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# Revisiting locality: Two case studies from Italian

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## Abstract

In the generative tradition, the conditions on subextraction (i.e., the extraction from a phrase XP) have been captured by either one of the following incompatible formulations: (i) a formulation based on the notion of phase (the PIC, i.e., the Phase Impenetrability Condition); (ii) a formulation based on the notion of selection and on the configuration in which XP occurs (the subjacency condition). We provide two empirical case studies, both focused on Italian, to test the predictions of formulations (i)-(ii): inverse copular sentences and the complement of quality. Our main finding is that subextraction is naturally accounted for by the subjacency condition, not by the PIC. In this way, this study brings fresh empirical evidence to bear on the role of phases in the theory of locality.

**Keywords:** phases, predication, selection, subextraction, subjacency.

## 1. Introduction

Commenting on the end of the Nineteenth century's Neogrammarian model, a great historian of linguistics made the following remark:

> The success of the Neogrammarians depends in part on the fact that they could easily instruct their students on how to apply the model. […] The aversion toward them, however, was due in part to the fact that a good number of their followers applied the model mechanically, without making much effort to call the foundations into question (Morpurgo Davies 1996: 346, quoted in Moro 2017: 239 n. 18).

This remark reminds us that challenging one or more parts of a theoretical model is essential to its well-being. In particular, the ultimate goal of a theoretical model should be the decomposition of complex empirical phenomena into simple elements (Moro 2015: xiii-xiv), and any modifications that bring the model closer to this goal should be more than welcome. With this background, in the present study we discuss some problems faced by the phase-based formulation of locality, which constitutes the standard approach to locality in the most recent version of the generative model (e.g., Bošković 2015/2018).[1] To this end, we consider two empirical case studies, both taken from a Romance language: Italian. In the first case study (see below, sections 2-4), we examine some instances of subextraction (i.e., the extraction of linguistic material *from* a phrase) in a subtype of copular sentence and test the ability of the phase-based and subjacency-based formulations of locality to capture the relevant data. Our main finding is that the subjacency-based formulation, which makes crucial use of selection and syntactic configurations, is empirically superior. Building on this result, in the second case study (see below, sections 5-8) we show how a series of contrasts involving the complement of quality naturally follow from the subjacency-based formulation of locality, not from the phase-based formulation.

In this way, the findings of this study challenge the phase-based approach to locality that is standardly adopted by generative grammarians nowadays. In fact, considering that the phase-based approach to locality developed within the minimalist framework with the intention of translating the subjacency-based accounts of locality in terms of phase theory, this study might appear as an attempt to restore the old, pre-minimalist order, as it were. However, as noted by Moro (2018: 7), the subjacency condition is not per se incompatible with the minimalist framework: at least in the version attributed to Cinque (1990), the subjacency condition consists of two ingredients, namely selection and local c-command, both of which are perfectly compatible – and still in use – in the minimalist framework.[2]

Thus, the question as to which formulation of the locality conditions on subextraction – a phase-based or a subjacency-based formulation – is more fit to

[1] By 'locality' we mean the set of filters on movement: see den Dikken & Lahne (2013) for an overview. The most recent version of the generative model goes under the rubric 'minimalist framework' or 'minimalism'.

[2] In this connection see Chomsky's (2000: 117) remark that conditions on subextraction which – like Subjacency à la Cinque – capitalize on the notion of L-marking persist in the minimalist framework. L-marking of α by β is a subcase of selection of α by β in which β locally c-commands, and assigns a theta-role to, α (Cinque 1990: 41).

handle subextraction should not be dismissed on the grounds of some alleged conceptual incompatibility of the subjacency condition with the minimalist framework. Indeed, this question must remain an empirical one. It is the primary goal of this study to take this question seriously, by establishing on empirical grounds whether a subjacency-based formulation brings the generative model closer to the decomposition of complex empirical phenomena into simple, abstract elements.

## 2. Copular sentences as a window into locality

Moro (1997) divided copular sentences into two classes: 'canonical copular sentences' (1a), where the DP subject occupies the pre-verbal position, and 'inverse copular sentences' (1b), where the predicative DP occupies the pre-verbal position. The class of inverse copular sentences also contains *there*-sentences (1c).

(1) a. Italian (canonical copular sentence)

| | | | | |
|---|---|---|---|---|
| [Due | foto | del | muro]$_i$ | furono |
| two | picture.PL.F | of=DET.SG.M | wall.SG.M | were.3 |
| [$_{SC}$ $t_i$ | [la | causa | della | rivolta]] |
| | DET.SG.F | cause.SG.F | of=DET.SG.F | riot.SG.F |

'Two pictures of the wall were the cause of the riot'

b. Italian (inverse copular sentence)

| | | | | | |
|---|---|---|---|---|---|
| [La | causa | della | rivolta]$_i$ | furono | |
| DET.SG.F | cause.SG.F | of=DET.SG.F | riot.SG.F | were.3 | |
| [$_{SC}$ | [due | foto | del | muro] $t_i$ ] | |
| | two | picture.PL.F | of=DET.SG.M | wall.SG.M | |

'The cause of the riot was (lit. were) two pictures of the wall'

c. Italian (inverse copular sentence)

| | | | | | |
|---|---|---|---|---|---|
| Ci$_i$ | furono [$_{SC}$ | [due | foto | de=l | muro] $t_i$] |
| there.CL | were.3 | two | picture.PL.F | of=DET.SG.M | wall.SG.M |

'There were two pictures of the wall'

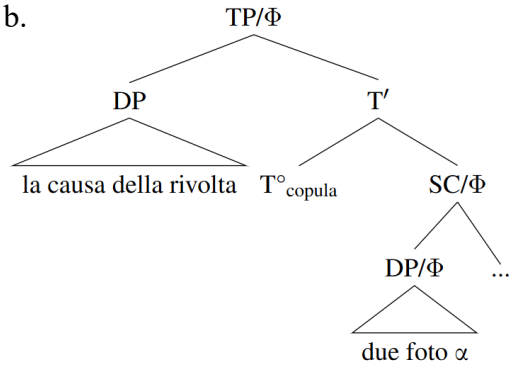
A surprising contrast emerges when the extraction from the post-verbal DP of inverse copular sentences is considered:[3]

(2) a. Italian

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *[Di | quale | muro]$_i$ | pensi | che | la | | |
| of | which.SG.M | wall.SG.M | think.2SG | that | DET.SG.F | | |
| causa | della | rivolta | furono | [$_{SC}$ | [due | foto | $t_i$ ] ? |
| cause.SG.F | of=DET.SG.F | riot.SG.F | were.3 | | two | picture.PL.F | |

[3] The representations in (2)-(3) follow Moro (1997) (an alternative analysis of *there*-sentences is discussed below in section 3.3).

b.

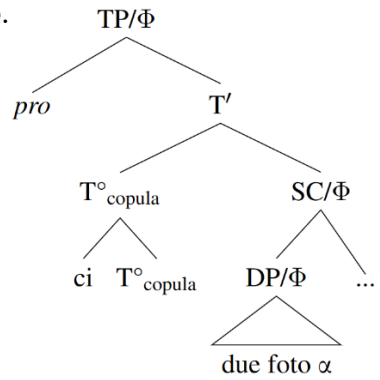



(3) a. Italian

| | | | | | |
|---|---|---|---|---|---|
| [Di | quale | muro]$_i$ | pensi | che | ci |
| of | which.SG.M | wall.SG.M | think.2SG | that | there.CL |
| furono | [$_{SC}$ [due | foto | $t_i$ ] ? | | |
| were.3 | two | picture.PL.F | | | |

'Which wall do you think that there were two pictures of?'

b.




Thus, despite being a subtype of inverse copular sentence, *there*-sentences (3) behave unlike run-of-the-mill inverse copular sentences (2) when it comes to the extraction from the post-verbal DP. In the next section, we argue that the subjacency condition, as opposed to the Phase Impenetrability Condition (PIC), naturally captures the contrast between (2) and (3).

## 3. The PIC

### 3.1. The standard formulation of the PIC

In accordance with the original version of the PIC (Chomsky 2000: 108), the extraction of an expression α from a phase Φ is possible only if α is the head or the edge of Φ – the edge of Φ including the specifier and adjuncts of Φ. Chomsky (2001: 14) revised the original version of the PIC by capitalizing on the distinction between specifiers of phase heads vs. specifiers of non-phase heads. Specifically, according to the revised version of the PIC, α is required to be the head or the edge of Φ only in a subset of the

extractions of α from Φ: namely, those extractions whereby the Φ-external position which α is moving to is the specifier or adjunct of a phase head.[4]

Arguments can be found in the literature in favor of both the original (Chomsky 2000) and the revised (Chomsky 2001) version of the PIC. Thus, Legate (2012: 245) capitalizes (among other things) on case-related considerations to conclude that the original version is superior to the revised version of the PIC. By contrast, Bošković (2016: 48) favors Chomsky's (2001) revised version of the PIC, on the grounds that it makes it possible to deduce island effects from phasal spell-out. Thus, compelling evidence in favor of either version of the PIC is still lacking.

Indeed, the two versions of the PIC do not make clearly distinguishable predictions when it comes to the data in (2)-(3): following den Dikken (2006), the specifiers and adjuncts involved in (2b) and (3b) are all projected by phase heads (namely D°, Relator° – which projects SC – and T°); this implies that an extracted phrase α must transit through such specifiers/adjuncts in accordance with both versions of the PIC. In light of this fact, and for ease of exposition, we shall adopt the simpler version here, namely Chomsky's (2000). Therefore, we shall take the PIC to teach that extraction of expression α from phase Φ is possible only if α is the head or the edge of Φ. Indeed, we may simplify the formulation of the PIC if we confine our attention to the copular sentences in (2)-(3): since the expression that is extracted from the post-verbal DP is invariably a phrase and not a head in (2)-(3), reference to the case in which α is a head can be eliminated, along the lines of (4):

(4) PIC
The extraction of an expression α from a phase Φ is possible only if α is the edge of Φ.

Now, the crucial point is whether the PIC (4) is able to draw the relevant distinction between (2) and (3). To answer this question, we have to preliminarily consider some crucial notions of phase theory. For one thing, phases are maximal projections, but what maximal projections count as phases is open to debate. Thus, in accordance with standard assumptions, only CPs as well as transitive and unergative vPs are phases. According to Bošković (2015), instead, NP, AP, PP, vP, DP, and CP are all phases. Here we shall not take any specific stance as to what maximal projections count as phases. However, let us note that (2)-(3) contain exactly the same maximal projections (TP, DP, SC) in exactly the same syntactic configurations. Therefore, whatever maximal projection is taken as a phase in (2), that maximal projection should also be taken as a phase in (3). Accordingly, the phrase markers in (2)-(3) contain exactly the same phases.

Recall now that, in the derivation of (2) as well as of (3), the PP *di quale muro* 'of which muro' moves from the post-verbal DP to the matrix Spec-CP, and hence crosses the post-verbal DP, SC, as well as the TP depicted in (2b)-(3b). Given the PIC (4), the well-formedness of (3) implies that, for any choice of Φ (with Φ = 'post-verbal DP', 'SC', or 'TP'), the PP *di quale muro* succeeds in passing through the specifier or adjunct of Φ in (3). Likewise, given the PIC, the ill-formedness of (2) implies that

[4] An application of Chomsky's (2000) original version of the PIC is given below in this subsection. See instead Legate (2012: 244-245) for an application of Chomsky's (2001) revised version of the PIC.

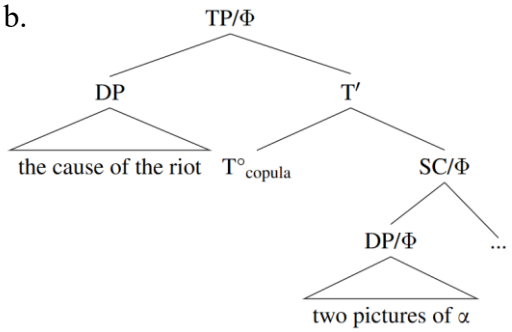
there is at least one Φ (with Φ = 'post-verbal DP', 'SC', or 'TP') such that the PP fails to pass through the specifier or adjunct of Φ. Therefore, in order for the PIC to draw the correct distinction between (2) and (3), the following state of affairs should hold true: that at least one of the specifier or adjunct positions that are empty in (3) is filled in (2), so that the PP can pass through that specifier or adjunct position in the well-formed sentence (3), but not in the ill-formed sentence (2).

However, this state of affairs is not found: the set of empty slots in (3) – including the adjunct and specifier of the post-verbal DP, the adjunct to SC,[5] and the adjunct to TP – coincides with the set of empty slots in (2). Therefore, any specifier or adjunct position that is empty in (3) is also empty in (2). But this means that, regardless of which maximal projections count as phases in (2)-(3), the contrast between the ill-formed sentence (2) and the well-formed sentence (3) is not reducible to the PIC as reported in (4). In the next subsections we test whether the extension of the PIC with some specific assumptions suffices to capture the contrast between (2)-(3).

### 3.2. The PIC and the absence of *pro*

It may be suggested that Spec-TP is empty in (3), silent pronouns (*pro*) being generally unavailable in grammar (along the lines of Chomsky 2015: 9). This suggestion would in principle allow reducing the contrast between (2)-(3) to the PIC. Let us consider how. In accordance with the suggestion at stake, Spec-TP is empty in (3) but filled in (2); since *di quale muro* can pass through the empty Spec-TP of (3) but not through the filled Spec-TP of (2), the PIC would be violated only in (2) (under the assumption that TP counts as a phase). Consider however the sentences in (5)-(6) with their corresponding phrase markers.

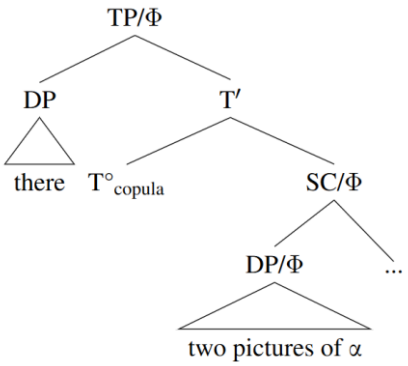
(5) a. English
*[Which wall]$_i$ do you think the cause of the riot was [$_{DP}$ two pictures of $t_i$ ] ?
b.




[5] We are assuming that the notion 'specifier' is undefinable for SCs (Moro 2000). Note also that Spec-TP is filled in both (2) and (3). On *pro* filling Spec-TP, see below.

(6) a. English
[Which wall]$_i$ do you think there were [$_{DP}$ two pictures of $t_i$ ] ?

b.




If the contrast between (2)-(3) were due to the alleged emptiness of Spec-TP in (3), then no comparable contrast should obtain between (5)-(6): Spec-TP is filled in (5b) just like in (6b); therefore, when the movement of *which wall* crosses the TP depicted in (5b)-(6b), the PIC should be violated in (5) just like in (6), thereby ruling both these sentences out. However, (5)-(6) display exactly the same contrast as (2)-(3). This casts serious doubt on an account of the contrast between (2)-(3) in terms of Spec-TP being empty in (3).

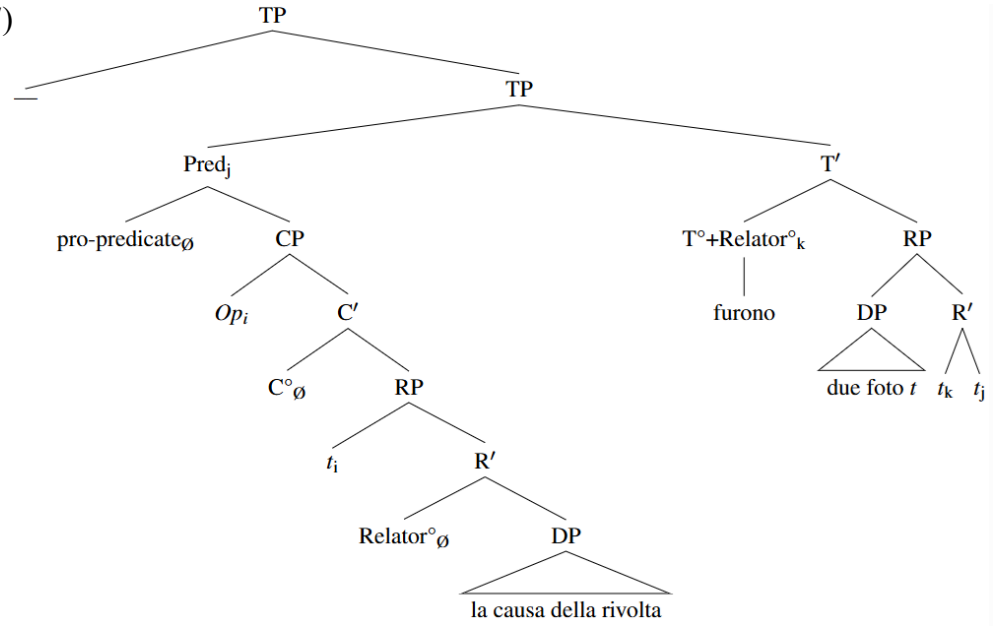
Thus, when examined carefully, the assumption that Spec-TP is empty in (3) loses its attractiveness: such an assumption indeed does not make it possible to reduce the contrast between (2)-(3) to the PIC. Accordingly, we shall take Spec-TP as being filled by *pro* in (3) – as well as in the other phrase markers assigned to this sentence in the remainder of this paper – in keeping with standard assumptions. A more interesting attempt at reducing the contrast between (2)-(3) to the PIC is suggested by den Dikken (2006). Indeed, den Dikken confines his attention to the extraction from the post-verbal DP of inverse copular sentences like (2), setting aside the extraction from the post-verbal DP of *there*-sentences like (3). Nonetheless, his analysis of the extraction exemplified in (2) is explicit enough that it can reasonably be extended to the extraction exemplified in (3) as well. Thus, in what follows we focus on how the contrast between (2)-(3) can be handled by den Dikken's (2006) model.

### 3.3. The PIC and the selective meaninglessness of the copula

Following in part a suggestion by Guéron (1994), den Dikken (2006: 95) assigns inverse copular sentences like (2) the phrase marker in (7): the phrase sitting in Spec-TP (here notated as 'Pred') is a relative clause that serves as the predicate of the DP *due foto del muro*; the relative clause is headed by a silent pronoun (*pro-predicate*$_{\emptyset}$) that functions as the antecedent of a silent relative pronoun (*Op*); *Op* is in turn the subject of the relative-clause-internal predicate *la causa della rivolta*. As a consequence, (2) is analyzed as underlyingly identical to (8), such that: (i) the sentence whose main verb is *was* (parallel to *furono* of (7)) is an inverse copular sentence, where the free relative clause preceding *was* is the predicate of this sentence; (ii) the free relative clause preceding *was* is an instance of a canonical copular sentence, where the

relative pronoun *what* (parallel to *Op* of (7)) preceding the copula *is* (parallel to Relator$_{ø}$ of (7)) serves as the subject of the relative clause itself.[6]

(7)




(8) English
*[Which wall]$_i$ do you think that <u>what is the cause of the riot</u> was two pictures of $t_i$ ?

Now, den Dikken makes three fundamental assumptions with respect to sentences like (2). First, he assumes that the TP headed by *furono* in (7) constitutes a phase, owing to phase-extending head-movement: more precisely, the small clause (referred to by den Dikken as RP, i.e., Relator Phrase) is a phase; the incorporation of Relator° (i.e., the head of RP) into T°, depicted in (7), extends the phase from RP to TP, so that now the whole domain including RP and TP counts as single phase. Second, he assumes a general restriction on adjunction, whereby adjunction to phrases headed by meaningless elements is prohibited.[7] Third, he assumes that the copula, i.e., the head of the TP depicted in (7), is meaningless (den Dikken 2006: 115-123). If these three assumptions are combined, the ill-formedness of (2) can actually be captured by the PIC. Let us consider how.

As we already know, (2) involves the movement of the *wh*-phrase *di quale muro* 'of which wall' from the DP '[due foto …]' to the left-periphery of the matrix clause. This movement crosses the TP headed by the copula *furono* (see (7)). Since this TP is a phase, the PIC (4) requires that *di quale muro* pass through the TP edge – i.e., through the position of adjunct to TP, Spec-TP being already filled by Pred, as depicted in (7). However, copulas like *furono* qualify as meaningless elements in den Dikken's model: if *di quale muro* adjoins to the TP headed by *furono*, the general restriction on adjunction is violated; on the other hand, if *di quale muro* does not adjoin

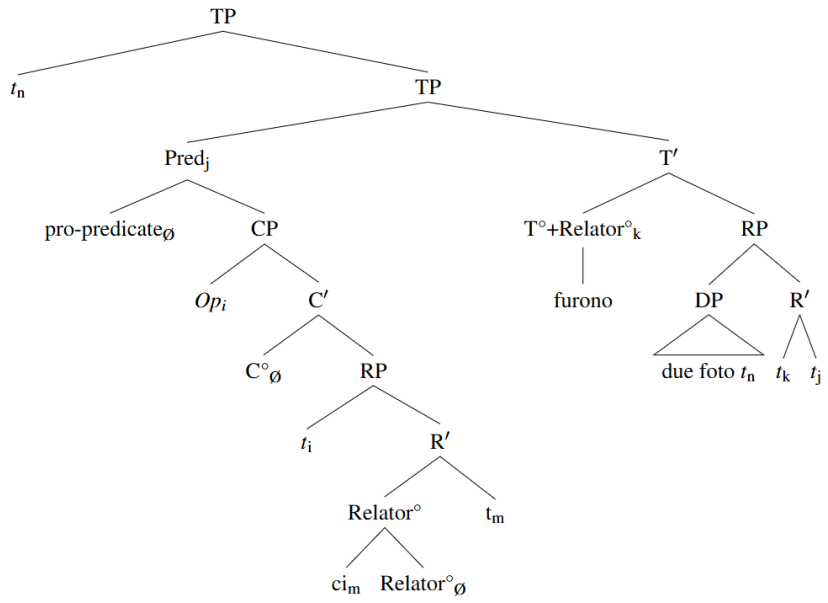
[6] See den Dikken (2006: 94-98) for a detailed discussion. On the analysis of free relative clauses see recently Rugna (2024).

[7] Interestingly, den Dikken's ban on adjunction to 'meaningless phrases' is almost the exact opposite of Chomsky's (1986: 6) ban on adjunction to arguments.

to such a TP, the PIC is violated. Either way, *di quale muro* cannot reach the left-periphery of the matrix clause, which explains the ill-formedness of (2) (see den Dikken 2006: 115-123 for relevant details).

Let us now turn to (3), which exemplifies the extraction from the post-verbal DP of *there*-sentences. If (3) is analyzed as an inverse copular sentence along the lines of Moro (1997), it would be assigned the phrase marker in (9) – where $t_n$ is the trace of the *wh*-phrase *di quale muro* 'of which wall' – in den Dikken's (2006) model.[8] At this point, the only way to rule (9) in while at the same time continuing to exclude (7) would be to assume that the copula *furono* heading TP is meaningless in (7) but not in (9): in this way, *di quale muro* could adjoin to the TP headed by the copula, as depicted in (9), and then reach the left-periphery of the matrix clause, thereby complying with the PIC.

(9)



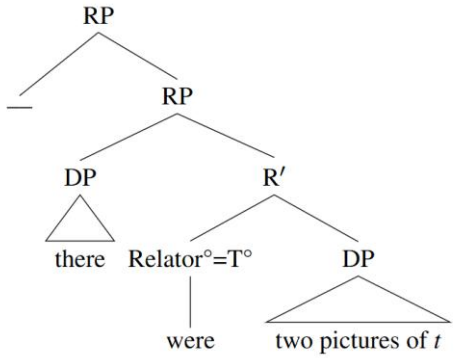

However, this approach faces several difficulties. First, it is not at all clear why *furono* is meaningless only in (7): as a matter of fact, *ci* 'there' – i.e., the only element distinguishing (7) from (9) – does not directly interact with *furono* in (9), so the difference in meaninglessness between *furono* in (7) and in (9) could not possibly be attributed to the presence of *ci*. Second, even if it were indeed possible to provide a rationale for the meaninglessness of *furono* in (7) as opposed to (9), there is no independent evidence that meaning affects the syntactic operation of adjunction. Therefore, if *there*-sentences like (3) are analyzed as inverse copular sentences, the PIC-based account of subextraction advocated for in den Dikken's (2006) model fails to capture the contrast between (2)-(3).

Indeed, we should point out that the contrast between (2)-(3) would be problematic for den Dikken's model even if *there*-sentences were analyzed as canonical copular sentences. To this end, let us focus on English data, which allow us to make our point straightforwardly. According to the alternative analysis of *there*-

[8] See below for the analysis of *there*-sentences like (3) as canonical copular sentences where *ci* 'there' plays the role of subject.

sentences as canonical copular sentences, a sentence like (10a) would be assigned the phrase marker (10b).[9]

(10) a. English
[Which wall]$_i$ do you think there were [$_{DP}$ two pictures of $t_i$ ] ?
b.




Remarkably, Relator° is instantiated by T° in (10), so that (10) contains one less projection (i.e., TP) than (7) and (9).[10] Crucially, RP of (10) is a phase (den Dikken 2006: 112-113), which implies that the movement of the *wh*-phrase *which wall* (represented as a trace in (10)) to the left periphery of the matrix clause must transit through the RP edge, i.e., through the position of adjunct to RP (Spec-RP being already filled by *there*). However, the adjunction of *which wall* to RP is banned by the general restriction on adjunction insofar as RP is projected by a meaningless category (the copula *were*). This implies that, when *which wall* en route to the left periphery of the matrix clause crosses RP in (10), a PIC violation ensues. (10) is therefore wrongly predicted to be ill-formed in den Dikken's (2006) model. Thus, the contrast between the extraction from the post-verbal DP of *there*-sentences vs. of inverse copular sentences cannot be captured by den Dikken's model irrespective of whether *there*-sentences are analyzed as inverse copular sentences (9) or as canonical copular sentences (10).

## 4. On subjacency à la Cinque

In this section we seek to understand to what extent the contrast between (2)-(3) can be reduced to subjacency à la Cinque (1990), i.e., a formulation of the locality conditions on subextraction that is based on selection and configurations. The gist of subjacency à la Cinque (1990: 40-43), in the simplified version elaborated by Moro (1997: 49-57, 115), may be summarized as follows.

(11) Extraction of an expression α from a maximal projection XP is possible only if XP is both selected and locally c-commanded by a verb-like head.

[9] Note that phrase marker (10) represents a canonical copular sentence in den Dikken's (2006) model irrespective of whether *there* is taken as a subject or as a predicate (den Dikken 2006: 12-15). On the grammatical function fulfilled by *there* in *there*-sentences see Moro (1997: 97-107), Deal (2009), and Belletti & Bianchi (2016: §2.3).

[10] The idea that Relator° can be instantiated by T° presupposes a specific conception of Relator° as a placeholder for any functional head (den Dikken 2006: 15-16).

An account of the contrast between (2)-(3) – repeated below as (12)-(13) – in terms of the subjacency condition has already been offered by Moro (1997). For clarity's sake and to support the comparison made in the present paper between two opposite views of locality, we shall critically review Moro's account, focusing first on the ill-formedness of (12).[11]

(12) Italian

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *[Di | quale | muro]$_i$ | pensi | che | la | | | |
| of | which.SG.M | wall.SG.M | think.2SG | that | DET.SG.F | | | |
| causa | della | rivolta | furono | [$_{SC}$ | [due | foto | $t_i$ ] ? | |
| cause.SG.F | of=DET.SG.F | riot.SG.F | were.3 | | two | picture.PL.F | | |

(13) Italian

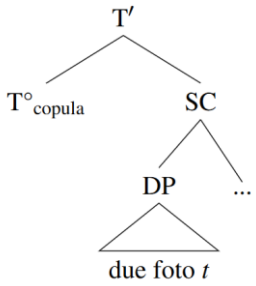
| | | | | | |
|---|---|---|---|---|---|
| [Di | quale | muro]$_i$ | pensi | che | ci |
| of | which.SG.M | wall.SG.M | think.2SG | that | there.CL |
| furono | [$_{SC}$ | [due | foto | $t_i$ ] ? | |
| were.3 | | two | picture.PL.F | | |

'Which wall do you think that there were two pictures of?'

### 4.1. On the non-selected subject of inverse copular sentences

Let us examine a relevant fragment of the phrase marker corresponding to (12) in Moro's (1997) model:

(14)




There are two fundamental remarks to be made about (14). First, the copula featuring in (14) is not a predicate, but merely the spell-out of tense. To better understand this point, let us consider the sentence *John runs*. The lexical verb *runs* featuring in this sentence syncretically spells out the predicative content (i.e., the property of running, to be ascribed to subject *John*) as well as the tense of the sentence (specifically, present tense). By contrast, the copula of (12) (= (14)) spells out present tense, but not the predicative content of the sentence, which is instead spelled out by the predicative DP *la causa della rivolta* 'the cause of the riot'.[12] The second remark to be made about (14) is that a subject is selected only by its predicate (Moro 1997: 115/2000: 112): the copula featuring in (14), not being the predicate of the post-verbal DP subject '[due foto *t* ]', fails to select such a subject in (14).

[11] Cf. Mocci (2025: 38-96) for a more extensive comparison of Moro's and den Dikken's models.

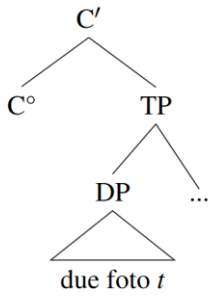
[12] For a historical overview of the copula, which goes from Aristotle to Jespersen passing through Abelard, Russell, and many others, see Moro (2017).

Now, since the post-verbal DP is locally c-commanded, but not selected, by the copula in (14), the extraction of the *wh*-phrase *di quale muro* 'of which wall' (represented as *t* in (14)) from the post-verbal DP violates the subjacency condition. In this way, the extraction from the post-verbal DP of (14) parallels the extraction from the pre-verbal subject position, depicted in (15): in both cases, the DP is locally c-commanded by a verb-like head (the copula in (14); complementizer C° in (15)) that fails to select it. This makes it possible to treat the ill-formedness of (12) (= (14)) on a par with the ill-formedness of the extraction from the pre-verbal subject position (15) (see Moro 1997: 51-52): both (12) and (15) are ill-formed insofar as they violate the subjacency condition.[13]

(15) a. Italian

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *[Di | quale | muro]$_i$ | pensi | che | [due | foto | $t_i$ ] |
| of | which.SG.M | wall.SG.M | think.2SG | that | two | picture.PL.F | |
| furono | la | causa | della | rivolta | ? | | |
| were.3 | DET.SG.F | cause.SG.F | of=DET.SG.F | riot.SG.F | | | |

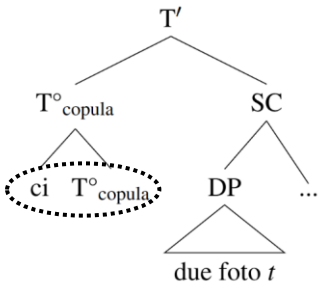
b.




## 4.2. A complex verbal head

We now turn to Moro's (1997) account of the well-formedness of (13), which exemplifies the extraction from the post-verbal DP of *there*-sentences. Let us concentrate on a relevant fragment of the phrase marker corresponding to (13):

(16)




Moro (1997) argues forcefully that clitic *ci* 'there' is the predicate of the post-verbal DP subject '[due foto *t* ]' featuring in (16). As mentioned above, a subject is selected only by its predicate. Therefore, *ci* selects the post-verbal DP in (16) via

[13] Let us note that both the post-verbal DP of (12) and the pre-verbal DP of (15) perform the grammatical function of subject. See Greco et al. (2020) for critical considerations on extraction from the subject position in Italian.

predicate-subject selection (Moro 1997: 115/2000: 112). It is then not unreasonable to hypothesize that, by incorporating into the copula, *ci* transmits its selectional capacities to the result of such an incorporation, i.e., to '*ci*+copula'.[14] In this way, '*ci*+copula' ends up selecting the post-verbal DP in (16). Since the post-verbal DP is now both locally c-commanded and selected by '*ci*+copula' – which qualifies as a verb-like head[15] – the extraction of the *wh*-phrase *di quale muro* 'of which wall' from the post-verbal DP does not violate the subjacency condition. This accounts for the well-formedness of (16), and hence of the corresponding sentence (13).

### 4.3. Summary: On the persistency of the subjacency condition

In the previous sections the predictions made by subjacency à la Cinque and the PIC have been tested against the extraction from the post-verbal DP of inverse copular sentences like (12)-(13). Interestingly, these sentences constitute a privileged domain to test the subjacency condition, insofar as they allow isolating the two requirements imposed by subjacency on the extraction from an XP: (i) a configurational requirement, i.e., that XP must be locally c-commanded by a verb-like head; (ii) a selectional requirement, namely that XP must be selected by a verb-like head. This is because, in inverse copular sentences, the selecting head is realized by an element (e.g., *ci* 'there', which selects the post-verbal DP in (13)) other than the element realizing the locally c-commanding head (e.g., *furono* 'were', which locally c-commands the post-verbal DP in (12)-(13)): only when the two types of heads interact together (e.g., via incorporation) is the subjacency condition complied with.

It turns out that the subjacency condition is empirically superior to the PIC (i.e., a locality condition based on phases) in the domain of inverse copular sentences: the subjacency condition naturally captures the extraction from the post-verbal DP of these sentences, while the PIC needs to be supplemented with highly controversial assumptions, such as the selective meaninglessness of the copula, which in fact undermine the whole PIC-based approach to subextraction.

All in all, the formulation of the locality conditions on subextraction in terms of subjacency is directly backed up by inverse copular sentences. In the remainder of this study, we provide another empirical case study in support of the subjacency-based formulation, by focusing on the so-called 'complement of quality'.

## 5. On the complement of quality

The phrases underlined in (17)-(18) exemplify the so-called complement of quality.

(17) Italian

| | | | |
|---|---|---|---|
| Il | romanzo | da=i personaggi | misteriosi |
| DET.SG.M | novel.SG.M | *da*=DET.PL.M | character.PL.M mysterious.PL.M |

'The novel whose characters are mysterious'

[14] Let us note that *causa* 'cause', i.e., the predicative head of (12) (= (14)), does not incorporate into the copula. Consequently, no transmission of the selectional capacities of *causa* takes place in (12). See Moro (1997: 115-126) for relevant discussion.

[15] To be specific, '*ci*+copula' is a verb that participates in an unaccusative construct: see Moro (1997: 214-247) and Hale & Keyser (2002: 189-203).

(18) Italian
La ragazza da=i commenti taglienti
DET.SG.F girl.SG.F *da*=DET.PL.M comment.PL.M sharp.PL.M
'The girl whose comments are sharp'

From a descriptive point of view, the Italian complement of quality can be defined as the prepositional phrase (PP) which satisfies the following two conditions: (i) it contains a qualificand and a qualifier; (ii) the qualificand contained within the PP is also the possessum of an expression not contained within the PP. For example, *personaggi* 'characters' is the qualificand and *misteriosi* 'mysterious' the corresponding qualifier in (17), in the sense that *misteriosi* ascribes the property of being mysterious to the characters denoted by *personaggi*. Furthermore, *personaggi* is simultaneously interpreted as the possessum of *romanzo* 'novel' (which is not part of *dai romanzi misteriosi*), in the sense that the characters denoted by *personaggi* are included in the novel denoted by *romanzo*. This means that there is a possessor-possessum relation between *personaggi* and *romanzo*, in compliance with (ii).

The Italian complement of quality is sensitive to at least two constraints, which seem to have gone unnoticed in the literature. First, it does not permit the deletion of the Adjectival Phrase (AP) qualifying the Noun Phrase (NP): (19)-(20) are ill-formed.

(19) Italian
*Il romanzo da=i personaggi
DET.SG.M novel.SG.M *da*=DET.PL.M characters.PL.M

(20) Italian
*La ragazza da=i commenti
DET.SG.F girl.SG.F *da*=DET.PL.M comment.PL.M

Second, the adjective serving as a qualifier can only be a predicative one. Hence the ill-formedness of (21)-(22), which feature non-predicative adjectives: *principali* 'main' and *precedenti* 'former' cannot serve as sentential predicates, as shown in (23a) and (24a). These contrast with (23b) and (24b), where *misteriosi* 'mysterious' and *taglienti* 'sharp' can instead be used as sentential predicates and therefore count as predicative adjectives (cf. the well-formedness of (17)-(18).[16]

(21) Italian
*Il romanzo da=i personaggi principali
DET.SG.M novel.SG.M *da*=DET.PL.M characters.PL.M main.PL.M
(lit. 'the novel whose characters are main')

(22) Italian
*La ragazza da=i commenti precedenti
DET.SG.F girl.SG.F *da*=DET.PL.M comment.PL.M former.PL.M
(lit. 'the girl whose comments are former')

[16] See Kamp & Partee (1995) for a seminal classification of adjectives. On the predicative vs. non-predicative divide as the main partition of the adjectival class, see Cinque (2010)/(2014).

(23) a. Italian

| | | | | |
|---|---|---|---|---|
| *I | personaggi | del | romanzo | sono |
| DET.SG.M | characters.PL.M | of=DET.SG.M | novel.SG.M | are.3 |
| principali | | | | |
| main.PL.M | | | | |

(lit. 'the novel's characters are main')

b. Italian

| | | | | |
|---|---|---|---|---|
| I | personaggi | del | romanzo | sono |
| DET.SG.M | characters.PL.M | of=DET.SG.M | novel.SG.M | are.3 |
| misteriosi | | | | |
| mysterious.PL.M | | | | |

'The novel's characters are mysterious'

(24) a. Italian

| | | | | |
|---|---|---|---|---|
| *I | commenti | della | ragazza | sono |
| DET.PL.M | comment.PL.M | of=DET.SG.F | girl.SG.F | are.3 |
| precedenti | | | | |
| former.PL.M | | | | |

(lit. 'the girl's comments are former')

b. Italian

| | | | | |
|---|---|---|---|---|
| I | commenti | della | ragazza | sono |
| DET.PL.M | comment.PL.M | of=DET.SG.F | girl.SG.F | are.3 |
| taglienti | | | | |
| sharp.PL.M | | | | |

'The girl's comments are sharp'

In the following we show that these constraints – i.e., the impossibility of dropping the qualifier and of using a non-predicative adjective to realize the qualifier – crucially interact with the theory of locality. More precisely, we discuss the phrasal category of the Italian complement of quality in section 6. Next (section 7), we argue that the derivation of the Italian complement of quality involves an instance of subextraction. This paves the way for the discussion in section 8, where the aforementioned constraints are deduced from subjacency à la Cinque (1990).

## 6. The phrasal category of the Italian complement of quality

The complements of quality in (17)-(18) are formally headed by the preposition *da* and therefore count as a PPs from the categorial point of view. However, complements of quality differ from run-of-the-mill PPs, as can be shown by means of semantic and syntactic diagnostics.

### 6.1. The semantic contribution of *da*

In run-of-the-mill PPs such as those included in (25)-(26), *da* (corresponding to either 'from' or 'by' in English) conveys the meaning 'zonally included in' or 'part of'

(notated by means of the subset symbol '⊆') according to Manzini (2017: 235-238) and Rugna & Franco (2022: 11-13).[17] However, *da* fails to convey this meaning in (17)-(18).

(25) a. Italian
Commenti da ragazza
comment.PL.M *da* girl.SG.F
'comments fit for girls'

b. [$_{DP}$ commenti [$_{PP}$ ⊆$_{da}$ [$_{NP}$ ragazza]]]

(26) a. Italian
Lucia fu rattristata da=i commenti taglienti
Lucia was.3 saddened.SG.F *da*=DET.PL.M comment.PL.M sharp.PL.M
'Lucia was saddened by the sharp comments'

b. [$_{vP}$ CAUSE [$_{VP}$ rattristata Lucia] [$_{PP}$ ⊆$_{da}$ [$_{NP}$ commenti taglienti]]]

Thus, *da* conveys the meaning '⊆' in (25), in the sense that the comments denoted by *commenti* are zonally included in (⊆), hence fit for a girl (*ragazza*).[18] Similarly, *da* conveys the meaning '⊆' in (26), in the sense that the caused event of Lucia being saddened is owned by or located at (⊆) the sharp comments (Manzini 2017: 237). By contrast, *da* conveys the meaning '⊇' (i.e., the superset relation, which we may paraphrase as 'zonally including') in (27), which matches (18) above: the girl zonally includes (⊇) the sharp comments spoken of in the example.

(27) a. Italian
La ragazza da=i commenti taglienti
DET.SG.F girl.SG.F *da*=DET.PL.M comment.PL.M sharp.PL.M
'The girl whose comments are sharp'

b. [$_{DP}$ ragazza [$_{PP}$ ⊇$_{da}$ [$_{NP}$ commenti taglienti]]]

Example (17), repeated below as (28), can be analyzed along exactly parallel lines to (27).

(28) a. Italian
Il romanzo da=i personaggi misteriosi
DET.SG.M novel.SG.M *da*=DET.PL.M character.PL.M mysterious.PL.M
'The novel whose characters are mysterious'

b. [$_{DP}$ romanzo [$_{PP}$ ⊇$_{da}$ [$_{NP}$ personaggi misteriosi]]]

[17] The notion of zonal inclusion extends beyond physical containment: "Entities have various zones associated with them, such that an object or eventuality may be included in a zone associated with an entity without being physically contained in that entity" (Belvin & den Dikken 1997: 170).

[18] See Rugna & Franco (2022: 11) for a detailed discussion of examples like this.

Indeed, one may even go as far as to claim that *da* has no semantic load in the complement of quality, just like the prepositions studied by Kayne (1994: 106), den Dikken (2006), and Moro (2000: 52-53) and exemplified in (29) with *di* 'of'.

(29) Italian
Quella tigre di uomo
that.SG.F tiger.SG.F of man.SG.M
'that tiger of a man'

Either way – i.e., both if we assume that *da* conveys the meaning '⊇' in the complement of quality and if assume that it has no semantic load in the complement of quality – the meaning conveyed by *da* in run-of-the-mill PPs ('⊆') is distinct from the meaning conveyed by *da* in the complement of quality. This supports our conclusion that the complement of quality is not a run-of-the-mill PP.

### 6.2. The strange case of non-predicative adjectives

Further evidence in favor of the complement of quality not being a run-of-the-mill PP is provided by the fact that the latter are insensitive to the constraints as mentioned above in section 5 (i.e., the impossibility of dropping the adjective and of realizing it as a non-predicative adjective). Thus, the contrasts in (30)-(31) show that the adjective can be dropped in run-of-the-mill PPs, unlike in the complement of quality.

(30) a. Italian
Luca fu rattristato [PP da=i personaggi]
Luca.SG.M was.3 saddened.SG.M *da*=DET.PL.M characters.PL.M
'Luca was saddened by the characters'

b. Italian
*Il romanzo [PP da=i personaggi]
DET.SG.M novel.SG.M *da*=DET.PL.M characters.PL.M

(31) a. Italian
Lucia fu rattristata [PP da=i commenti]
Lucia was.3 saddened.SG.F *da*=DET.PL.M comment.PL.M
'Lucia was saddened by the comments'

b. Italian
*La ragazza [PP da=i commenti]
DET.SG.F girl.SG.F *da*=DET.PL.M comment.PL.M

Likewise, the contrasts in (32)-(33) illustrate that the adjective can be of the non-predicative type in run-of-the-mill PPs as opposed to the complement of quality.

(32) a. Italian
Luca fu rattristato [PP da=i
Luca.SG.M was.3 saddened.SG.M *da*=DET.PL.M
personaggi principali]
main.PL.M characters.PL.M
'Luca was saddened by the main characters'

b. Italian
*Il romanzo [PP da=i personaggi
DET.SG.M novel.SG.M *da*=DET.PL.M characters.PL.M
principali]
main.PL.M
(lit. 'the novel whose characters are main')

(33) a. Italian
Lucia fu rattristata [PP da=i commenti
Lucia was.3 saddened.SG.F *da*=DET.PL.M comment.PL.M
precedenti]
former.PL.M
'Lucia was saddened by the former comments'

b. Italian
*La ragazza [PP da=i commenti
DET.SG.F girl.SG.F *da*=DET.PL.M comment.PL.M
precedenti]
former.PL.M
(lit. 'the girl whose comments are former')

We conclude that the Italian complement of quality is not a run-of-the-mill PP, despite the surface similarities between these constructions. In the next section we make this point formally explicit by means of syntactic configurations: the phrase projected by *da* – whatever its exact label – involves configurations (a predicative nucleus and a functional layer stacked above it) that are absent in run-of-the-mill PPs.

## 7. A configurational approach to the complement of quality

Two semantic relations hold within the complement of quality: the possessum-possessor relation and the qualifier-qualificand relation. Such relations can be translated into configurational terms, which make it possible to neatly model all relevant properties of the complement of quality in Italian.

### 7.1. A configurational approach to possession

In the complements of quality (17)-(18), repeated below as (34)-(35), *romanzo* and *ragazza* are interpreted as possessors, and *personaggi* and *commenti* as their corresponding possessa.

(34) Italian

| | | | | |
|---|---|---|---|---|
| Il | romanzo | da=i | personaggi | misteriosi |
| DET.SG.M | novel.SG.M | *da*=DET.PL.M | character.PL.M | mysterious.PL.M |

'The novel whose characters are mysterious'

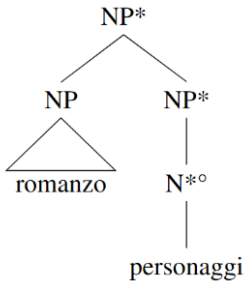
(35) Italian

| | | | | |
|---|---|---|---|---|
| La | ragazza | da=i | commenti | taglienti |
| DET.SG.F | girl.SG.F | *da*=DET.PL.M | comment.PL.M | sharp.PL.M |

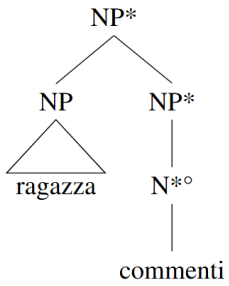
'The girl whose comments are sharp'

Now, Adger (2013: 113-132) suggested that possession is codified in syntax by a precise configuration: at the beginning of the derivation of the complement of quality, the possessor adjoins to the possessum.[19] This gives (36)-(37), which are configurationally non-distinct from the simplified representation of English *your books* (38).[20]

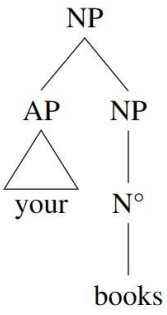
(36)




(37)




(38)




To be noted that this configurational approach to possession permits us to explicitly codify possession in syntactic terms, while at the same time ascribing no semantic value to the preposition *da* (cf. above, section 6.1, for a discussion of the possible semantic values conveyed by *da* in the complement of quality).

[19] We are assuming with Kayne (1994: 17) and Manzini (2017: 237) that specifiers are non-distinct from adjoined phrases, so that the question as to whether the possessor is merged as a specifier or as an adjunct of the phrase projected by the possessum becomes irrelevant. Cf. den Dikken (2015) for an alternative approach to the codification of possession, whereby the possessor starts out as the predicate of a small clause.

[20] We are suffixing the NP projected by the possessum with a star (NP*) in order to graphically distinguish it from the NP projected by the possessor (NP).

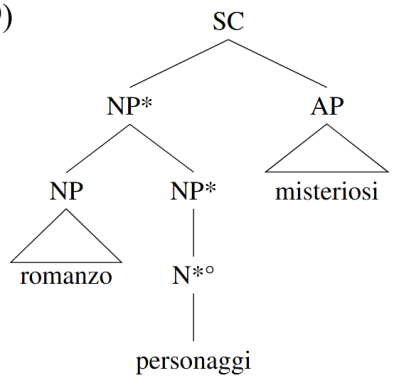
### 7.2. A configurational approach to predication

Another semantic relation holding in the complements of quality exemplified in (34)-(35) is the qualifier-qualificand relation: *misteriosi* (the qualifier) qualifies the novel's characters denoted by NP* in (36) (the qualificand), in the sense that *misteriosi* ascribes the property of being mysterious to such characters; by the same token, *taglienti* (the qualifier) qualifies the girl's comments denoted by NP* in (37) (the qualificand), since *taglienti* ascribes the property of being sharp to such comments.

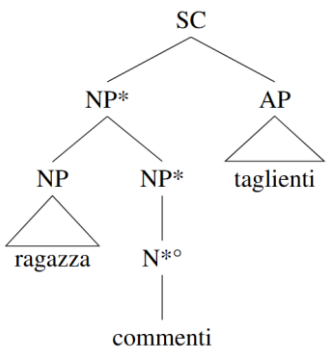
Now, following den Dikken (2006: 10-12), we take the semantic notions 'qualificand' and 'qualifier' to be respectively equivalent to the syntactic notions 'subject' and 'predicate' at the proper level of representation, which we again take as coinciding with the initial derivational stage of the complement of quality. Therefore, at the beginning of the derivation, the qualifiers *misteriosi* and *taglienti* are predicates, while the qualificands represented by the NP*s in (34)-(35) serve as their corresponding subjects.

Crucially, Moro (2019: 4) conjectured that the subject-predicate link can be codified in syntax in purely geometrical, qua configurational, terms (see also Moro 2000: 71; Greco & Mocci 2024): in keeping with this conjecture, the subject-predicate link between *misteriosi* and the NP* of (36), as well as the subject-predicate link between *taglienti* and the NP* of (37), is codified by a symmetrical structure – technically dubbed as small clause (SC) – at the beginning of the derivation of the complements of quality.[21] This is illustrated in (39)-(40), paralleling (41), which codifies the subject-predicate link holding in *Two pictures of the wall were the cause of the riot* (see Moro 1997 for relevant discussion).

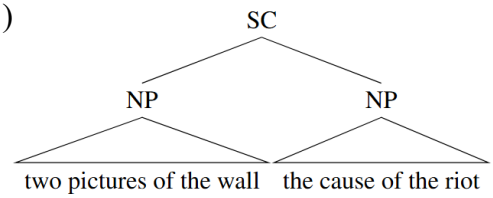
(39)




(40)




(41)




[21] On the exocentric nature of small clauses see especially Moro (2000: 32-38/2019: 3) and Chomsky (2013: 42).

The phrase markers in (39)-(40) explicitly codify both semantic relations holding in the complements of quality (34)-(35) in configurational terms: on the one hand, the possessor-possessum relation holding between *romanzo* and *personaggi*, and between *ragazza* and *commenti*; on the other hand, the qualifier-qualificand relation holding between *misteriosi* and the NP* projected by *personaggi* (represented in (39)), and between *taglienti* and the NP* projected by *commenti* (depicted in (40)). The question now arises as to how we get from the phrase markers in (39)-(40) to the complements of quality in (34)-(35). In what follows we will show that (34)-(35) are indeed the outcome of the interaction of independently assumed principles of grammar applying to (39)-(40). One of such principles is Dynamic Antisymmetry (Moro 2000), to which we now turn.

### 7.3. A silent head within the complement of quality

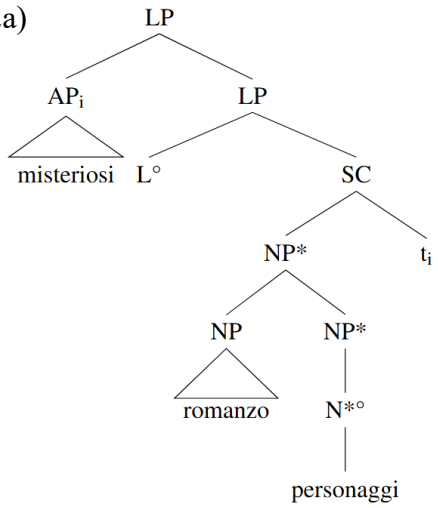
In keeping with Moro & Roberts (2024), any syntactic structure must be labeled (otherwise it cannot be interpreted – see Rizzi 2016: 105) and linearized (otherwise it cannot be spelled out). Crucially, the principle governing the labeling of syntactic structures (the so-called Labeling Algorithm) and the one governing their linearization (the Linear Correspondence Axiom or LCA) are defined in such a way as to be satisfied in asymmetrical structures only – namely, in phrases (XP) where the head (X°) asymmetrically c-commands the complement of X°, while the specifier/adjunct of X° asymmetrically c-commands the whole unit made up of X° and the complement of X° (X′).[22] As a result, symmetrical structures are illegitimate because they cannot be either labeled or linearized.

Now, the small clauses in (39)-(40) are symmetrical structures – in the sense that the subject (NP*) and the predicate (AP) mutually c-command one another – and therefore constitute illegitimate structures. Rather than causing the derivation to crash, the illegitimacy of (39)-(40) is tolerated by the system provided it is removed before the derivation of the complement of quality is completed (Moro 2000: 28). Specifically, the illegitimacy of (39)-(40) is lifted when either component of the small clause (NP* or AP) moves out of the small clause itself, which makes it possible to both linearize and provide a label to the small clause, in compliance with the principle of Dynamic Antisymmetry (Moro 2000/2004, Moro & Roberts 2024). This is illustrated in (42a-b) and (43a-b), where L° is a silent linking element, i.e., a functional head that, since it does not clearly contribute a meaning, appears to serve the sole purpose of creating a landing site for movement (i.e., Spec-LP).[23]

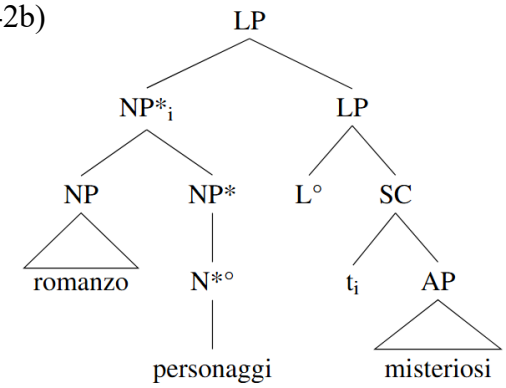
[22] For the standard definition of the Labeling Algorithm and the LCA see Chomsky (2013: 43-44) and Kayne (1994: 3-6), respectively.

[23] Linking elements have been posited within compounds (Di Sciullo 2009, Delfitto & Melloni 2009, Okubo 2014), noun phrases, and sentences (den Dikken 2006). It is unclear whether linking elements are meaningless: see Eik (2019: 182-183) for an interesting attempt to pinpoint and formalize the semantic contribution of such elements.

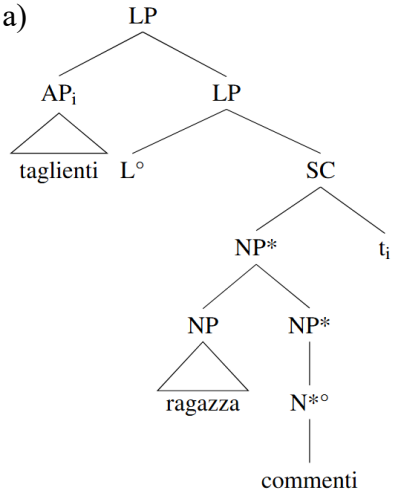
(42a)



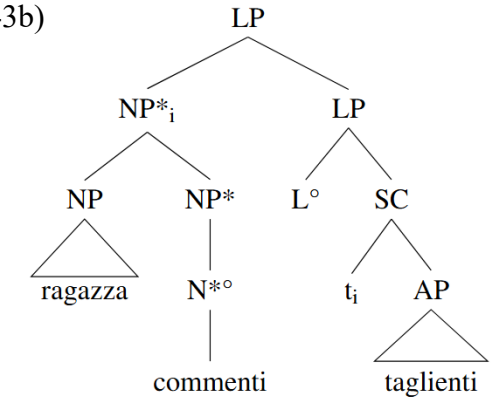

(42b)




(43a)



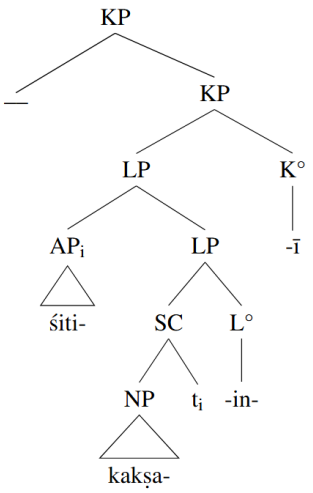

(43b)




When a silent element is posited in a given construction of a given language, it is good practice, in the generative tradition, to find an overt counterpart to that element occurring in a comparable construction of another language. We argue that the relevant evidence can be found in the old Indo-Aryan language Sanskrit, where the suffix which optionally shows up before the case ending in exocentric (so-called *bahuvrīhi*) compounds functions as an overt counterpart to the L° posited in (42)-(43). Thus, the compound *śitikakṣī́* 'whose belly is white' (*Taittirīya Saṃhitā* 5.5.20.1) is made up of *śiti-* 'white', *kákṣa-* 'belly', *-in-*, and the nominative case ending which, when suffixed to *-in-*, yields <*ī*>. As pointed out by Mocci (2022: 7-9), *-in-* does not contribute any clear meaning to *śitikakṣī́*: when *-in-* is missing, such as in *śitikákṣāḥ* (*Atharvaveda Śaunakīya* 5.23.5), the compound meaning remains unchanged. This led Mocci (2022:17-19) to consider *-in-* as a linking element that serves the purpose of creating a landing site for movement (see Mocci 2025 for a detailed discussion). To be specific, Mocci (2022) came up with a phrase marker like (44) for *śitikakṣī́*, which only differs from, e.g., (42a) and (43a) in that: (i) the NPs involved in (44) are nominal stems

(rather than inflected words); and (ii) the head follows its complement in (44), in keeping with the head-finality of Sanskrit compounds as opposed to Italian.[24]

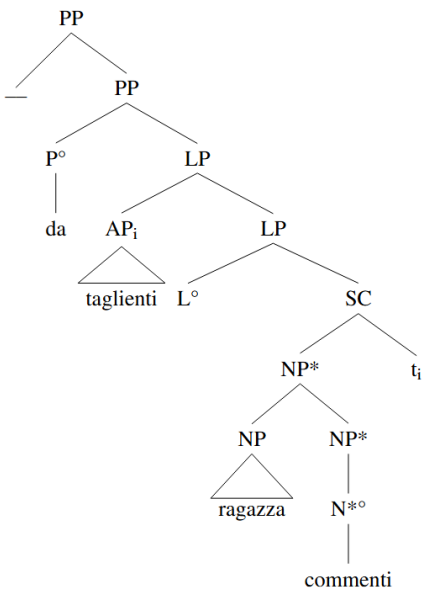
(44)




### 7.4. A special type of prepositional phrase

Given the parallelism between case endings and prepositions – whereby, e.g., Romance prepositions perform the same function as Latin (oblique) case endings – we submit that *da* of the Italian complement of quality corresponds to the case ending sitting under K° in Sanskrit exocentric compounds. This is illustrated in (45) (based on (43a)) with reference to *La ragazza dai commenti taglienti* (35).

(45)




[24] KP stands for 'case phrase', where K° is spelled out by a case ending along the lines of Hale & Bittner (1996).

The sole purpose served by *da* in (45) is that of providing the NP* headed by *commenti* with case.[25] In this perspective, the Italian complement of quality parallels Sanskrit exocentric compounds of the type in (44) in several respects: (i) both constructions convey a meaning 'whose X is Y' (where X and Y are the internal members of the complement of quality or of the exocentric compound); (ii) both constructions involve an LP whose head may be silent; (iii) both constructions involve a subject-predicate link that is syntactically codified via a small clause; (iv) both constructions are case-marked, where case can be realized by a suffix (such as in Sanskrit) or by a preposition (such as in Italian).

Before concluding this section, it is worth noting that the phrase marker in (45) provides a new way of looking at the contrast between run-of-the-mill PPs and the complement of quality with respect to the properties examined above, sections 5-6 (i.e., the fact that *da* conveys the meaning '⊇' only in the complement of quality, and that the adjective cannot be dropped or realized as a non-predicative adjective only in the complement of quality): the complement of quality contains a predicative nucleus (namely, SC) and a functional layer stacked above such a nucleus (namely, LP), whereas run-of-the-mill PPs like those discussed above, section 6, lack both SC and LP. Therefore, although they are phonologically identical, the PPs underlined in (46a) (an instance of a run-of-the-mill PP) and (46b) (an instance of a complement of quality) differ in structural (i.e., configurational) terms.

(46) a. Italian
Lucia fu rattristata [PP da=i commenti
Lucia was.3 saddened.SG.F *da*=DET.PL.M comment.PL.M
taglienti]
sharp.PL.M
'Lucia was saddened by the sharp comments'

b. Italian
La ragazza [PP da=i commenti
DET.SG.F girl.SG.F *da*=DET.PL.M comment.PL.M
taglienti]
sharp.PL.M
'The girl whose comments are sharp'

In summary, all phrase markers in (42)-(43) comply with case, labeling, and linearization requirements once the preposition *da* merges with LP, along the lines illustrated in (45). However, the possessors *romanzo* and *ragazza* are represented as contained within the PP headed by *da* in (42)-(43), but must be PP-external at the end of the derivation, as the linear ordering of (34)-(35) shows. In the next section we shall be concerned with the issue as to how to get from (42)-(43) to the final output of the complement of quality, given in (34)-(35).

[25] More precisely, it is the determiner phrase (DP) headed by *i* (i.e., by the determinative article amalgamating with the preposition *da* in *La ragazza dai commenti taglienti*) which is provided with case. See below on the structural representation of the complement-of-quality-internal determinative article.

## 8. Deducing the constraints on the complement of quality

In this section we contend that the derivation of the Italian complement of quality involves an instance of subextraction: the possessor is extracted from within the subject of the small clause. We show that the constraints on the adjective included in the complement of quality – namely, the impossibility of dropping such an adjective or of realizing it as a non-predicative adjective – follow from the locality conditions on subextraction. We argue that the formulation of such locality conditions delivering the desired results is the subjacency condition à la Cinque (1990).

### 8.1. Subextraction and the complement of quality

In order to codify the semantic relation of possession holding between *ragazza* and *commenti* in (35) – repeated below as (47) – along the lines suggested by Adger (2013), we argued above (section 7.1) that *ragazza* is an adjunct to the phrase (NP*) projected by *commenti* at the beginning of the derivation of (47).

(47) Italian

| La | ragazza | da=i | commenti | taglienti |
|---|---|---|---|---|
| DET.SG.F | girl.SG.F | *da*=DET.PL.M | comment.PL.M | sharp.PL.M |

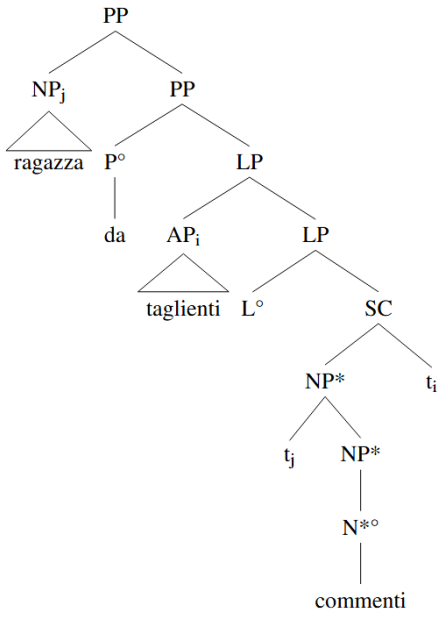
'The girl whose comments are sharp'

This, alongside considerations of predication, case, linearization, and labeling, yielded the phrase marker in (45). Nevertheless, *ragazza* is clearly not an adjunct to *commenti* at the end of the derivation of (47), inasmuch as *ragazza* is external to the PP headed by *da* in (47). Therefore, *ragazza* must move from within NP* to a position higher than P° *da*, such as Spec-PP, during the derivation of (47).[26] This is illustrated in (48a-b), where (48a) differs from (48b) in that the linearization and labeling requirements imposed on SC are satisfied by raising the predicate of SC (i.e., AP) to Spec-LP in (48a), and by raising the subject of SC (i.e., the whole NP*) to Spec-LP in (48b).[27]

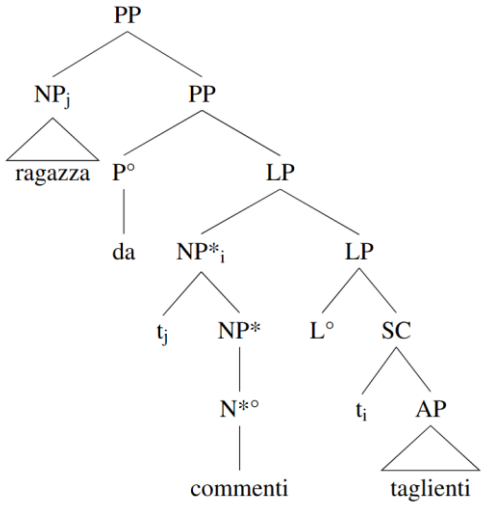
[26] See Kayne (2004) for a case study on the movement targeting the specifier of prepositions.

[27] We suspend the representation of the DP projected by the determinative article *i* (which amalgamates with *da* to yield *dai*) until section 8.2 below.

(48a)




(48b)



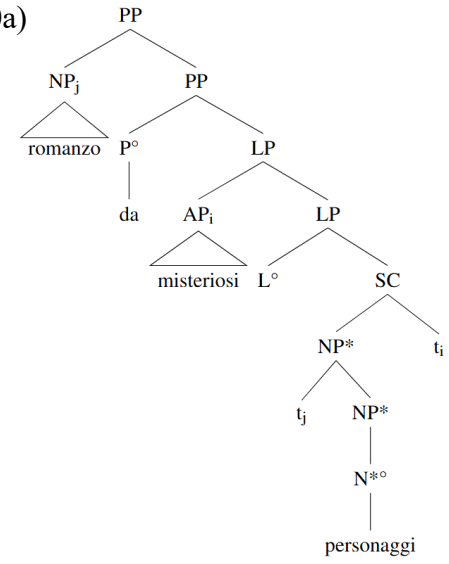

By the same token, *romanzo* adjoins to the NP* projected by *personaggi* at the beginning of the derivation of (34), repeated below as (49), and subsequently moves from within NP* to Spec-PP before the completion of the derivation, thereby yielding (50a-b).

(49) Italian

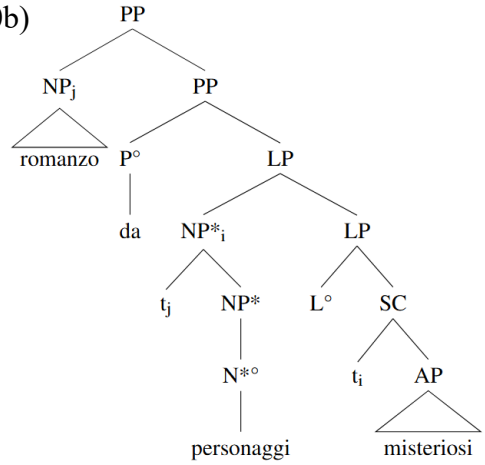
| Il | romanzo | da=i | personaggi | misteriosi |
|---|---|---|---|---|
| DET.SG.M | novel.SG.M | *da*=DET.PL.M | character.PL.M | mysterious.PL.M |

'The novel whose characters are mysterious'

(50a)




(50b)




What motivates the movement of *ragazza* to Spec-PP in (48a-b), or of *romanzo* to Spec-PP in (50a-b) is an open question. This movement may be driven by the need to case-mark *ragazza* (or *romanzo*), which would lack case were it to stay in situ within SC: in this perspective, *ragazza* (or *romanzo*) would vacate SC in search of the first

available landing site where its need for case is satisfied, this landing site being found in Spec-PP.[28] Alternatively, the movement of *ragazza* (or *romanzo*) to Spec-PP may be driven by the need to label NP* in an approach to labeling like Rizzi's (2015)/(2016) and Shlonsky & Rizzi's (2018). In keeping with this approach, "specifiers can (and must) stay if they are in a criterial configuration, otherwise they must move" (Rizzi 2015: 42). To be successfully applied to the movement of *ragazza* (or of *romanzo*) to Spec-PP in (48a-b), this approach requires that the position of adjunct (which is non-distinct from a specifier) of NP*, occupied by *ragazza* (or by *romanzo*) at the beginning of the derivation, be in a non-criterial configuration, and that Spec-PP, i.e., the position where *ragazza* (or *romanzo*) halts in (48a-b), be in a criterial configuration.[29] We shall not pursue this approach here because we do not see any easy way to clearly distinguish between Spec-PP and the position of adjunct to NP* in terms of criterial features.

Now, regardless of what the exact trigger for the movement of *ragazza* to Spec-PP is, we have to determine whether this movement satisfies locality in both (48a) and (48b). Similarly, we have to determine whether the movement of *romanzo* to Spec-PP satisfies locality both in (50a) and (50b). To be specific, the movement of *ragazza* (or of *romanzo*) to Spec-PP is an instance of subextraction, and subextraction is subject to locality conditions, which may be formulated in terms of phases or of subjacency. In the remainder of this section we apply subjacency à la Cinque to (48a-b) and (50a-b) and show how all relevant properties of the complement of quality as discussed above (sections 5-6) follow from this locality formulation.

### 8.2. On selection and local c-command

As discussed above (section 4), Cinque's (1990: 40-43) version of the subjacency condition states that the extraction from a phrase XP is possible only if: (i) XP is locally c-commanded by a verb-like head H; and (ii) XP is selected by H. For example, the NP* '[*t* [commenti]]' is locally c-commanded by L°, which we assume to be a verb-like head, in (48a), as opposed to (48b). Likewise, the NP* '[*t* [personaggi]]' is locally c-commanded by L° in (50a), as opposed to (50b). Since the c-command requirement of the subjacency condition fails to be satisfied in (48b) and (50b), we can rule (48b) and (50b) out as ill-formed: the extraction of *ragazza* and *romanzo* from NP* induces a subjacency violation in (48b) and (50b), respectively.

We now test whether (48a) and (50a), which satisfy the c-command requirement of the subjacency condition, also satisfy the selectional requirement. Indeed, the local (i.e., Spec-head) relation between L° and *taglienti* in (48a) causes L° to inherit the selectional properties of *taglienti*, along the lines originally suggested by Moro (1997: 125-126): since *taglienti* selects the NP* '[*t* [commenti]]' via predicate-

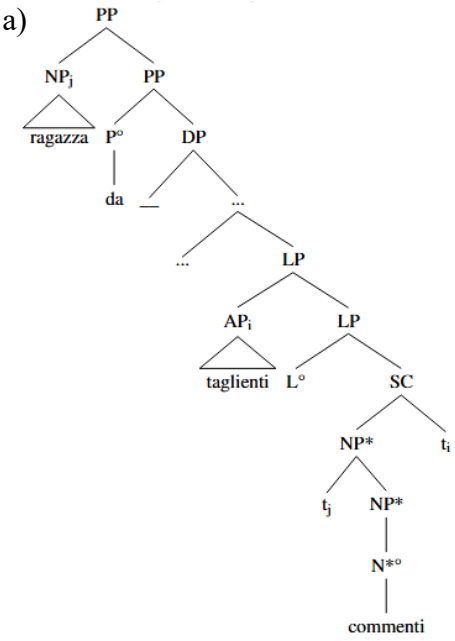
[28] This case-driven type of movement may be modeled in terms of a probe-goal relationship between P° *da* and *ragazza* (or *romanzo*), whereby P° attracts *ragazza* (or *romanzo*) to Spec-PP in order to match the unvalued case feature borne by *ragazza* (or by *romanzo*) with the valued case feature borne by P°. See Chomsky (2000: 122-124) and Kayne (2004) in this connection.

[29] A criterial configuration is one where two units (typically a head and a phrase, or a phrase and another phrase) share a criterial feature, i.e., a feature expressing properties of scope-discourse semantics (see, e.g., Rizzi 2015: 21).

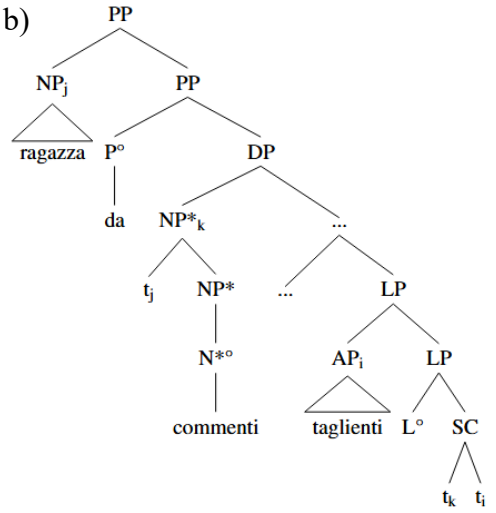
subject selection, L° ends up selecting the NP* '[*t* [commenti]]' in (48a) as well.[30] By the same token, L° derivatively selects the NP* '[*t* [personaggi]]' in (50a) inasmuch as L° inherits the selectional properties of *misteriosi*, which inherently selects the NP* '[*t* [personaggi]]' via predicate-subject selection. Accordingly, the selectional requirement of the subjacency condition is satisfied in both (48a) and (50a). Since these phrase markers satisfy both the c-command requirement and the selectional requirement, the extraction of *ragazza* and *romanzo* from NP* does not violate the subjacency condition in (48a) and (50a), respectively. We conclude that (48a) and (50a) are legitimate structural representations of *La ragazza dai commenti taglienti* (47) and *Il romanzo dai personaggi misteriosi* (49), respectively.

It remains to understand how the linear orderings *dai commenti taglienti* and *dai personaggi misteriosi* are obtained from (48a) and (50a), respectively. To this end, we complicate the representations in (48a) and (50a) by including a DP, i.e., the structural layer projected by the determinative article *i* which amalgamates with the P° *da* (thereby yielding *dai*) in both (47) and (49). This gives the following (for convenience, we are omitting the D° housing the determinative article).

(51a)

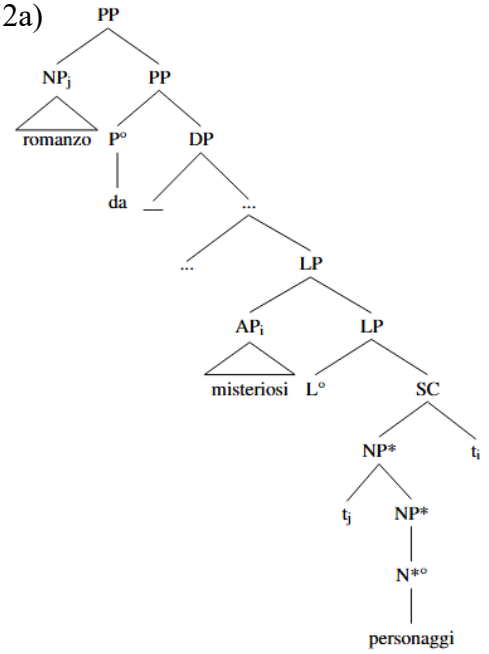



(51b)

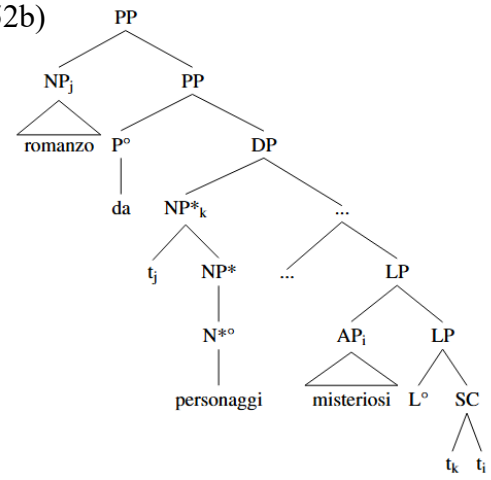



[30] See above, section 4.2, for a detailed discussion.

(52a)




(52b)




When NP* (*commenti*/*personaggi*) remains in situ within SC, such as in (51a) and (52a), the stylistically marked (and yet acceptable) orderings *dai taglienti commenti* and *dai misteriosi personaggi* obtain. On the other hand, when NP* moves to a left-peripheral position of the DP, as illustrated in (51b) and (52b), the desired orderings *dai commenti taglienti* and *dai personaggi misteriosi* obtain. The NP* movement exemplified in (51b) and (52b) is to be traced back to the family of movements typical of Romance (as opposed to Germanic) syntax which are responsible for the linear ordering 'Noun-Adjective' in keeping with Cinque (2010: 69-78/2014: 18-19): whatever motivates the movement of the noun across the adjective in Cinque's (2010/2014) system also motivates the movement of NP* across AP in (51b) and (52b).[31] Now that the structural details of the Italian complement of quality have been made explicit, we can turn to the puzzling constraints on the Italian complement of quality.

### 8.3. Deducing the constraints on the complement of quality

As we saw above (sections 5-6), the Italian complement of quality poses a puzzle: the adjective showing up in the complement of quality cannot be dropped or realized as a non-predicative adjective. Subjacency à la Cinque provides a natural solution for this puzzle. Let us consider how, by focusing on the derivational stage preceding the movement of NP* to the left periphery of DP, namely on (51a) and (52a).

If *taglienti* and *misteriosi* (which are the predicates of NP*) are dropped in (51a) and (52a), respectively, L° is no longer in a local relation with the predicate of NP* and hence can no longer inherit the selectional properties of such a predicate: see (53)-(54). This implies that L° fails to select (both inherently and derivatively) NP*.

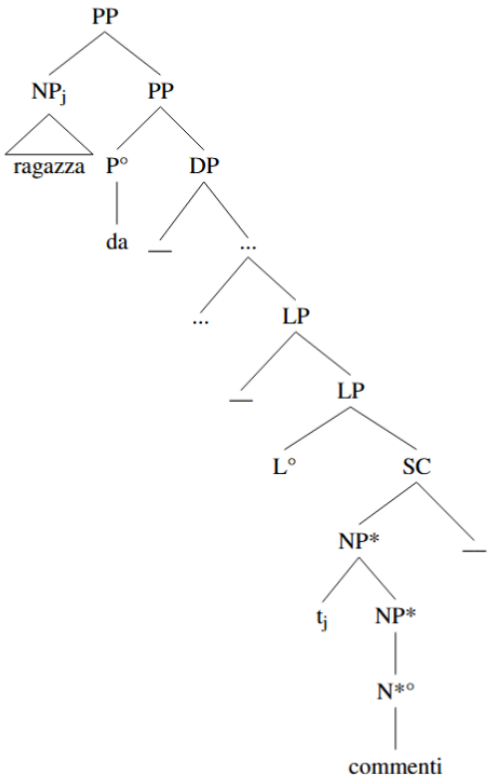
[31] Cf. Manzini (2024) for an approach to Romance (Noun-Adjective) vs. Germanic (Adjective-Noun) linear orderings that dispenses with the movement of the noun to the left periphery of DP.

As a result, the selectional requirement of subjacency à la Cinque is violated when *ragazza* and *romanzo* are extracted from NP* in (53)-(54), respectively.

(53) Italian

| a. *La | ragazza | da=i | commenti |
|---|---|---|---|
| DET.SG.F | girl.SG.F | *da*=DET.PL.M | comment.PL.M |

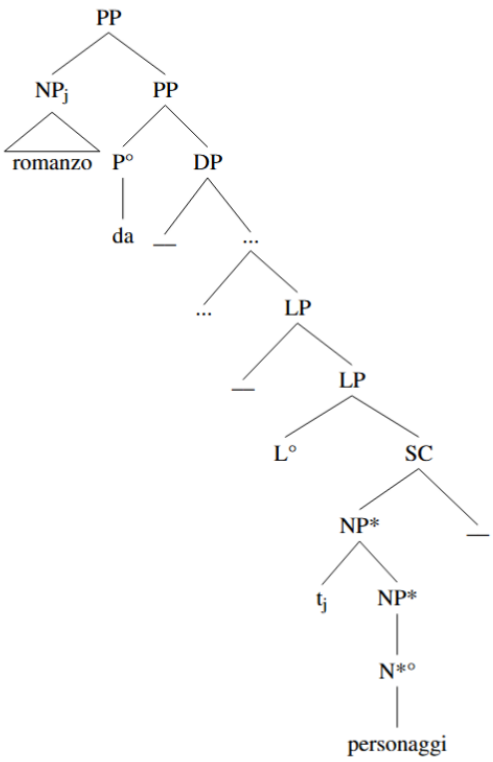
b.




(54) a. Italian

| *Il | romanzo | da=i | personaggi |
|---|---|---|---|
| DET.SG.M | novel.SG.M | *da*=DET.PL.M | characters.PL.M |

b.

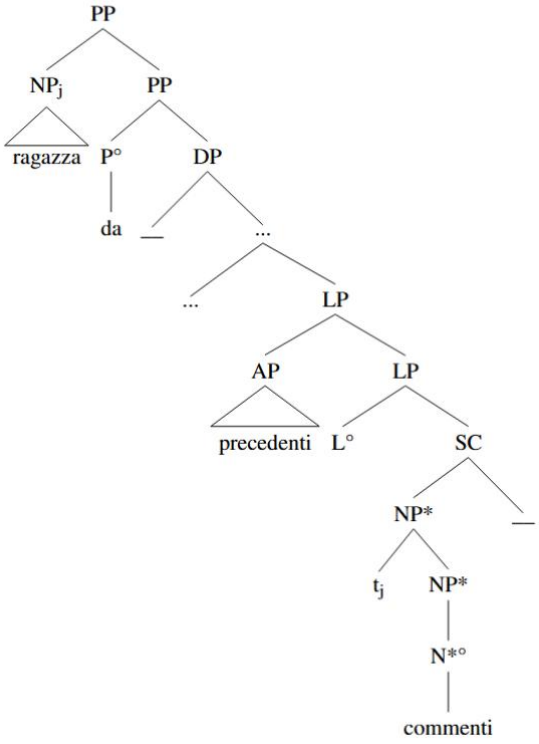


The selectional requirement is also violated when *taglienti* and *misteriosi* are replaced with non-predicative adjectives such as *precedenti* ‘former’ and *principali* ‘main’: since non-predicative adjectives cannot serve as predicates by definition, there is no predicate-subject selection between non-predicative adjectives and NP*.[32] Consequently, when L° enters a local relation with a non-predicative adjective sitting in Spec-LP, such as in (55)-(56), L° inherits no selectional properties that would allow it to derivatively select NP*. Therefore, the extraction of *ragazza* and *romanzo* induces a violation of subjacency à la Cinque in (55)-(56), respectively.

(55) Italian

a. *La ragazza da=i commenti precedenti
DET.SG.F girl.SG.F *da*=DET.PL.M comment.PL.M former.PL.M
(lit. ‘the girl whose comments are former’)

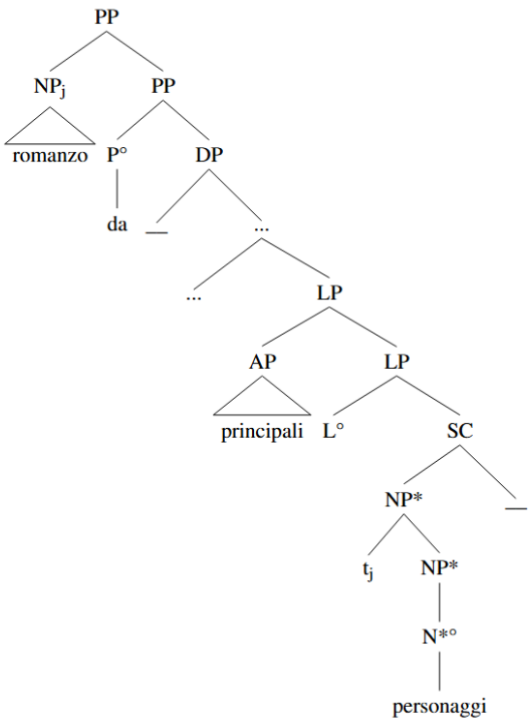
b.




[32] We graphically capture the lack of a predicate-subject link between the non-predicative adjective (*precedenti*; *principali*) and NP* by leaving the right-hand slot of SC empty. In this way, *precedenti* and *principali* do not combine with NP* to form an SC, but start out directly in Spec-LP (hence, in an SC-external position).

(56) a. Italian
*Il romanzo da=i personaggi principali
DET.SG.M novel.SG.M *da*=DET.PL.M characters.PL.M main.PL.M
(lit. 'the novel whose characters are main')

b.




All in all, both constraints on the Italian complement of quality, namely the impossibility to drop the adjective or to realize it as a non-predicative adjective, can be handled as mere violations of an independently assumed principle of grammar, namely subjacency à la Cinque.

### 8.4. Summary

When one is confronted with the Italian complement of quality (e.g., *la ragazza dai commenti taglienti*), two major questions rise above the others: (i) why is it impossible to drop the adjective (**la ragazza dai commenti*)? (ii) why is it impossible to deploy a non-predicative adjective (**la ragazza dai commenti precedenti*)? We have shown that a subjacency-based formulation of locality allows us to answer both questions in geometrical (i.e., configurational) terms: a missing adjective and a non-predicative adjective disrupt the local (Spec-Head) configuration between a selector and a verb-like head needed to license the instance of subextraction involved in the derivation of the complement of quality. On the other hand, it is not at all clear how a phase-based formulation of locality could draw the correct distinction between predicative adjectives (*la ragazza dai commenti taglienti*) on the one hand, and missing (**la ragazza dai commenti*) or non-predicative adjectives (**la ragazza dai commenti precedenti*) on the other hand: what missing adjectives share with non-predicative adjectives is their inability to serve as selectors; yet, in the current generative model, selectors are per se unable to affect phasehood.

While modifications of phase theory may be conceived that allow for some interaction between selectors and phasehood, it is not our objective to pursue such modifications. Indeed, our objective was to show that a geometrical formulation of locality such as is subsumed in the subjacency condition cannot be dismissed on either empirical or theoretical grounds:[33] it is not only compatible with the current theoretical apparatus of generative grammar, but also offers natural ways to decompose complex empirical phenomena (notably, the constraints on the Italian complement of quality) into simple elements (geometry and selection).

## 9. Conclusions

In the present contribution we have been concerned with two empirical case studies: (i) the extraction from the post-verbal DP of inverse copular sentences in the sense of Moro (1997); (ii) the constraints on the adjective contained within the Italian complement of quality. In the first case study, we have established that a formulation of the locality conditions on subextraction (i.e., on the extraction of linguistic material *from* a phrase) like the subjacency condition, which rests on geometry (configurations) and selection, is more empirically adequate than a phase-based formulation like the Phase Impenetrability Condition (PIC). Specifically, the PIC requires special machinery – including reference to meaning – in order to draw the relevant distinction between the well-formed (*Di quale muro pensi che ci furono due foto?*) and ill-formed instances of extraction from the post-verbal DP of inverse copular sentences (**Di quale muro pensi che la causa della rivolta furono due foto?*).

In the second case study, we have unveiled two constraints on the complement-of-quality-internal adjective (e.g., *taglienti* in *La ragazza dai commenti taglienti*): the impossibility of zero-replacing this adjective (**La ragazza dai commenti*), and the impossibility of replacing it with a non-predicative adjective (**La ragazza dai commenti precedenti*). We have shown that both constraints follow from the subjacency condition, under the assumption that the derivation of the Italian complement of quality involves an instance of subextraction (e.g., *ragazza* extracts from the NP projected by *commenti* in *La ragazza dai commenti taglienti*). To be specific, zero-replaced and non-predicative adjectives have something in common: both disrupt the Spec-Head configuration formed by a verb-like head with a selector. Insofar as this configuration is relevant to a subjacency-based formulation of locality – which makes crucial reference to the interaction between geometrical (i.e., configurational) and selectional considerations – but not to the PIC (where selection and geometry play no role), the constraints on the Italian complement of quality speak in favor of the subjacency condition.

All in all, the findings of this study challenge the mainstream minimalist view that locality conditions should be formulated in terms of phases. On the other hand, the alternative, subjacency-based formulation of locality championed in this study is perfectly compatible with the minimalist framework, in that it rests solely on geometry and selection, which have never been dismissed in generative grammar. Thus, the findings of this study do not by any means undermine the foundations of the generative framework; rather, they raise interesting questions that stimulate future research within

[33] An important forerunner of the geometrical approach to locality is Kayne (1984).

generative grammar itself. For example, a possibility stemming from our approach to locality is that the fundamental fabric which grammar is made of is to be identified with geometry (Moro 2016: 121/2019, Greco & Mocci 2024). This possibility is directly relevant to current trends in neurolinguistics where geometry is at the core of clever experimental designs targeted on pinpointing the neurobiological underpinnings of syntax (see Moro 2015/2016, Chomsky & Moro 2022 for relevant discussion).

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