The left periphery fragmented: Evidence from Italian

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Abstract

Cartography assumes that syntactic structures are more complex than the usual functional phrases; for example, CP is arguably made up of several projections, each of which is assigned specific scope-discourse features (such as focus and topic; Rizzi [1997]). This paper contributes to the debate raging over whether all cartographic projections are always present. By looking at cross-clausal A-binding conditions in Italian, I show that an anaphor can be bound across clauses only when at the outmost phasal edge. This ultimately provides evidence that the full cartographic CP domain may not always be projected.

1 Introduction

The cartographic approach assumes that each of the usual syntactic phrases (such as vP, IP/TP, or CP, in the clausal domain) has a far more complex internal structure. The seminal work by Rizzi [1997] on the cartography of CP paved the way to the framework, which assumes the syntactic template of languages to be more complex than previously thought.

Under this approach, the traditional CP domain is relabelled as the left periphery (1), as consisting of a fixed sequence of heads with specific scope-discourse properties, each of which maps onto a specific prosodic contour and semantic interpretation[1].

[1]For the sake of clarity, this paper will not be dealing with other heads that have been recently argued for for a review, see Rizzi and Bocci, forthcoming, as their presence in the structure is not relevant for the current purposes.
In (1), \textsc{Force} indicates the clause type, and \textsc{Fin} indicates clause finiteness. \textsc{Top} and \textsc{Foc} are the heads responsible for topicalization and focalization, respectively; notice that \textsc{TopP} may be recursively merged (as indicated by *), whereas \textsc{FocP} may not. Finally, \textit{se ‘if’, perché ‘why’ reside within \textsc{IntP} (Rizzi, 2001).}

This paper discusses brand new data from Italian to show that the full cartographic structure of \textsc{CP} is not always fully projected in the syntax; rather, it may look \textit{fragmented}, namely lacking specific heads that are not necessary for the concurring syntactic purposes.

The discussion unfolds as follows. In section 2 I present the relevant Italian data. In section 3 I summarize the recent insights on cross-phrasal conditions on movement and binding in other languages such as Serbo-Croatian and Bulgarian. In section 4 I go back to the Italian data and propose a phase-driven analysis for it, where the \textsc{CP} domain is crucially not always fully projected. Section 4 concludes the paper.

2 The problem

The cartographic approach usually assumes that the full cartographic structure is always fully projected. This means that all functional heads in (1) are always present in the syntax. This paper tests this assumption with respect to binding, in particular A-binding across clauses in Italian. We will

2 Though see (Rizzi, 1997, pp. 314-315) for a weaker position.
see that such binding is possible only if the anaphor is located within the first constituent of the clause, regardless of what that constituent is.

First off, sentences with embedded D-linked *wh*-phrases are judged differently just by minimally flipping the order between the bindee-containing phrase and the topicalized phrase:

(2) a. *Gianni, si chiede, Maria, [quale ritratto di [se
   Gianni REFZ ask.3SG Maria [which picture of REFZ
   stesso]], ha comprato.
   same.MASC] AUX.SUBJ.3SG buy.PPT.MSG
   ‘Gianni wonders, Mary, [which picture of himself], she bought.’

b. ??Gianni, si chiede [quale ritratto di [se stesso]],
   Gianni REFZ ask.3SG [which picture of REFZ same.MASC]
   Maria ha comprato.
   Maria AUX buy.PPT.MSG
   ‘Gianni wonders which picture of himself Mary bought.’

While (2a) is unacceptable, putting the topic phrase *[Maria]* before the anaphor-containing *wh*-phrase *[quale ritratto di se stesso]* as in (2b), leads to significant improvement. What is important in the examples above is that the anaphor *se stesso* is the responsible for the asymmetry, as shown in the sentences below:

(3) a. Gianni si chiede [quale ritratto di Luigi] Maria
   Gianni REFZ ask.3SG [which picture of Luigi] Maria
   ha comprato.
   AUX.SUBJ.3SG buy.PPT.MSG
   ‘Gianni wonders [which picture of Luigi] Mary bought.

Note that focus is structurally incompatible with *wh*-phrases (Rizzi, [1997]), regardless of the presence of the anaphor:

(i) a. *Gianni, si chiede, MARIA, [quale ritratto di [se stesso]],
   Gianni REFZ ask.3SG, MARIA, [which picture of REFZ same.MASC]
   ha comprato (non Marco)
   AUX.SUBJ.3SG buy.PPT.MSG (not Marco)
   Intended: ‘Gianni wonders, MARIA, [which picture of himself] bought (not Marco).’

b. ??Gianni si chiede, MARIA, [quale ritratto di Luigi] ha
   Gianni REFZ ask.3SG, MARIA, [which picture of Luigi] AUX.SUBJ.3SG
   comprato (non Marco)
   buy.PPT.MSG (not Marco)
   ‘Gianni wonders, MARIA, [which picture of Luigi] bought (not Marco).’

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b. Gianni si chiede, Maria, [quale ritratto di Luigi],
    Gianni REFLECTIF ask.3SG Maria [which picture of Luigi]
    ha comprato.
    AUX.SBJ.3SG buy.PRF.
    ‘Gianni wonders, Mary, [which picture of Luigi] she bought.’

Sentences (3a, b) are the exact anaphor-less counterparts of (2a, b), and no asymmetry comes up.

A similar effect is also detectable in sentences interposing an anaphor-containing topic between the matrix clause and an embedded argumental wh-item.

(4) a. *Gianni si chiede, chi, [il ritratto di [se stesso]]$_i$],
    Gianni REFLECTIF ask.3SG, who, [the picture of REFLEXIVE same.MASC],
    lo$_j$ ha comprato.
    CL AUX.SBJ.3SG buy.PRF.
    ‘John wonders, who, the picture of himself, who bought.’

b. Gianni si chiede, [il ritratto di [se stesso]]$_i$], chi
    Gianni REFLECTIF ask.3SG, [the picture of REFLEXIVE same.MASC], who
    lo$_j$ ha comprato.
    CL AUX.SBJ.3SG buy.PRF.
    ‘John wonders, the picture of himself, who bought.’

Again, it’s the anaphor that causes the effect, since replacing the anaphor with a simple R-expression such as Luigi makes the asymmetry disappear.

(5) a. Gianni si chiede, chi, [il ritratto di Luigi]$_j$, lo$_j$
    Gianni REFLECTIF ask.3SG, who, [the picture of Luigi], CL
    ha comprato.
    AUX.SBJ.3SG buy.PRF.
    ‘John wonders, who, the picture of Luigi, bought.’

b. Gianni si chiede, [il ritratto di Luigi]$_j$, chi lo$_j$
    Gianni REFLECTIF ask.3SG, [the picture of Luigi], who CL
    ha comprato.
    AUX.SBJ.3SG buy.PRF.
    ‘John wonders, the picture of Luigi, who bought.’

Finally, the behavior of anaphors in embedded yes/no questions shows similar asymmetries. On the one hand, binding across clauses is impossible when the anaphor-containing phrase [il ritratto di se stesso] is low in the embedded clause.
(6) *Gianni si chiede se Maria ha comprato il ritratto di [se stesso].

Gianni REFL ask.3SG whether Maria AUX.SUBJ.3SG buy.PPT.MSG [il ritratto di [se stesso]].

[the picture of REFL same.MASC].

‘John wonders whether Mary has bought the picture of himself.’

On the other hand, if the anaphor-containing phrase is higher up in the left periphery of the embedded clause, its position with respect to the complementizer se leads to asymmetrical judgments.

(7) a. ??Gianni si chiede se, [il ritratto di [se stesso]].

Gianni REFL ask.3SG whether, [the picture of REFL stesso].

Maria loj ha comprato. same.MASC], Mary CL AUX.SUBJ.3SG buy.PPT.MSG.

‘John wonders if, the picture of himself, Mary bought.’

b. Gianni si chiede, [il ritratto di [se stesso]].

Gianni REFL ask.3SG, [the picture of REFL stesso same.MASC],

se Maria loj ha comprato.

whether Mary CL AUX.SUBJ.3SG buy.PPT.MSG.

‘John wonders, the picture of himself, if Mary bought.’

When [il ritratto di se stesso] follows se (7a), acceptability gets degraded, especially when compared to (7b), where [il ritratto di se stesso] precedes se.

Once again, it’s the anaphor that is responsible for the spectrum of judgements in (7), as the same sentences all become grammatical once the anaphor is not present anymore:

(8) a. Gianni si chiede se Maria ha comprato [il ritratto di Luigi].

Gianni REFL ask.3SG whether Maria AUX buy.PPT.MSG [the picture of Luigi].

b. Gianni si chiede, [il ritratto di [se stesso]].

Gianni REFL ask.3SG, [the picture of REFL stesso same.MASC], if CL

ha comprato Maria.

AUX.SUBJ.3SG buy.PPT.MSG Mary

4The judgments are maintained if the subject is post-verbal:

(i) a. ??Gianni, si chiede se, [il ritratto di [se stesso]].

Gianni REFL ask.3SG if, [the picture of REFL stesso same.MASC], CL.

ha comprato Maria.

AUX.SUBJ.3SG buy.PPT.MSG Mary

b. Gianni, si chiede, [il ritratto di [se stesso]].

Gianni REFL ask.3SG, [the picture of REFL stesso same.MASC], if CL.

ha comprato Maria.

AUX.SUBJ.3SG buy.PPT.MSG Mary
b. Gianni si chiede se, [il ritratto di Luigi], Maria Gianni REFL ask.3SG whether, [the picture of Luigi], Maria lo, ha comprato.
   CL AUX buy.PPT.MSG.

c. Gianni si chiede, [il ritratto di Luigi], se Maria Gianni REFL ask.3SG, [the picture of Luigi], whether Maria lo, ha comprato.
   CL AUX buy.PPT.MSG.

d. Gianni si chiede se, [IL RITRATTO DI LUIGI], Maria Gianni REFL ask.3SG whether, [IL RITRATTO DI LUIGI], Maria ha comprato (non quello di Marco).
   AUX buy.PPT.MSG (not that of Marco).

The data above show that A-binding across clauses is possible in Italian, but only if the anaphor resides within the clause initial constituent, regardless of the position of that constituent within the CP domain. In the remainder of the paper, I will argue that this generalization can be accounted for under the phasal approach to condition A, but only if we assume that the full cartographic structure is not always projected. I now turn to spelling out the background assumptions on phases and A-binding for the analysis I propose in section 4.

3 Binding across phases

Under the assumption that phases determine locality domains, I adopt the approach to phases whereby the highest clausal projection is a phase (Bošković 2014, 2015; Wurmbrand 2014). In line with many others (among others, Canac-Marquis, 2005; Carlos Quicoli, 2008; Despic, 2011; Hicks, 2009; Lee-Schoenfeld, 2008; Safir, 2014; Zanon, 2015), I assume that A-binding is possible across phases under the conditions defined as follows:

(9) Cross-phasal A-binding

An anaphor can be bound outside of its minimal phase only if it is located at the edge of the phase.

Cases with multiple edges of the same phase most clearly support (9), under the assumption from Bošković (2016a) that only the outmost edge of a phase counts as the phasal edge for the purpose of the PIC (Phase Impenetrability

5For example, under this approach IP can be a phase if the CP field is completely missing.
Condition; Chomsky [2001] in such cases. In Serbo-Croatian, adjectives and possessors may co-occur in no particular order:

(10) a. omiljena Jovanova kola
    favorite Jovan’s car

b. Jovanova omiljena kola
    Jovan’s favorite car

Bošković (2016a) takes this to mean that the possessor and the adjective can be base-generated in either order at the edge of the NP phase.

Importantly, extraction of a complement of a modifying AP (11) is disallowed when the AP is preceded by a possessor (11b), but allowed when the AP is followed by a possessor (11c).

(11) a. [Na tebe], sam vidio [NP [ponosnog t] [NP oca]].
    OF.P you aux.1SG see.PPT proud father.
    ‘I have seen a father proud of you.’

b. *[Na tebe], sam vidio [NP Jovanovog [NP [ponosnog t]]
    OF.P you aux.1SG see.PPT John.GEN proud
    [NP oca]]).
    father.
    ‘I have seen John’s father proud of you.’

c. [Na tebe], sam vidio [NP ponosnog t, [NP Jovanovog ]
    OF.P you aux.1SG see.PPT proud John.GEN
    [NP oca]].
    father.
    ‘I have seen John’s father proud of you.’

Likewise, an anaphor bound from outside an NP must be the initial constituent of the NP phase:

(12) a. Marija, je prodala [NP svoju omiljenu knjigu].
    Marija is sold [ her favorite book]
    ‘Marija sold her favorite book.’

b. *Marija, je prodala [NP omiljenu svoju knjigu].
    Marija is sold [ favorite her book]
    ‘Marija sold her favorite book.’

All these cases involves multiple edges of the NP phase. Bošković (2016a) argues that these effects are due to the fact that, in cases like (11) and (12),

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6Bošković (2016a) argues that DP is missing in Serbo-Croatian, a language without articles, and that NP functions as a phase (Boškovic2001)
where there are multiple edges of the same phase, only the highest edge can be licensed for movement and binding. In the examples above, the movement takes place from the outmost edge in (11c), but not in (11b), and the anaphor is the outmost edge in (12a), but not in (12b).

Further corroborating evidence comes from Bulgarian. In this language, multiple wh-fronting constructions (where all wh-phrases are located in separate Specs of CP) are possible; however, an anaphor contained in a fronted wh-phrase can be bound to an antecedent in the higher clause only if it is in the highest [Spec, CP]:

(13) a. *Maria, znae kāde kolko/kakvi [[ svoi,] snimki] Maria knows where how many/what kind of her picture
bjaha kupeni.
    'Maria knows where how many/what kind of pictures of herself
were bought.'

b. ??Maria, znae kolko/kakvi [[ svoi,] snimki] kāde Maria knows how many/what kind of her picture where
bjaha kupeni.
    'Maria knows where how many/what kind of pictures of herself
were bought.'

Just putting the anaphor-containing wh-phrase [znae kolko/kakvi svoi,] snimki/ clause-initially in (12b) leads to a clear improvement in grammaticality.

To wrap up, the above data indicate that an anaphor can be bound outside of its phase only if it is located at its edge, in accordance with (9).

4 Cross-clausal A-binding in Italian

The Italian data discussed in section 2 raise an issue for the cartographic approach in light of the conditions on A-binding discussed in section 3. In section 2 we have seen that cross-clausal anaphor binding in Italian is possible only into the first clausal constituent, crucially irrespective of what that constituent is. The conditions on A-binding (sec. 3) to have a clear consequence for the structure of the left periphery in light of that.

The Italian data on cross-phasal A-binding can be captured only if the full cartographic structure of CP is not always present. If the full CP carto-

7See Bošković (2016a) as well as Nissenbaum (2000).
graphic structure were always present, all cases where the anaphor is not in [Spec, ForceP] should be bad: being the highest clausal projection of the left periphery (14), ForceP should always be the edge of the CP phase, thus making anaphor binding across clauses possible only when the anaphor-containing phrase is located in [Spec, ForceP].

(14) \[\text{ForceP Force} [\text{TopP}^* \text{Top} [\text{IntP INT} [\text{FocP FOC} [\text{TopP}^* \text{Top} [ ... [\text{FinP FIN [IP ]}]])]])\]

Thus, the examples below are expected to be ungrammatical, as the anaphor-containing DP is located in [Spec, FocP] in (15a) and in [Spec, TopP] in (15b, c), hence not at the phasal edge (indicated by $\|\Phi$).

(15) a. Gianni, si chiede $\|\Phi \text{[ForceP FocP quale ritratto di [Gianni reflex3SG [same.MASC Maria ha comprato]. Mari ha comprato]}].$ ‘Gianni wonders which picture of himself Mary bought.’

b. Gianni, si chiede, $\|\Phi \text{[ForceP TopP il ritratto di [se Gianni reflex3SG, [same.MASC, [loj ha comprato]. same.MASC, [who CL aux3SG buy.ppt.msg].] J]}.}$ ‘John wonders, the picture of himself, who bought.’
c. Gianni si chiede, \( \Phi \) [\( \text{ForceP} \) \( \text{TopP} \) \( \text{il ritratto di se stesso} \)] \( j \)

Under the assumptions on phases and Condition A discussed above (sec. 3), only an anaphor contained in \( \text{[Spec, ForceP]} \) (i.e., the outmost edge of the CP phase; boxed in the structure above) would be able to be bound to an element in the matrix clause.

This prediction is not met, as the examples in (15) are all grammatical. However, this can be captured if the full left periphery may not be always present, with the structure without clear manifestation not being present (for additional evidence for this effect, see also Bošković [2016b], pp. 41-42 and Erlewine [2016]). For example, (15b) has then the following structure:
In the structure (17), the highest clausal projection is TopP, which is then a phase. This means that the topic-contained anaphor *se stesso* resides inside of the outmost phasal edge of the embedded clause (boxed in the tree above), so it can be bound to the matrix element *Gianni*. All the data discussed in section 2 can be in fact captured in this manner.

So far, so good. The analysis takes a minor twist when taking the following sentence into account:

(18) *Gianni* si chiede, *ieri* [il ritratto di *se stesso*], *chi* [lo*$_j$ ha comprato]...

The account so far proposed appears to predict (18) to be bad, as the topicalized phrase [*ieri*], and not the anaphor-containing phrase [il ritratto di *se stesso*], is at the outmost edge of the embedded clause:
Gianni si chiede TopP (= \( \Phi \))

\[ \text{[ieri]} \]

\[ \text{TopP} \]

\[ \text{[il ritratto di se stesso]} \]

\[ \text{Top}^0 \]

\[ \text{FocP} \]

\[ \text{chi} \]

\[ \text{Foc}^0 \]

\[ \text{FinP} \]

\[ \text{lo}_j \text{ ha comprato} \]

However, (18) is grammatical. I contend that something else is at play here. The phrase /[ieri]/, is an adjunct topic, hence can be assumed to be adjoined later in the derivation in the spirit of Lebeaux (1988), who argues that adjuncts can be inserted acyclically. Assume that adjuncts can be indeed inserted acyclically as well as a derivational approach to condition A (see among others, Belletti and Rizzi, 1988; Stepanov, 2001) where Condition A can be satisfied during the derivation. The adjunct in (18)-(19) above can then be inserted acyclically after Condition A is satisfied. Therefore the adjunct does not block cross-clausal binding here.

On the other hand, intervening argumental topics seem to block A-binding across clauses, as the following example shows:

(20) *Gianni, si chiede, [a Maria]_k, [il ritratto di se stesso]_j, chi gli_k-e-lo_\( j \) ha dato.\footnote{For another case where adjunct and non-adjunct topics behave differently, see Bosković (2011) and Browning (1996).}

'John wonders, to Mary, [the picture of himself], who gave.'

In (20), the argumental topic /[a Maria]/, located in [Spec, TopP], resides

\footnote{However, speakers vary in their judgements here. For speakers who judge (20) to be good, the following sentences are also good:}
in the outmost edge of the clausal phase TopP, hence it blocks binding into the lower topic.

5 Conclusions

The purpose of this paper was two-fold. First, Italian provides additional evidence for the phasal approach to Condition A, whereby an anaphor may be bound cross-clausally only when it is located at the phasal edge of the clause. Secondly, the Italian data discussed in this paper also provide evidence that the left periphery may not be always fully projected, rather it may have a structure responsive to the contextual structural needs, in that only those functional projections that are independently motivated are actually present in the structure (see also Bošković, 2016b; Erlewine, 2016).

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(iii) Gianni si chiede chi ha comprato il ritratto di [se stesso].
"John wonders who bought the picture of himself.'

(iv) Gianni si chiede se Maria ha comprato [il ritratto di [se stesso].]
"John wonders whether Mary bought the picture of himself'.

I assume that these speakers allow the logophoric use of se stesso in such contexts. Giorgi (2007) shows that se stesso is usually not logophoric, as opposed to proprio/a 'his/her own'; for example:

(v) *Gianni disse a Maria che la foto di [se stesso], con lei, a Roma provava che la foto di [se stesso], con lui, a Napoli era un falso.
*John told Mary that the photo of himself with her in Rome proved that the photo of herself with him in Naples was a fake. (Pollard and Sag, 1992, p. 275)

But actually se stesso may be used logophorically in some cases:

(vi) Gianni pensò che niente avrebbe potuto rendere una foto di [se stesso] adeguata per Maria.
"John thought that nothing could make the picture of himself acceptable to Mary. (ib., 272)
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