and English focalized and topicalized phrases are crossed in the movement of the ‘complementizer’ to Spec-ForceP, since the complementizer is the relative clause (RC)/complement clause-internal Head. The last part of our account addresses the most severe challenge for the proposals which analyses complement and relative clauses alike. It addresses the main problem that all accounts which consider complement clauses as a type of relative clauses have left unsolved, namely why extraction out of complement clauses is grammatical, but it is not so in relative clauses. Framing our proposal within the featural relativized minimality account, we argue that extraction in complement clauses creates an inclusion and/or intersection configuration whereas it creates an identity configuration in relative clauses, which is ruled out in terms of intervention.

The article is organized as follows: in §2, we illustrate the main versus embedded asymmetry which is well known from studies on the Germanic languages. We show that the same type of asymmetry is not present in Romance. In §3, we summarize data from our previous work that show that some Italian dialects indeed display demonstratives as relativizers as is the case in some Germanic languages. In §4, we provide empirical evidence that the element *che/que* supposedly sitting in  $C^{\circ}$  cannot be a head, since it can be modified and does not select a single type of complement, as is typically the case for functional heads. §5 provides the alternative analysis in terms of structure that is identical to the one proposed by Cinque (2008, 2013) for relative clauses. In §6 we address a few challenges arising from our proposal, among which extraction phenomena. §7 concludes the paper and summarizes some possible future perspectives.

## 2. Main versus embedded asymmetry: Romance versus Germanic

Haegeman (2003, 2006) notices that in English there are two types of adverbial clauses, central (4) and peripheral ones (5) and that only peripheral ones have a ‘free’ left periphery which can be occupied by a left dislocated element.

- (4) a. While I was revising this paper last week, I thought of another analysis.  
b. \*While this paper I was revising last week, I thought of another analysis.

(Haegeman 2012: 155)

- (5) And yet some popular things are so brilliant, like The Simpsons and the Angel of the North. While other brilliant things hardly any one buys – I’d put my friend’s first novel and sherry in this category. (Observer 6.12.09 page 34 col 2)

(Haegeman 2012: 159)

She assumes that the reason for the impossibility of a left dislocated element in central adverbial clauses as in (4b) is the presence of a null operator, which blocks movements from the clause by minimality. Conversely, peripheral adverbial clauses are not derived by operator movement to the left periphery, and thus, argument fronting is predicted to be licit (4): since there is no operator movement to the left periphery of the clause, it does not count as an intervener for further movements, such as argument fronting, in terms of featural relativized minimality.

If we look at Romance languages like Italian, which has a particularly rich left periphery, we see that left dislocation is possible in all embedded clauses without any restriction, so there is no detectable distinction between core and peripheral adverbial clauses.<sup>2</sup>

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<sup>2</sup> We acknowledge that the data on Italian central adverbial clauses are more complex. For instance, there is a degree in the acceptability of DP and PP fronting depending on the element introducing the central adverbial clause. Whereas in adverbial clauses introduced by *quando* ‘when’ and *se* ‘if’, DP and PP fronting is perfectly

(6) Italian

a. Quando, a Gianni, hanno detto di partire, c'è stata una  
when to Gianni have.3pl said of leave there is been a  
sollevazione generale  
revolt general

‘When they told Gianni to leave, a general revolt arose.’

b. Se, a Gianni, hanno detto di partire, ci deve essere stato un motivo  
if to Gianni have.3pl said of leave there must be been a reason

‘If they told Gianni to leave, there must have been a reason.’

c. Mentre a Paolo parlavano di linguistica, a Gianni stavano facendo un test  
while to Paolo talk.3pl of linguistics, to Gianni stay.3pl making a test  
psicologico

psychological

‘While they were talking about linguistics to Paolo, to Gianni they were doing a  
psychological test.’

d. Mentre a Paolo hanno parlato di linguistica, a Gianni faranno un test  
while to Paolo have.3pl talked of linguistics, to Gianni make.3pl a test  
psicologico

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acceptable in both central and peripheral ones, in central adverbial clauses introduced by *mentre* ‘while’ fronting is generally degraded. Although we leave this issue for future work, we briefly speculate on a possible line of argumentation. The intuition is that the anaphoric tense relation between the embedded event in these latter clauses and the matrix event plays a role and thus counts as an ‘intervener’ in DP/PP fronting. When the temporal coordinates of the embedded event totally overlap with those of the matrix event, fronting is degraded in central adverbial clauses as in (i). When there is only a partial overlap, as when we add the adverb *proprio* ‘really’ as in (ii), fronting is as felicitous as in the other central adverbial clauses with *quando* ‘when’ and *se* ‘if’.

- (i) \*???Mentre l’ articolo lo stavo riguardando, ho pensato ad un’analisi alternativa.  
while the paper it was.1sg revising, have.1sg thought at an analysis alternative
- (ii) Proprio mentre l’ articolo lo stavo riguardando, ho pensato ad un’analisi alternativa.  
really while the paper it was.1sg revising, have.1sg thought at an analysis alternative  
‘(really) while this paper I was revising it, I thought of another analysis.’

Notice that recent work by Dal Farra (2020) shows that adverbial islands do not behave uniformly also with respect to extract and parasitic gaps licensing, and proposes a featural relativize minimality account for the different behaviors of ‘islands’.

psychological

‘While they talked about linguistics to Paolo, they will do a psychological test to Gianni.’

If we take for instance the minimal pair in (6c) and (6d) we notice that in both cases we can add a left dislocated PP<sup>3</sup> without any problem to both sentences, although the one in (6c) has an event structuring interpretation and it is thus a central adverbial clause and the one in (6d) has the discourse structuring interpretation of a peripheral one. This is per se an interesting asymmetry between Romance and Germanic, which might be attributed to the properties of left dislocation in the two language families. Indeed, as Haegeman suggests, Romance topicalized phrases, but not the Germanic ones, are specified for a [+Topic] feature which overcomes minimality since it dissimilates the left dislocated elements, which will be [+Topic] from the operator specified for [+Q] in central adverbial clauses, thereby creating a disjunction or an intersection configuration. However, it should be noticed that in Rizzi (2004), all topics, not only clitic left dislocations, should be specified for the feature [+Topic]. Hence, a more fine-grained analysis of the featural configurations involved in central adverbial clauses in the two groups of languages should be advocated.

A further asymmetry between main and embedded clauses is the well-known one found in some V2 Germanic languages, where embedded clauses cannot be a V2-clause unless they are selected by a special class of verbs commonly known as ‘bridge verbs’ (see Vikner 1995). We discuss the phenomenon on the basis of German. In (7a–b) the matrix predicate is a bridge verb and thus can select for both a complement clause with embedded V2 as in (7a) and a complement clause with the verb in clause-final position introduced by the complementizer *dass* ‘that’ (6b). Conversely, in (8a–b) the matrix predicate is not a bridge

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<sup>3</sup> The reason why we use a PP here and not a DP is that the DP could be ambiguous with a case of Hanging Topic, which is notably not possible in embedded domains for many speakers. In order to avoid this possible confounding factor, we use a PP, which can only be interpreted as a true left dislocation (see Benincà and Poletto 2004).



verb and, thus it cannot select for a V2 complement clause (8a). When the matrix predicate is not a bridge verb, it can only select for a complement clause introduced by the complementizer which has the verb placed in clause-final position (8d).

(7) German

- a. Er sagt, du **wirst** kommen bridge verb  
 he says, you will come
- b. Er sagt, dass du kommen **wirst**  
 he says that you come will  
 ‘He says, you will come’

(8) German

- a. \*Er bedauert, du **wirst** kommen non-bridge verb  
 he regrets you will come
- b. Er bedauert, dass du kommen **wirst**  
 he regrets, that you come will  
 ‘He regrets that you will come’

Interestingly, the modern Romance languages which still display V2, such as Badiotto, show that it is possible to embed at least some types of V2 constructions beyond complement clauses selected by bridge verbs. The point is that some types of fronting are blocked, but not all of them, as is the case in some Germanic languages, e.g., German, but this is true for all classes of main verbs irrespectively of their status as bridge verbs (see Poletto 2000: 98-102). Hence, the high adverb *magari* ‘perhaps’ can be placed between the ‘complementizer’ and the verb in a V2 complement clause selected by both a bridge verb as in (9a) and a non-bridge verb in (9c). In addition, temporal adverb *sagn* ‘now’ can be focalized in the V2 complement

clause selected by both a bridge (9b) and non-bridge verb (9d). However, it is not possible to have embedded V2 in non-bridge verb complements when the fronted XP is an argument.

(9) Badiotto

- a. Al m a dit c magari mang-el a ciasa bridge verb  
 he me has told that perhaps eats-he at home  
 ‘He told me that perhaps he will eat at home’
- b. Al m a dit c SAGN va-al a ciasa  
 he me has told that now goes-he at home  
 ‘He told me that NOW he is going home’
- c. Al s depleej c magari mang-el a ciasa non-bridge verb  
 he is sorry that perhaps eats-he at home  
 ‘He is sorry that perhaps he will eat at home’
- d. Al s despleej c SAGN va-al a ciasa  
 he is sorry that now goes-he at home  
 ‘He is sorry that NOW he is going home’

This lack of asymmetry shows once again that the way the presence of the complementizer strongly blocks movements in some Germanic languages is not mirrored in the Romance languages we reviewed.

### 3. Is the complementizer really a head?

If we consider the distribution of *che/que*, it should display the typical pattern of a functional head, i.e. we would expect it not to be modified or occur in complex forms, not to occur with a complement that is not the TP it selects for. In what follows we show that *che/que* can indeed represent a whole XP and not a head since a) it can occur in complex forms, b) it can

be modified by an adjective or by a PP and c) it can take complements that are not a TP, contrary to functional heads, whose complement is unique.

### 3.1 Complex forms

Once we start calling into question the fact that *che/que* is a complementizer in the sense that it occupies C°, the first striking fact is that *che/que* can be combined with other elements to create different types of embedded clauses. It can occur in combination with an adverb or a preposition in both Italian, Spanish, and French.<sup>4</sup>

Table 1. Adverbs and prepositions modifying *che/que*

French	Italian	Spanish	Translation
<i>de sorte que</i>	<i>cosicche</i>	<i>así que</i>	so that
<i>bien que</i>	<i>benché</i>	<i>aunque</i>	although
<i>pourvu que</i>	<i>purché</i>	<i>siempre y cuando</i>	if
<i>si bien que</i>	<i>sicché</i>	<i>por lo tanto</i>	so that
<i>parce que</i>	<i>perché</i>	<i>porque</i>	because
<i>puisque</i>	<i>poiché</i>	<i>puesto/ya que</i>	as
<i>pendant que</i>	<i>intanto che</i>	<i>mientras</i>	while
<i>tant que</i>	<i>fi tanto che</i>	<i>en tanto que</i>	until
<i>jusqu'à ce que</i>	<i>finché</i>	<i>mientras</i>	until
<i>avant que</i>	<i>prima che</i>	<i>antes de que</i>	before
<i>après que</i>	<i>dopo che</i>	<i>después de que</i>	after
<i>bien que</i>	<i>per quanto che</i>	<i>por más que</i>	although

<sup>4</sup> As pointed out by a reviewer, various accounts have been proposed in the literature to analyze certain combinations in Table 1. For instance, for the Spanish/Catalan *si que* the general claim is that *si* is a specifier and *che* is the head of the subordinate clause (Battlori & Hernanz 2013, Villa-Garcia & González-Rodríguez to appear). Notice that these analyses are consistent with our theoretical-neutral observation that the element *che* can be combined with adverbs and prepositions.

<i>malgré que</i>	<i>malgrado che</i>	<i>a pesar de (que)</i>	although
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In some cases, the complex complementizer is univerted and thus it is written together with *che/que*, as in *benché* ‘although’, but it is not in others, as in *dopo che* ‘after’. Since *che* can actually be combined with various elements, we conclude that the ‘complementizer’ *che* is a heterogeneous element and therefore, the notion of ‘complementizer’ cannot be not a primitive one (Bayer 2014, Bayer and Viesel 2019). Similarly, in German and in German varieties, various elements can modify the ‘complementizer’ *dass*: *als dass* ‘rather than’, *auf dass* ‘so that’, *bis auf dass* ‘except that’, *nicht/kaum dass* ‘not that/hardly’, *nachdem dass* ‘after that’, *während dessen dass* ‘while’ (Noonan 2017; Blümel and Pitsch 2019).

### 3.2 Nominal usage

The element *che/que* is actually a nominal element, since it can be combined with a definite article as in (10a), a preposition, as in (10b), and an indefinite article as in (10c). In addition, it functions as a sentential pronoun in (10d), not occurring with any article.

#### (10) Italian

a. Gianni è partito, **il che** mi ha stupito molto

Gianni is left the that I.cl.dat has surprised much

‘Gianni has left, which surprised me’

b. Gianni mi ha detto di cucinare bene, a-**l che** ho

riso

Gianni cl.1sg.dat have.3sg told of cook well at-the that have.1sg

laughed

‘Gianni told me that he cooks well, at which point I laughed.’

c. Ha **un (certo) che** di suo padre

have.3sg a certain that of his father

‘He has something of his father in his looks’

d. Gianni è finalmente guarito, che è la cosa più importante

Gianni is finally healthy that is the thing more important

‘Gianni is finally healthy again, which is the most important thing.’

In (10a) and (10b) *che* resumes the entire CP and thus, it seems to function as a pronoun. However, since pronouns do not co-occur with either definite or indefinite determiners, it follows that *che* cannot be defined as a pronoun. Notice that in (10a,b) it is not the article which resumes the CP, but rather *che*. This conclusion is further supported by (10d), in which *che* appears without the determiner.<sup>5</sup> In (10c) *che* seems to function as a noun. However, it cannot be a standard noun either, since, when preceded by the article, *che/que* cannot be modified by adjectives except for the adjective *certo* ‘some/sure’ and this only if the article is indefinite as in (10c). In addition, the modification by this very specific adjective is highly constrained since *certo* can only occur before *che*.

### 3.3 *Wh*-determiner

Although it is compatible with a definite and indefinite determiner, *che* can be used as a *wh*-interrogative occurring as a bare element as in (11a) or combined with a classifier-like element as in (11b), or combined with a lexical noun (11c):

(11) Italian

a. **Che** fai?

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<sup>5</sup> When *che* is the subject of a nominal predicate, it can alone, i.e. without the article or the classifier-like *cosa*, resume a sentential antecedent, as in (10d) (Cinque 1988). This seems to suggest that the presence of the article in (10a,b) depends on the more general property of Modern Italian, which requires a lexicalized D<sup>0</sup> in argument position.

what do.2sg

b. **Che cosa** fai?

what thing do.2sg

‘What are you doing?’

c. **Che libro** leggi?

what book read.2sg

‘What book are you reading?’

When it has the function of a *wh*-determiner, it is compatible with adjectives, both pre and postnominal adjectives (12).

(12) Italian

a. **Che bel libro** leggi?

what nice book read.2sg

‘What nice book are you reading?’

b. **Che libro interessante** leggi?

what book interesting read.2sg

‘What interesting book are you reading?’

If we want to keep the idea that *che/que* is always the same element, as Manzini & Savoia (2003, 2011) also propose, we have to assume that *che/que* is neither a real  $D^{\circ}$  nor a real  $N^{\circ}$ , since it can occur with both. Given its position with respect to adjectives, it seems to have the distribution of a quantificational element similar to quantifiers like *molti* ‘many’ and *pochi* ‘few’ which are also compatible with a definite or indefinite article but can also occur without it.

### 3.4 Other complements

One of the less known facts about *che* is that there exist cases where the element *che* occurs in contexts where there is no clause. For instance, Venetian uses a complementizer with functions that have nothing to do with embedding, as the following examples show:

(13) Venetian (North-Western Italian dialect)

- a. Massa **che** ben  
too that good  
'really good'
- b. Altro **che** ben  
other that well  
'really well'
- c. Solo **che** caffè  
only that coffee  
'only coffee'

In (13a) *che* occurs with an adjective, in (13b) with an adverb. Occurrences where *che/que* is paired to a nominal in constructions with negation, comparatives, focus or other types of operators are well-known in the Romance languages, as in French.

(14) French

- Il ne boit **que** du café  
he not drink.3sg que of-the coffee  
'He only drinks coffee'

Once again, we would not expect a functional head to select different types of constituents as its complement.

### 3.5 Summing up

We have shown that the distribution of the element *che* is heterogeneous as *che* appears in different syntactic contexts. It can function as a ‘pure’ complementizer, a ‘modified’ complementizer, a pronoun, a noun, a determiner, and a quantificational adjective. If we assume the Kaynian view according to which lexical identity should be viewed as syntactic identity (see also Manzini & Savoia 2003, 2011), we should conclude that *che* is a quantifier. Manzini & Savoia (2003, 2011) already suggested something along these lines. They argue that in Italian varieties *che* is a *wh*-pronoun in all the contexts where it appears and that the different interpretations of *che* stem from its range domain. *Che* introduces a variable that ranges over individuals in relative clauses, whereas it ranges over propositions in the case of complement clauses. We follow their idea and we further specify that *che* is a quantifier, not a real pronoun, since it is compatible with an article while pronouns are not, and as a quantifier it requires a minimal category to quantify over.

## 4. Demonstratives are relativizers

Once we have established that *che/que* cannot be a complementizer in the sense that it cannot be a  $C^{\circ}$ , but rather a quantifier-like element, we have to consider Kayne’s observation that the form of the complementizer is related to the demonstrative in Germanic but to a *wh*-item in Romance, and that this is due to the fact that Romance cannot strand determiners.<sup>6</sup> We will show that Kayne’s (to appear) distinction about Germanic and Romance relativizers is indeed not tenable, since Italian varieties do display demonstratives that are relativizers with a

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<sup>6</sup> There are indeed cases of complementizers related to *wh*-items in German dialects, like Bavarian *wo*.



different gradient of spreading from appositive relative clauses (in Venosino and Campobellese) as in (15) to restrictive PP relatives (in Marebbano) as in (16) (see Poletto & Sanfelici 2018b).

(15) Campobellese (Southern Italian dialect, Sicilia)

- a. Giovanni, chidru ca vitti aieri a lu mercatu, si maritaju  
Giovanni, that that saw.1sg yesterday at the market refl married.3sg  
na simana passata.  
a week ago

‘Giovanni, whom I saw yesterday at the market, got married last week’

- b. Gianni, cu chidru ca parlavu aieri, mi telefona  
Gianni with that that talked.1sg yesterday cl.1sg phone.3sg  
stamtina  
this\_morning

‘Gianni, with whom I spoke yesterday, phoned me this morning’

(16) Marebbano (Ladin dialect, Trentino Alto Adige)

- a. L seniëur de chël che cunësci la sor röa enco  
the man of that that know.1sg the sister arrive.3sg today

‘The man of whom I know the sister arrives today.’

- b. Mio pere a chell che mia oma à albù rajun  
My father to that that my mum have.3sg had reason  
da\_ti\_scràiè\_ados laura trep.  
to\_reprimand works too\_much

‘My father, whom my mum rightly reprimanded, works too much.’

This means that we have to find another explanation for the points above: a) the fact that the Romance languages do not display such a robust asymmetry between main and embedded clauses as the Germanic languages do (independently from verb second), b) the fact that it is not tenable to assume that *che/que* is a complementizer because it occurs in constructions in which it is clearly not, c) the fact that the morphological distinction between Germanic and Romance demonstrative versus *wh*-forms cannot be due to the lack of determiner stranding since some Romance varieties can also display demonstratives are relativizers but still do not use this form for the ‘complementizer’.

### 5. *Che/que* is a quantifier

As anticipated in the introduction, we take Kayne’s view that all embedded clauses are a form of relative clauses.<sup>7</sup> However, we do not assume a raising analysis as he does but a Double-Headed analysis à la Cinque (2008, 2013, 2019), where either the external or the internal Head can be realized depending on which of the two c-commands the other. In our previous work, we have tried to derive this distinction from other independent properties of the language, but for the moment we gloss over this point to concentrate on the identification of the type of relative clause the Romance languages use in ‘embedded’ contexts. The Double-Headed analysis of relative clauses as such explains a number of different phenomena and we surmise that it can also explain the distribution of *che/que* in Romance. In what follows, we first summarize the theoretical premises on which we base our proposal (§5.1). In particular, we revise Cinque’s (2008, 2013, 2019) analysis of RCs in the modified version proposed by Poletto & Sanfelici (2018a). Next, we put forward the first piece of our proposal (§5.2), which builds on the double-headed derivation of RCs: we argue that whereas some Romance languages, e.g., Italian, the ‘complementizer’ is the RC-external nominal, modified by the

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<sup>7</sup> This view is also shared by non-generative works as for instance Meillet & Vendryes (1924), Muller (2002).

‘complement clause’, in some Germanic languages, e.g., German and English, the ‘complementizer’ is the RC-internal nominal. Finally, in §5.3 we provide further evidence in support of our proposal.

### 5.1. Theoretical premises: RC derivation

We briefly summarize the analysis by Cinque (2008, 2013, 2019), in the modified version proposed by Poletto and Sanfelici (2018a). RCs are adjective-like structures which are merged in the specifier of a functional projection of the DP. Finite restrictive and free RCs are merged in a projection above numerals and below universal quantifiers, whereas appositive relatives are merged higher than universal quantifiers.<sup>8</sup>

Relative clauses modify a nominal element which in Cinque’s term is labelled external Head<sup>9</sup>. In addition, there is another Head internal to the relative clause. These two Heads are non-distinct copies of each other (as in Sauerland 2003). In Cinque’s approach, the two Heads are dPs, a cartographic notation that captures two well-known observations: (i) the fact that the Head in (restrictive and free) RCs is indefinite (Bianchi 1999; Cinque 2008a and references therein)<sup>10</sup>, and (ii) the fact that both the nominal expression, multal/paucal quantifiers, cardinal numerals, and adjective phrases can reconstruct, i.e. are represented in the RC (Sauerland 2003; Cinque 2008a, 2013).<sup>11</sup> The internal Head always moves to Spec-CP and remains inside the RC. As in Poletto & Sanfelici (2018a), we propose that the relativizer is a determiner-like element associated with a nominal expression, either null or lexical.

Hence, the RC [che ragazzo beve] ‘which boy drinks’ will be merged as a modifier of the

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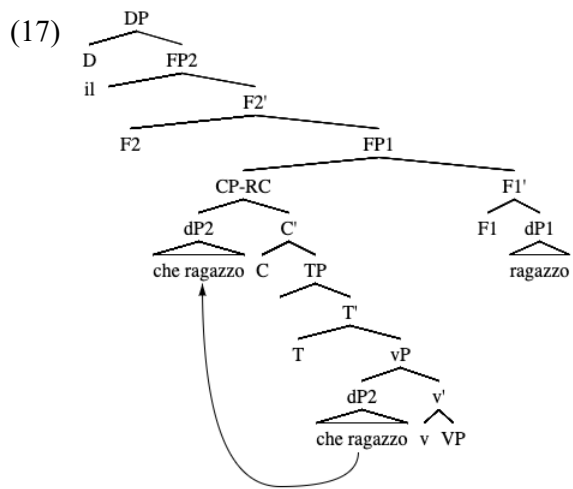
<sup>8</sup> As for adjunct clauses, such as temporal ones, Haegeman (2003, 2006) proposes to analyze these sentences as free RCs, such that a sentence like ‘when Mary arrives, I will be there’ would have the representation ‘AT THE TIME when Mary arrives, I will be there’. Notice that under Cinque (2008), free RCs have the same derivation as restrictive RCs, with the only difference of having a null vs. lexical Head respectively.

<sup>9</sup> As stated in fn. 1, we use the label ‘Head’ with capital H to identify the nominal element that is relativized or modified by the RC. In so doing, we reserve the term head with lower h for syntactic heads.

<sup>10</sup> See also Kayne (1994: ch.9 and p. 167) for a similar proposal.

<sup>11</sup> The notation dP in Cinque (2008) and more generally in the cartographic literature stands for an indefinite NP to which adjectival modifiers (direct modification adjectives and numerals) can be adjoined.

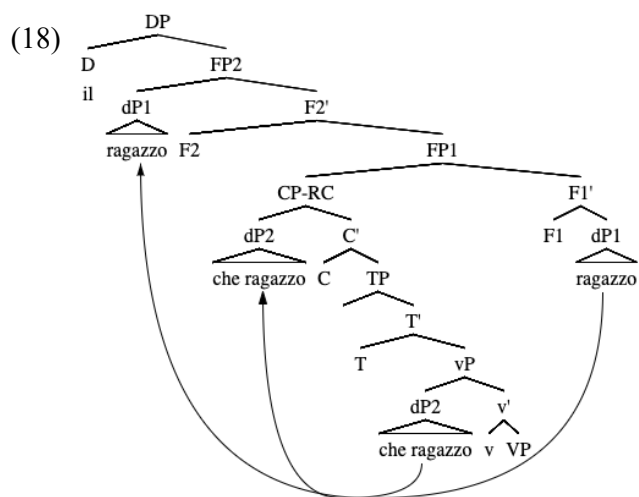
lexical expression *ragazzo* ‘boy’, dP1, which is the RC-external Head. It will also contain an internal Head, dP2, formed by the *wh*-element paired with the lexical nominal *ragazzo* ‘boy’ which will be non-distinct from the RC-external Head, i.e. [*che ragazzo*]. Inside the RC, the internal Head will raise to Spec-CP. In (17) we exemplify the principal ingredients of the derivation.



Cinque (2008) further suggests that two mechanisms to derive RCs can both be available in a language: raising or matching, depending on which Head c-commands the other at the end of the derivation. Building on Kayne’s version of c-command according to which an XP in Spec-ZP can c-command out of the ZP (Kayne 1994: 16, 25–26),<sup>12</sup> Cinque (2008) proposes that the spelled-out Head will be the dP that c-commands the other head: it surfaces at PF and controls the PF deletion of the other dP. If the internal Head, dP2, raises higher than the external one, the internal Head c-commands the external one as in (17). Hence, dP2 is spelled out, whereas the external Head is deleted. In this case, RC derivation is obtained through raising and thus, reconstruction effects are expected.

<sup>12</sup> Kayne (1994: 16, 25–26)’s definition of c-command is the following: ‘X c-commands Y iff X and Y are categories, and X excludes Y and every category that dominates X dominates Y’ (p. 16), ‘a specifier c-commands out of the phrase that it is the specifier of’ (p. 25).

If the external Head moves higher, to Spec-FP2, it c-commands the internal one as in (18). Thus, the external Head, dP1, receives spell-out and the internal one is deleted at PF. In this case, matching is the operational derivation and no reconstruction effects are detectable: the spelled-out head is in fact not linked to the chain inside the RC.



The question that has remained unsolved until now is why sometimes the internal Head is spelled out and sometimes it is the external one that receives spell-out. In other words, what constrains the raising vs. matching derivation of relative clauses? We will show that if we extend this analysis to complement clauses, we can solve this problem: the raising vs. matching derivation seems to be dependent on the featural make-up of the ‘complementizer’ on which depends its ability to have cataphoric force. In other words, from the internal feature specification of the ‘complementizer’ derives its possibility to be the external or the internal Head: if the ‘complementizer’ contains a variable, whose value can be provided by the following context it can be the external Head, thereby performing the correlative element; on the contrary, if the ‘complementizer’ does not contain any variable which can be bound by the following context, it can only be the internal Head and crucially cannot function as a cataphora. In other words, being a cataphora is similar to being a *wh*-item, in the sense that

there must be an unsatisfied value inside its internal structure.<sup>13</sup> Notice that elements like demonstratives-based complementizers as the German(ic) ones are by their internal constitution non-cataphoric, since they contain a precise indication about the reference, a sort of deictic pointer which even specifies for the location (close to or far from the speaker and in some systems also to the addressee) of the XP. On the other hand, Romance ‘complementizers’ are *wh*-items, and as such they contain a variable which needs saturation (from the answer of the interlocutor in interrogatives, or from the following context in the case of relative clauses).

## 5.2. Complement clauses as relative clauses

We extend the analysis discussed for relative clauses in the previous section to complement clauses. Hence, similar to what we suggested for relative clauses, we propose that there is a gap in complement clauses, thereby following most syntactic works on complement clauses (Kayne 2010; Haegeman 2012).<sup>14</sup> We further argue that the complement/relative clause

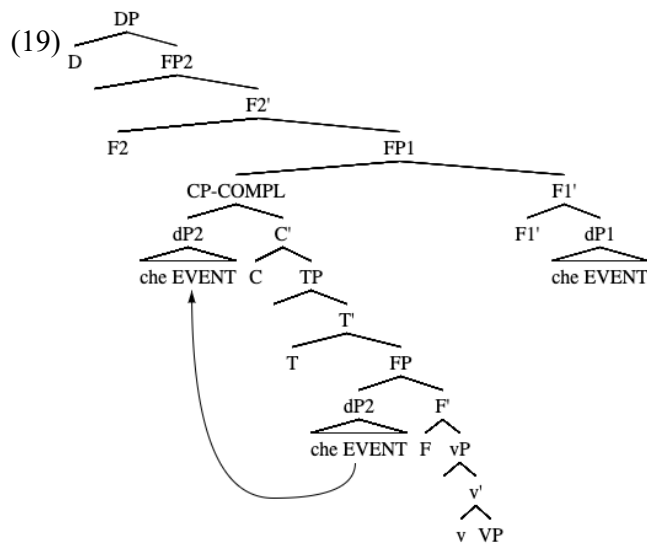
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<sup>13</sup> Alternatively, one might think that since the internal Head in restrictive and free relative clauses is an indefinite nominal, and Indo-European languages have two sorts of relativizers, the *wh*- and the demonstrative-based ones, the use of one form or the other strictly correlates with the type of derivation available for relative clauses. Under this reasoning, the Romance *wh*-forms, which are morphologically indefinite quantifiers, should indicate a raising derivation: the relativizer is then the stranded determiner of the internal Head. In contrast, some Germanic relativizers, such as English *that* or German *der/die/das*, which morphologically contain a morpheme related to definiteness, *th-at*, *d-er/d-ie/d-as* (see also Leu 2015bb; Baunaz and Lander 2018), are expected to indicate a matching derivation of relative clauses, i.e. to be the stranded determiner of the external Head. However, this intuitive correlation between the morphological shape of the relativizer and the type of derivation does not hold. In fact, reconstruction effects, evidence for a raising derivation, are found in English as well as in German *that* and *der/die/das* relative clauses, signalling that the spell-out Head is the internal one (Kayne 1994; Heycock 1995): *I am looking for someone that knows every paper* (some >every, every>some). Conversely, no reconstruction is also attested in Italian *che* appositive relative clauses (Bianchi 1999). Hence, although one may think and wish that the two forms of the relative pronouns, the *wh*-form and the demonstrative, directly mirror respectively the internal vs. external Head of the relative clause (see Sichel 2018), on the basis of the reconstruction data reported in the literature, we are forced to conclude that both *wh* and demonstrative relativizers can in fact be the stranded determiner of the internal Head.

<sup>14</sup> A long-lasting debate on complement clauses regards whether there is a gap or not in complement clauses, and, if there is one, what kind of gap we are dealing with. Various proposals have been put forward, which roughly speaking can be divided in two groups. Under the semantic accounts complement clauses are gapless (Kratzer 2006, Moulton 2014, among many others). In contrast, most syntactic works posit a gap (Haegeman 2012). Within the syntactic studies that posit a gap, there is no consensus on the type of gap. For instance, Haegeman (2012) proposes that there is an event variable bound by a null operator that has moved to Spec-CP. Kayne (2010) claims that the Head of complement clauses is some sort of null nominal, like FACT. Kayne (to appear) argues that complement clauses are headed by the prepositional phrase IN FACT.

modifies a null nominal, whose nature is something like EVENT. This null nominal is the external Head, dP1. Recall that being a dP1, the null element can actually be modified by indefinite determiners/quantifiers and adjectives up to numerals (see Cinque 2013).

We then posit an RC-internal Head, non-distinct from the null nominal EVENT, which is paired with the ‘complementizer’. Therefore, the internal Head has the form *che* EVENT ‘that EVENT’, which as in relative clauses always raises to Spec-CP. The ingredients of our proposal applied to complement clauses are exemplified in (19). Recall that being a dP1, the null element can actually be modified by indefinite determiners/quantifiers and adjectives up to numerals (see Cinque 2013): we illustrate this aspect by proposing that both Heads are modified by *che*.



Our claim rests on Higginbotham’s (1985, 1989, 2005) proposal according to which the thematic grid of verbs contains an additional slot for an argument associated with the event theta-role. All predicates are assumed to provide an extra argument position, or event variable in Higginbotham’s terms, that is subject to existential quantification at the level of semantic interpretation. Although a more precise classification of the event phrase is desirable, for the

moment we posit that the event argument is merged in the highest projection of the vP layer (see Chung & Ladusaw 2004).<sup>15</sup>

The derivation in (19) says that complement clauses have a correlative structure, an old proposal in the historical literature (see among many others Meillet & Vendryes 1924). The correlative construction is widely attested in old Indo-European languages (Lühr 2008).<sup>16,17</sup> An example of a complement clause in a correlative construction is provided in (20).

(20) Old High German

gihortun        **thaz**   **thaz**   Heilant ... furifuori  
 hear.pst.3pl   that   that   savior ... through\_travel.pst.sbj.3sg

‘They hear that/the following that the savior ... would travel through (Tatian 115,1)

Similarly, Axel-Tober, Holler, & Trompelt (2016) report that in present-day Modern German written texts collected in the corpus DeReKo, out of 3,500 complement clauses, 848 were realized with the correlative construction as in (21).<sup>18</sup>

(21) a. Peter        bedauert        **es**,        **dass**        er        gelogen        hat  
          Peter        regret.3sg        it        that        he        lied        has

‘Peter regrets it that he has lied’

<sup>15</sup> Various details remain to be worked out, such as the right position and the licenser(s) of the event variable. For instance, Higginbotham (1985) suggests that the event argument must be existentially bound by tense and is associated with the lexical head of the predicate. Alternatively, Borer (2005) concluded that the event argument is associated with its own node EventP and can be licensed by various elements.

<sup>16</sup> Lühr talks about ‘explicative constructions’ rather than ‘correlatives’ since the clause can be associated with a full noun.

<sup>17</sup> See Bayer (2001) for a similar proposal on complementation in Bengali.

<sup>18</sup> Similar constructions are also found in several regional variants of colloquial Italian where the object clitic *lo* resumes the embedded clause:

(i)        *non lo so, cosa ha fatto*  
          not it know, what has done  
          ‘I do not know what he did.’



- b. Sie stimmen dem zu, dass die Landes-entwicklung im  
 they agree that to that the regional-development in.the  
 Wirtschafts-ministerium angesiedelt wird  
 economy-ministry integrated will

‘They agree to (that) that regional development be integrated into the ministry of the economy’

- c. Er ist sich **dessen** bewusst, **dass** der Befehl rechtswidrig ist  
 He is self this.gen aware that the order illegal is

‘He is aware of the fact that the order is illegal’

(examples taken from Axel-Tober 2017: 38)

Notice that the presence of the correlative element becomes obligatory if the associated *dass*-clause is fronted as in (22) (Altmann 1981:172).

- (22) a. Daß die Erde rund ist, \*(dessen) war sie sich bewußt  
 that the earth round is, this.gen was she self aware

‘That the earth is round, of that she wasn’t aware’.

- b. Daß die Erde rund ist, \*(darüber) hat sie sich gewundert  
 that the earth round is it-about has she self surprised

‘That the earth is round she was surprised about that’

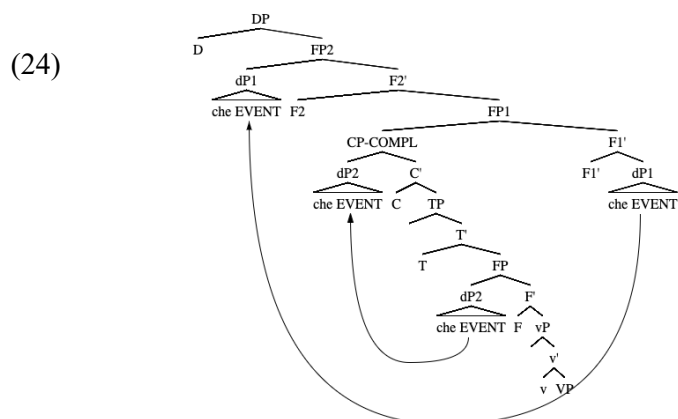
As shown in the above examples, the complement clause is associated with a cataphoric pronominal element inside the matrix clause, but it can also be associated with a full lexical noun as well, as in the following example (23).

- (23) Vedic

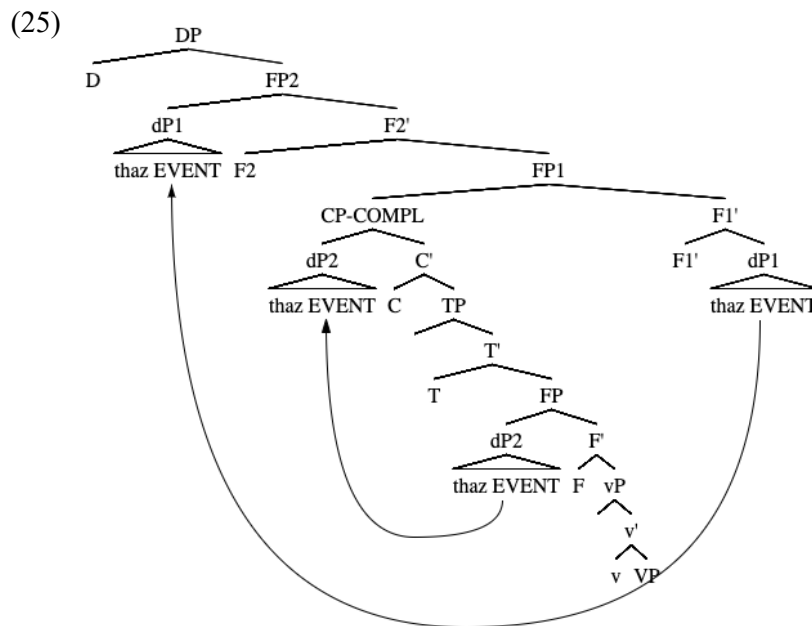
vidúṣ            ṭe            asyá            vīryàśya            pūrávaḥ  
 know.prf.3pl   you.2sg.gen   correl.gen.sg.n   heroic\_deed.gen.sg.   Pūru.nom.pl.m  
 pūrō            yád            śaradīr            avátiraḥ  
 fortress.acc.pl.f   that            autumnal.acc.pl.f   defeat.aor.2sg.act  
 ‘The Pūrus know this heroic deed of yours that you defeated their autumnal  
 fortresses.’ (RV 1.131,4)

The examples above show that the correlative element fulfils the requirements of the probe inside the matrix clause, whereas the complement clause acts as an explication of the correlative element. Hence, extending the relative clause analysis proposed by Cinque to complement clauses seems to be justified on empirical grounds. Therefore, there are enough reasons to postulate that the correlative element is always there, although it may be silent in some languages.

Languages differ as to which Head they spell out, namely whether the ‘complementizer’ realizes the external or the internal Head. Indeed, when we fully pursue a unified account for complement and relative clauses, we expect two possible configurations, one involving raising and the other involving matching. If the external Head does not raise to Spec-FP2, the internal Head is spelled out, as in (19). This is a derivation which involves raising. If it raises to Spec-FP2 as in (24), the external nominal c-commands the internal Head and, in languages in which only one Head is spelled-out, the external one receives spell-out. In this case, the complement clause is derived via matching



Alternatively, in languages which allow for both Heads to receive spell-out, as it is the case in Gothic, both the correlative and the complementizer are lexicalized (25). Hence, (25) is identical to (24): the only difference concerns the PF possibility of spelling out copies in a given language. In Gothic, exemplified in (25), both Heads receive spell-out.



In sum, when we fully extend the relative clause analysis to complement clauses, and we therefore claim that the correlative, i.e. the external Head, is always represented, we obtain two possibilities of derivation as is the case for relative clauses: if the ‘complementizer’ is indeed the Head of the relative clause, it can either be the internal as in (19) or the external one as in (24, 25). We propose that Italian *che* realizes the external Head, and it is thus the

nominal complement of the matrix predicate (see also Manzini & Savoia 2003)<sup>19</sup>. In some Germanic languages, e.g., German and English, the ‘complementizer’ realizes the internal Head (see also Leu 2015b). This conclusion can be further supported by the following minimal pair. Whereas *che* can resume an entire CP in Italian (26), *dass* cannot do so (27).

(26) Italian

a. Ho saputo che Gianni ha lasciato il lavoro  
 have.1sg known that Gianni have.3sg left the job  
 ‘I was informed that Gianni left his job’

b. Gianni ha lasciato il lavoro. Il che mi ha sorpreso  
 Gianni have.3sg left the job the that cl.1sg.dat have.3sg surprised  
 molto  
 much  
 ‘Gianni left his job, which surprised me a lot’.

(27) German

a. Ich weiß, dass Johan seine Arbeit verlassen hat  
 I know.1sg that Johan his job left have.3sg  
 ‘I know that Johan left his job’.

b. Johan hat seine Arbeit verlassen, \*dass (es) mich aber überrascht  
 Johan have.3sg his job left, that (it) cl.1sg however surprises

---

<sup>19</sup> Manzini & Savoia (2003) proposed that *che* is a nominal element, which takes the embedded clause (proposition) as its complement. In addition, the authors argue that since the C head(s) is part of the extended projection of the verb, and as such can only be reserved for verbal elements, the nominal complementizer on the other hand is merged outside the embedded clause.

‘Johan left his job, which however surprises me.’

The use of the ‘complementizer’ *dass* as a CP pronoun is ungrammatical in German. On the contrary, in this context, the pronouns *was* ‘which/what’ and *das* ‘that’ must appear.<sup>20</sup>

Similarly, as shown by the translations in (26) and (27), in English the CP is usually resumed by the form *which* and marginally some speakers accept the use of the ‘complementizer’ *that*.

We take this contrast to derive precisely from the fact that in German and in English the ‘complementizers’ *dass/that* are determiner-like elements located in positions close to those of quantifiers, associated with the internal Head of the relative/complement clause. On the contrary, in Italian, *che* realizes the external nominal portion of the relative/complement clause. As such, it is the correlative element and can thus be used in a ‘pronominal’ way.

### 5.3. Further evidence

In what follows we consider two problems which have been pointed out in the literature on the standard cartographic view that complementizers of different types can occur either in Force<sup>o</sup> or in Fin<sup>o</sup> and consider the alternative explanation that some complementizers come from the embedded clause, as proposed by Leu (2015) while others are actually (part of) the direct object of the main verb.

#### 5.3.1. Double complementizers

A first set of problems concerns the positions the complementizer can occupy in the left periphery. It has been noticed already by Calabrese (1993) that some Southern Italian dialects display different forms for the complementizer, and that the different forms occur in different positions: Some complementizers are low, i.e. located after a definite subject and left

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<sup>20</sup> We report that in German the sentential antecedent can be resumed by the relative pronoun *was/wo*/etc. if there is not a break (or a full stop) between the antecedent and the relative clause. When there is a break between the antecedent and the relative clause, the antecedent is resumed by a d-pronoun (Lamoure p.c).

dislocations like Salentino *cu*, some are high, i.e. located before the definite subject and left dislocations like Salentino *ca*, some seem to be ubiquitous, like Italian *che*.

(28) Salentino

a. Aggiu tittu **ca** la Lia ene crai  
 have.1sg said that the Lia come.3sg tomorrow

‘I have said that Lia comes tomorrow’

b. Lu Carlu ole **cu** bbene crai  
 the Carlo want.3sg cu come.3sg tomorrow

‘Carlo wants to come tomorrow’

One wonders why the two complementizers never co-occur, so there are no sequences *ca-cu* attested either with or without intervening material. However, complementizer doubling is not unheard of, it is found in Old Romance, in some North-Western Italian dialects (see Poletto 2000 and Paoli 2003 on this), as shown by the following example:

(29) Old Venetian

El convien **che** vui questo eriedo de questa dona a nui **che** lo  
 cl.3sg suit.3sg that you this heir of this woman to us that cl.3sg

renderè

return.2pl

‘It is convenient that you return to us this heir of this woman.’ (Tristano 66,20,10)

However, whenever we see more than one complementizer, the two forms are always identical and evidently one wonders why this is so. Under our view, this is totally expected,

since there is a non-distinctness requirement on the internal and external head of a (cor)relative clause. So, the fact that we find only cases like (28) but no cases where the sequence is *ca-cu* (or other different forms, since the system of complementizers is rather complex in the Southern Italian dialects, as pointed out by Ledgeway 2005) seems to support the non-distinctness requirement on the two heads.

### 5.3.2. Van Craenenbroeck's problem

In his work, which critically evaluates the cartographic approach, Van Craenenbroeck (2009) notices that there are inconsistencies in the order of the elements in the left periphery of the clause which force us to assume a rather massive ambiguity: In some Northern Italian dialects there are inconsistencies in the serialization of the complementizer with respect to other left peripheral elements: *che* must occur to the left of left dislocated elements and to the right of *wh*-items, but *wh*-items occur to the right of left dislocated constituents.

#### (30) Venetian

a. El ga dito **che el gato** non lo vol  
 cl.3sg have.3sg said that the cat not cl.3sg want.3sg  
 'He has said that the cat he does not want'

b. El ga domandà la Maria cossa che la fa  
 cl.3sg have.3sg asked the Maria what that cl.3sg.fem do.3sg  
 'He has asked Mary what she does'

Hence, the order *che-Topic-wh-che* shows that there is an inconsistency in the reasoning. The solution proposed is that the complementizer can either be merged in two different positions (Fin<sup>o</sup> and Force<sup>o</sup>) or move from Fin to Force. As Craenenbroeck points out, this solution is

not entirely satisfactory, since *che* should have both Fin and Force features, but then a number of other problems arise like: a) Why does the complementizer move only in some cases? b) Why can it be merged in two different positions, i.e. what happens to the features of Fin<sup>o</sup> when the complementizer is merged high? Conversely, what happens to the features of Force<sup>o</sup> when the complementizer remains in Fin<sup>o</sup>? On the other hand, if we assume that also embedded interrogatives are to be analyzed with a relative structure, as recently proposed by Pollock and Poletto (to appear), it is clear that the problem with the transitive property in the cartographic serialization of heads can be immediately solved by assuming that *che* can either be the internal or the external head of the relative clause. So, in those varieties that admit so called ‘low complementizers’ in embedded interrogatives *che* is part of the internal structure of the *wh*-item and there are no ‘low complementizers’.<sup>21</sup>

(31) Modern Venetian

No so            **co**ssa   **ch**e    el            ga            fato  
 Not know.1sg what    that    cl.3sg    have.3sg done  
 ‘I do not know what he did’

(32) Old Venetian

e    domandava **là**        **o’**        **ch’**    elo sia    lo        re  
 and asked.3sg there where that he was the king  
 ‘and he asked where the king was’ (Tristan 42, 3)

---

<sup>21</sup> Incidentally, this also explains why this structure can be generalized to main interrogatives and why we find operator doubling:

- (i) [**Lon c**] ‘a falo?                      Poirino (Piedmont)  
       what that has done  
       ‘What did he do?’
- (ii) *Che* ‘ncontre-*t chi*?                Malonno (Eastern Lombard)  
       Wh meet-you who  
       ‘Whom are you meeting?’



Hence, we can conclude that assuming that complementizers are not  $C^{\circ}$  elements, but represent the spell out of either the internal or the external head of a relative clause, which constitutes the only possibility of embedding in natural language solves some cartographic problems that have been a long-standing issue in this approach.

## **6. Addressing two challenges: permitted word orders and extraction from ‘complement clauses’**

Once having established that the ‘complementizer’ of some Germanic languages is the internal Head, whereas it is the external Head in some Romance languages, in this session we show that this proposal is suitable and has some interesting implications, both in terms of allowed word orders as well as extraction from complement clauses.

As for allowed word orders inside complement clauses, the analysis put forward in §5.2 makes a clear prediction: if the internal head receives spell-out, and in other words, if the ‘complementizer’ is a portion of the internal head, we expect to observe locality effects in the movements to the CP domain. Conversely, if the external head receives spell-out, and thus if the ‘complementizer’ is part of the external head, we do not expect locality effects to arise. Before turning to the central part of this section, a few words on the notion of locality are in order. We frame locality within the featural relativized minimality as proposed in Starke (2001) and Rizzi (2004, 2011, 2013) according to which movement is subject to a locality condition, but the locality is not absolute, rather it is relativized to the kind of local relation we consider (33).

- (33) In . . . X . . . Z . . . Y . . . A local relation is disrupted between X and Y when:
- a. Z structurally intervenes between X and Y
  - b. Z matches the specification in morphosyntactic features of X

Intervention is defined in hierarchical terms through c-command: Z structurally intervenes between X and Y when Z c-commands Y and Z does not c-command X. Since Friedmann et al. (2009), intervention effects have been viewed under a set-theoretic approach: the feature overlap between the moved element and the intervening one is calculated and gives rise to at least three set-configurations: identity, when X and Z are specified for the same morphosyntactic features<sup>22</sup>; inclusion, when the featural specification of Z is properly included in the specification of X; intersection, according to which the features specified on X intersect those on Z (see Belletti et al. 2012); disjunction, when Z has a disjoint specification with respect to X.

As seen in §2, a number of elements like left dislocations in adjunct subordinate clauses cannot move to the left periphery in some Germanic languages. The same seems to be true in complement clauses as well. For instance, embedded topicalization in German complement clauses is claimed to be only possible in V2 clauses embedded under ‘bridge-verbs’, whereas it is illicit in complement clauses introduced by the ‘complementizer’ *dass* ‘that’ (see Haider 1990; Grewendorf 1993; Müller & Sternefeld 1993, a.o.).<sup>23</sup>

- (34) a. Ich glaube, den Fritz<sub>i</sub> (den) mag jeder t<sub>i</sub>.  
           I think the Fritz (him) love.3sg everyone
- b. \*Ich glaube, dass den Fritz<sub>i</sub> (den) jeder t<sub>i</sub> mag.

<sup>22</sup> Identity can be viewed as both ‘bare’ identity in which the identity of the featural specification between X and Z involves one single feature and ‘complex’ identity in which more than one feature are identical (see Villata, Rizzi and Franck 2016).

<sup>23</sup> We acknowledge that the picture on German we present is very simplified. The behavior of topicalization is actually more complex. For instance, when the topicalized phrase is fronted to a CP position inside the matrix clause as in [*den Fritz*]<sub>i</sub>, *den<sub>i</sub> glaube ich, daß jeder t<sub>i</sub> mag* ‘(lit.) The Fritz, him I think that everyone loves’, then the sentence is acceptable (see Grohmann 2000aa). This observation holds even when there is no pronoun associated with the dislocated phrase as in [*den Fritz*]<sub>i</sub>, *glaube ich, daß jeder t<sub>i</sub> mag* ‘(lit.) The Fritz, I think that everyone loves’ (Grewendorf 2005). In addition, in some German dialects and in Bavarian, a phrase can undergo topicalization but it must precede the ‘complementizer’ and the entire complement CP must be itself topicalized (see Bayer 1984, Weiß 1998).

I think that the Fritz (him) everyone love.3sg

‘I think that everyone loves Fritz.’

When we turn to English complement clauses, we see that left dislocation is ungrammatical, whereas left dislocation resumed with a pronoun is generally possible in bridge verb contexts (see among others Lasnik & Saito 1992).<sup>24</sup>

(35) a. I believe that [this book]<sub>i</sub> , you should read <sub>ti</sub> .

b. \*I believe that [this book], you should read it.

c. \*... that [this solution], I proposed it last year is widely known. (adapted from

Lasnik & Saito 1992: 76-77; 193)

Various proposals have been advanced to account for the data in (24): base generation vs. movement of the dislocated element; movement targeting different sites, e.g., IP vs. CP, et cetera (see Grohmann 2000a for a brief overview). Under a movement-approach to topicalization, we would like to entertain the possibility already envisaged in Haegeman’s works to derive the data in (35), namely that the two dislocated phrases differ in terms of featural make-up. Whereas the dislocated phrase appears with no resumptive pronoun, together with topical ones, i.e. [+Topic] it is also specified with operator-like features, say [+Q], which are not present when the dislocated phrase is resumed by a pronoun (see also Cinque 1990). This contrast provides us with a clue on the type of landing site of the internal Head in complement clauses: this is most probably a position which has identificational properties as in relative clauses (see Poletto & Sanfelici 2018a). We can thus think that the

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<sup>24</sup> Further investigation is in order to fully understand why in both German and English certain word orders are only possible in complement clauses under bridge verbs. When we look at the German data, we speculate that this possibility may be related to locality: when the truth-value or other coordinates of the embedded clause needs to be evaluated or anchored by the matrix clause as in the case of *daß*-CPs, the moved elements seem to act as interveners in this clause-linking.

internal head of ‘complement’ clauses is specified for a [+identification] feature, very similar to a topic feature. When the internal head, moving to the left-periphery, crosses a dislocated phrase specified for [+topic, +Q], as in (35a), no minimality effects arise because the two feature sets differ: there is an inclusion configuration in terms of featural specification on the moving phrases. Conversely, when the internal head of the ‘complement’ clause, moving to the left-periphery, crosses a dislocated phrase specified for [+topic] but not for the operator feature, as in (35b,c), minimality effects arise because the two feature sets are too similar. Interestingly, in some Romance languages, like Italian, left dislocations resumed by clitics (clitic left dislocation) is completely acceptable in complement clauses (Cinque 1990). Thus, clitic left dislocation does not count as an intervener in complement clauses in Italian. This is predicted if the ‘complementizer’ of Italian is the external head whereas the ‘complementizer’ of German and English is the internal head.

Given the unified account proposed for ‘complement’ and relative clauses, the final issue we address is why extraction from a ‘complement’ clause is permitted whereas in ‘standard’ relative clauses it is not. Although a detailed account of extraction phenomena out of complement clauses in Germanic and Romance remains outside the scope of this work, we would like to suggest that the differences in terms of extractions may follow from the featural relativized minimality as proposed in (33). In so doing, we follow various previous attempts to reduce the concept of islands to that of intervention (Starke 2001; Villata et al. 2016; Baunaz 2018, a.o.).

Since Ross’s (1967) seminal work, it has been noticed that *wh*-extractions obey certain island constraints. Much further literature has identified two types of islands: weak and strong islands. Whereas in the latter environments, i.e. complex noun phrases and adjuncts, extraction is assumed not to be possible, and this is independent from the nature of the extractee, extraction from weak islands is possible to a certain extent, which depends on the intervention effect due to the nature of the extracted element. By looking at the featural

specification of *wh*-phrases escaping weak islands, Starke (2001) observes that when extraction is tolerated, the moved *wh*-phrases contain more features than their intervener, i.e. the size of the *wh*-phrase is bigger than that of the intervener. Conversely, when extraction is blocked, the intervener has more features than the moved *wh*-phrase, i.e. it is bigger, or the intervener and the *wh*-phrase share the same features, i.e. they are of the same size. Similarly, Villata et al. (2016) propose that weak islands, in particular *wh*-islands, can be accounted for in terms of intervention locality: ‘what induces a weak island effect is not the fact of having a particular construction in the island catalogue, the *wh*-island, but the fact of having an intervention configuration’ (ibid.: 80). Here we pursue the same reasoning trying to derive the differences between relative and ‘complement’ clauses, thereby extending the featural relativized minimality account to strong islands.

Let us go back to the notion of weak island. It has already been said that extraction from weak islands is partially allowed depending on the nature of the element that is to extract, that is to say: some elements can evade the island, while some others cannot. From this point of view, weak islands do not *per se* diverge from strong islands, since both end up having a barrier across which extraction is impossible or very narrowed. What actually changes is the degree in which extraction is possible. Whereas ‘standard’ relative clauses and NP-complement clauses are usually considered strong islands,<sup>25</sup> (at least certain) complement clauses are rather transparent to extraction (i.e. the possibility of extraction depends on the status of the selecting predicate, for an overview see Baunaz 2018: Figure 6.1., a.m.o.)

Both in English and in Italian complement clauses, at least those selected by propositional-attitude, utterance, and desiderative predicates, are transparent to *wh*-movement in so-called long distance *wh*-extractions.

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<sup>25</sup> As Dal Farra (2020) shows, the term ‘strong island’ covers a wide range of phenomena. The structures that Ross identified as strong islands do not behave alike with respect to extraction phenomena, which suggest that the notion of strong island is descriptively and theoretically imprecise. We nonetheless use this term for clarity purposes.

- (36) a. Cosa<sub>i</sub> credi che stanno leggendo i tuoi figli *t<sub>i</sub>* ?  
 what think.2sg that are.3pl reading the your children
- b. What<sub>i</sub> do you think that your children are reading *t<sub>i</sub>*?

The fact that embedded clauses are transparent but not to left dislocations provides us with a clue on the type of operator embedded clauses have in their left periphery: this is most probably a type of null category which has identificational properties, not a case in interrogative *wh*, whose internal structure contains a variable whose value must be provided by the addressee. Therefore, the fact that the operator of complement clauses and interrogative *wh*-items do not interact is expected under a view of featural relativized minimality, since their feature at most intersect, but are clearly neither identical nor a subset of each other. For the same reason, *wh*-extractions out of finite complement clauses is expected to be acceptable in German as well. Indeed, *wh*-extraction is generally possible, but only in ‘complement’ clauses selected by bridge verbs (Haider 1990, a.o.). Whereas there is a general agreement that extraction out of V2-complements is grammatical (Xa,b), dialectal variation is observed when it comes to the acceptability of *wh*-extraction out of complement clauses introduced by the ‘complementizer’. The literature reports that north-German speakers find these extractions unacceptable, whereas South-German speakers, with some degree of variation, tend to consider these examples acceptable.

- (37) a. Wen<sub>i</sub> glaubst du, mag jeder *t<sub>i</sub>*?  
 who.acc think.2sg you love.3sg everyone  
 ‘Who do you think everyone loves?’
- b. Wer glaubst du, mag den Fritz?  
 who.nom think.2sg you love.3sg the Fritz  
 ‘Who do you think loves Fritz?’

- (38) a. Wen<sub>i</sub> glaubst du, daß jeder t<sub>i</sub> mag?  
 who.acc think.2sg you that everyone love.3sg  
 ‘Who do you think that everyone loves?’
- b. Wer<sub>i</sub> glaubst du, daß t<sub>i</sub> den Fritz mag?  
 who.nom think.2sg you that the Fritz love.3sg  
 ‘Who do you think loves Fritz?’

Hence, wh-extraction from ‘complement’ clauses is acceptable since it involves a configuration in which the featural specification on the two phrases is different enough to set them apart.

- (39) X Z Y  
 [+Q] [+ident] [+Q]

This view is very simplified since there are various languages in which extraction from complement clauses vary depending on the type of ‘complement’ (factive vs. non-factive), and on the type of complementizer introducing the ‘complement’ clause. For instance, Modern Greek has two complementizers for introducing declarative complement clauses, namely *oti* and *pu*. Whereas *pu* introduces factive complements, *oti* introduces non-factive ones (Roussou 1994). Extraction from *pu*-complement clauses is blocked whereas it is allowed from *oti*-clauses. Roussou (2010) derives the impossibility of extraction from the fact that *pu* is a locative pronoun introducing an oblique complement clause, thereby disallowing extraction. Conversely, *oti* introduces a direct complement clause, therefore extraction is permitted. Similarly, Bulgarian distinguishes between two declarative complementizers, *če* and *deto*, which can be said to roughly correspond to *oti* and *pu* respectively (Krapova 2010). Whereas extraction from *če*-complements is allowed, *deto*-complements are strong islands.

Krapova (2010) argues that *deto*-clauses are concealed PPs, with a null P.<sup>26</sup> Baunaz (2015) accounts for the different extraction patterns in terms of size of the complementizer, which interact with the size of the extracted element. She views ‘complementizers’ as complex morphemes lexicalizing structures of different sizes, whose distribution is governed by veridicality. Independent of the technicalities of the various proposals, the generalization is that when the ‘complementizer’ involves more structure, as in the case of *deto* and *pu*, extraction from complement clauses is blocked. We argue that for the very same reason, extraction out of complement clauses with a lexicalized nominal is also impaired. Under our analysis, ‘complement’ clauses always have a correlative element, which can be lexicalized or null. We also observe that when the correlative element is a full nominal expression, such as ‘idea’, ‘claim’ *et cetera*, extraction from the NP-‘complement’ clause is not permitted as in (40a), whereas when the correlative is silent, extraction is permitted (40b). This holds for various languages, including those revised here.

- (40) a. \*Cosa<sub>i</sub> hai creduto la notizia che Gianni ha comprato *t<sub>i</sub>*?  
 what have.2sg believed the news that Gianni have.3sg bought  
 ‘What<sub>i</sub> did you believe the news that Gianni bought *t<sub>i</sub>*?’
- b. Cosa hai creduto che Gianni ha comprato?  
 what have.2sg believed that Gianni have.3sg bought  
 ‘What<sub>i</sub> did you believe that Gianni bought *t<sub>i</sub>*?’

The pattern in (40a,b) can be derived if we consider how the head noun *notizia* ‘news’ is related to the ‘complement’ clause: in other words, what the relativized element is. Notice that (40a) can actually receive a proper relative clause paraphrase ‘the news according to which

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<sup>26</sup> According to Krapova (2010), null P must meet certain subjacency requirements, in order to be licensed.



John bought *t'*. We believe that in this case, similarly to what Krapova (2010) proposes for *deto*, *che* is embedded under a more complex structure, most probably a PP (see also Cinque 2013: ch.10 on adverbials relative clauses), which blocks extraction.

The complex NP case just discussed brings us to the final issue, namely extraction from ‘standard’ relative clauses. Previous literature has suggested that relative clauses are strong islands for extraction, which derives from the fact that they are adjuncts and they are embedded under a DP projection (Chomsky 1986, Cinque 1990, Postal 1998, a.o.). Following the reasoning applied till now, we try to derive the different extraction patterns in complement and ‘standard’ relative clauses from featural relativized minimality. Whereas relativizers range over individuals in standard relative clauses, they range over propositions/situations in complement clauses (see Manzini & Savoia 2003). We formalize this conclusion by proposing that the *wh*-item can be paired to different null nominals, PERSON, THING, PLACE, TIME, EVENT, et cetera. The various null nominals play a role in determining the degree of intervention effects that arise. In the case of ‘standard’ relative clauses the *wh*- is not paired to the null nominal EVENT but to null nominals that also specify the *wh*-item that will be extracted, thereby violating minimality since they are of the same ‘sortal’ type of classifier-like elements. Although various details still deserve a proper formalization, we believe that an analysis along these lines seems correct. This conclusion is further supported by the fact that various studies have reported that in at least some languages, e.g., Norwegian, Hebrew, Spanish, French, Italian, English, extraction from a relative clause is acceptable under specific conditions: when the antecedent is a non-presupposed indefinite and the utterance is making an existential statement (Engdahl 1998; Cinque 2010b; Kush et. al. 2013; Lindahl 2015).

- (41) a. Maria, di cui<sub>i</sub> ci sono molti che/\*i quali si erano innamorati  
*t<sub>i</sub>*.

Maria of whom there are many that refl were in\_love  
'Mary, with whom there are many that fell in love'

b. This is the child<sub>i</sub> that there is nobody who is willing to accept *t<sub>i</sub>*.

(ex. b, from Kuno 1976:423)

Cinque (2010) further notices that in those languages which partially allow extraction from relative clauses the lower relative clause is usually introduced by a 'complementizer' and not by a relative pronoun. Conversely, those languages in which relative pronoun only introduce relative clauses, as German *der/die/das*, no extraction is possible, although see (41b) which involve a 'relative pronoun' (see Cinque 2010b: fn.6). This conclusion seems to be further supported by the contrast found in Italian and exemplified in (41a), in which extraction is possible when the lower relative clause is introduced by *che* and not when it is introduced by *il quale* 'the which'. As in Cinque (2010), one way to account for these data is to assume that the 'complementizer' *che* is lower than the landing site of 'ordinary' relative pronouns. Thus, there is a higher specifier available in *che* relative clauses for wh-movement, which in contrast is occupied by the more complex relativizers of the *il quale*-type. Along the same line of reasoning, though in a rather different theory of RC derivation from the one adopted here, Sichel (2018) proposes that extraction from relative clauses is possible if there is a higher specifier available as the intermediate landing site for the extractee, which in her analysis can only be in raising relative clauses. Alternatively, it can be said that relative pronouns and relative 'complementizers' despite being nominal elements are featurally distinct, which derives the different landing sites. Being specified for different sets of features, they interact differently with the types of wh-phrases that can cross them. The contrast in (41a) can indeed be explained in Starke's (2001) terms: in (41a) if the wh-phrase *a cui/ al quale* crosses the relativizer *che*, the former relativizer is bigger than the latter one; if the wh-phrase *a cui/ al quale* crosses the relativizer *il quale*, the features of the two relativizers overlap.

In addition, we notice that (partial) extraction from ‘standard’ RCs is (partially) allowed when the DP containing the RC is an indefinite, which seems to further suggest that what really blocks extraction out of RCs is the nature of the external determiner, i.e. whether the RC is within a definite DP or an indefinite one.

## **7. Concluding remarks**

In this work we have adopted the view that all embedded clauses are relative clauses already proposed in the literature. We have entertained the hypothesis that complementizers are not  $C^\circ$  heads but quantificational elements which spell out a functional portion of the relative head included in all embedded clauses. Since we adopt Cinque’s (2013) view that all relative clauses are correlatives in the sense that they all have an internal and an external head, we have proposed that the distinctions found between Germanic and Romance can be modelled by assuming that Germanic ‘complementizers’ spell out the internal head, while Romance ‘complementizers’ spell out the external one. The main/embedded asymmetry found in Germanic, but not in Romance can be treated as a side effect of the type of ‘complementizer’. Germanic spells out the internal head in complement and central adverbial clauses, giving rise to a block in the left periphery (as noted by Haegeman 2012). Romance spells out the external head, so that the left periphery of an embedded clause is virtually identical to the one of main clauses, because it is empty of the relativizer and can be filled with other elements. We have also made a proposal about a long-standing problem that arises when considering embedded clauses as relatives: i.e. the one concerning the different behaviour with respect to extraction between restrictive relative clauses and embedded clauses. This is an impasse that any account equating relative and complement clauses must face. In our view, the distinction between relatives and normal complement clauses lies in the type of relativized element. In ‘standard’ relatives it has the same featural makeup of the element that is extracted causing a minimality violation. In embedded clauses the relativized element is the event of the

embedded verb, which has a different featural makeup of regular arguments so that there is no FRM violation. The relation between the extracted element and the relativized EVENT is at most one of intersection and does not cause FRM violations.

Another strand we would like to pursue in the future is to further push the symmetry between relatives and embedded clauses and investigate which cases of embedding are cases of non-integrated appositive relatives as in Cinque (2013). How they distribute across different types of embedded clauses and different languages still remains to be determined on the basis of a systematic application of Cinque's tests on non-integrated relatives.