Criterial freezing in small clauses and the cartography of copular constructions

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Abstract

Criterial freezing is a particular instance of freezing arising in criterial configurations, i.e., in configurations dedicated to the expression of scope-discourse properties. Recent proposals (e.g., Rizzi 2015a,b) try to deduce criterial freezing effects from more elementary ingredients of linguistic computations, most notably from the labeling algorithm proposed in Chomsky (2013). In this paper, we explore the consequences of this approach for the syntax of small clauses. This leads us to work out a cartography of small clauses, both in selected domains (as in English and Romance), and as main clauses (as in Hebrew, following Shlonsky 2000). The cartography involves distinct subject positions in the structure of the IP, which are associated with distinct interpretive properties at the interface. Special attention is devoted to the syntax of small clauses with a non-verbal, pronominal copula in Hebrew. Direct and inverse copular sentences are analyzed according to the proposed structural map, and various freezing effects are traced back to the theoretical ingredients introduced at the outset.

1. Introduction

Among the various manifestations of freezing phenomena, a case that has attracted significant attention lately is the case of "criterial freezing". In essence, when a phrase enters into a "criterial configuration", a configuration dedicated to the expression of a scope-discourse-property (e.g., the final landing site of wh-movement, a left peripheral topic or focus position.), the phrase is frozen, and becomes unavailable to further movement operations (Rizzi 2006 and much related work)[1]. Recent research on the topic (Rizzi 2015a,b, etc.), attempts to deduce criterial freezing effects from more elementary ingredients of linguistic computations, in particular from the locality-based labeling algorithm proposed by Chomsky (2013).

In this paper we explore several consequences of this approach for the syntax of small clauses. After a short presentation of the labeling algorithm and of its capacity, in combination with other assumptions, to capture the freezing effects, we briefly discuss some implications of this approach for the analysis of small clauses in English and Romance. We then turn to Modern Hebrew, a language that makes systematic use of verbless small clauses in root environments, and, as such, offers more radical and interesting variations on the theme of small clause syntax.

One important peculiarity of Hebrew main small clauses is the appearance (obligatory in some contexts, apparently optional in others) of a non-verbal, pronominal copula in the

[1] It should be noted that this kind of approach to freezing focuses on the impossibility of continuing movement of a phrase from certain positions, and does not address directly the constraints on subextraction, which are central for other approaches to freezing.

present tense. We develop a cartographic analysis of this and other peculiarities of main small clauses, which, following Shlonsky (2000), lead to the postulation of distinct "subject" heads, occupying different positions in the clausal spine, and triggering distinct interpretive effects at the interface with semantics and pragmatics.

In the second part of the paper we focus on direct and inverse copular constructions (Moro 1997), and discuss properties of the derivation and agreement patterns of these constructions both in languages with an overt verbal copula (Italian, English, etc.) and a zero or pronominal copula (Hebrew). We conclude with an analysis of different types of freezing effects arising in direct and inverse copular clauses, showing that they can be elucidated by the fundamental principles (labeling and a maximality principle) advocated for the explanation of criterial freezing effects.

2. Background: Labeling, freezing and the Subject Criterion

We adopt the approach to labeling introduced in Chomsky (2013), based on the algorithm (1) and the well-formedness condition (2):

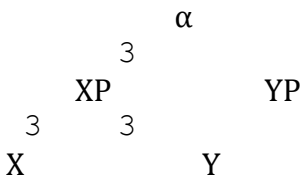
(1) Node α created by merge receives the label of the closest head. (Chomsky 2013)

(2) Complete labeling is an interface requirement. (Chomsky 2013)

According to (1), labeling is a matter of locality. We borrow from Rizzi (2015a; 2015b) the following more detailed implementation, which builds Relativized Minimality into the algorithm:

(3) α receives the label of H_1 iff i. α contains H_1, and
ii. there is no H_2 such that
a. α contains H_2, and
b. H_2 c-commands H_1. (Rizzi 2015a; 2015b)

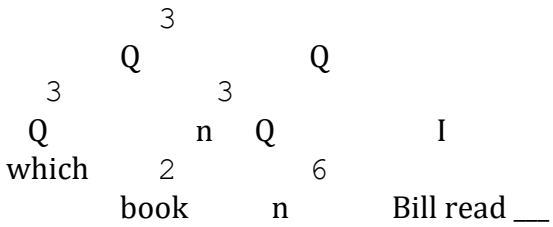
The algorithm interacts with the three different subcases of merge: head – head, head – phrase, and phrase – phrase. The interesting case is the last. It gives rise to a configuration like the following:

(4)


Here, an ambiguity arises, as both X and Y satisfy the definition of closest head: The algorithm blocks and α remains unlabeled. But this can only be a temporary state of affairs because, under (2), all nodes must be labeled at the interface. Chomsky (2013) argues that the deadlock can be solved in one of two ways: 1. One of the two phrases, let's say XP in (4), moves further, so that Y remains without competitor and labels α (an idea inspired by Moro (2000), which also assumes that movement can resolve a problematic situation for dynamic antisymmetry); 2. [XP YP] is a criterial configuration (Rizzi 1997; 2010), and the criterial feature, a categorial feature shared by both XP and

YP in the criterial approach, projects and labels α. For example, in the clausal complement of a verb selecting an indirect question we have:

(5) I wonder....



Here both XP (*which book*) and YP (*Q Bill read*) share the criterial feature Q, which therefore labels α as Q, an indirect question. So, a moved element can remain in a criterial configuration, as the dominating node can be labeled by the criterial feature.

But the effect is stronger here. The phrase satisfying a criterion cannot be moved further, e.g.:

(6) a. I wonder [[which book] Q [Bill read __]]
b. *Which book do you wonder [__ Q [Bill read __]] (Lasnik & Saito 1992)

In other words, there is a freezing effect in the criterial configuration (Rizzi 2006; 2010; Rizzi & Shlonsky 2007). How can such a criterial freezing effect be captured under the labeling approach? Rizzi (2015a,b) proposes that freezing may follow from a natural maximality principle, which expresses the familiar fact that intermediate projections are inert for phrasal movement:

(7) **Maximality**
Phrasal movement can only involve maximal objects with a given label.
(Rizzi 2015b)

After α is labeled as Q in (5), the phrase *which book* ceases to be maximal, as the node immediately dominating it has the same label. As such maximality bans further movement of *which book* from the criterial configuration, and criterial freezing is captured.

Under this set of assumptions, the "halting site" for phrasal movement is a criterial position, where a phrase can halt (because labeling of the mother node is possible) and must halt (because of maximality).

One typical halting site for phrasal movement is the subject position in the high structure of the IP zone, the typical final landing site of A-movement. The natural conclusion, given our assumptions, is therefore that the subject position is a criterial position, the A counterpart of A' criterial positions in the left periphery. What would be the interpretive counterpart of a subject criterion? In previous work (stemming from Rizzi 2005, 2006) it was proposed that the crucial property is "aboutness": The event is presented as being about the subject, and differentiates, for instance, active and passive sentences:

(8) a. John called Mary
b. Mary was called by John

The calling event is presented as being about the agent in the active, and about the patient in the passive, and this has consequences for the subsequent discourse structure, anaphora resolution etc. (See Rizzi 2005, 2006 for discussion).

The criterial approach borrows from Cardinaletti (2004) the assumption that a functional head, Subj, structurally defines the subject – predicate articulation. Subj occurs as part of the clausal spine, much as T, Asp, etc., perhaps as the highest element of the IP, adjacent to the Fin head, which initiates the CP system. In syntax, Subj attracts a nominal expression to its Spec, and at the interface it triggers the aboutness interpretation. Overt manifestations of Subj may be the subject clitics of Northern Italian Dialects (Poletto 2000; Manzini & Savoia 2005) and also the "nominal copula" *hu* and its variants in Hebrew, further discussed below.

If there is a subject criterion, one expects freezing effects in subject position, under criterial freezing (ultimately, labeling and maximality). This offers a straightforward analysis for subject – object asymmetries, alternative to the classical GB account in terms of the ECP (Rizzi 2006, Rizzi & Shlonsky 2007):

(9) a. *Who do you think [that [___ Subj will come]]?
b. Who do you think [that [Mary Subj will meet ___]]?

In the derivation of (9)a, the thematic subject *who* is inevitably attracted by Subj in the embedded clause, it satisfies the Subject Criterion, and gets frozen there. Criterial Freezing therefore bans further movement of *who* to the main C-system. No problem arises for object extraction, as in (9)b, because there is no object criterion.

Languages use different strategies to make subject extraction possible (Rizzi & Shlonsky 2007; Shlonsky 2014a). In English, (9)a is made possible by dropping the complementizer *that*. One straightforward approach to this strategy is truncation (Rizzi & Shlonsky 2007; Shlonsky 2014a). If complementizerless sentences may involve radical structural truncation of the C-system and of the adjacent Subj layer, a sentence like *Who do you think will come*? will have a representation like the following, in which the structure in bold is truncated[2]:

(10) Who do you think **[$_{CP}$ C [$_{SubjP}$ Subj** [$_{TP}$__ will come] **]]** ?

[2] "Truncation" is used here in the sense in which the term is used in the acquisition literature (Rizzi 1993/4 and much related work), i.e., radical absence of structure, akin to "S'-deletion" with *believe* type verbs in Chomsky (1981). This approach may be oversimplified, as an anonymous reviewer points out: if Subj is radically absent with subject extraction, how can the aboutness interpretation in the embedded clause arise, e.g., in active-passive pairs? We will not be able to address the issue here, but it can be noted that the problem can be circumvented in more elaborate approaches which assimilate the C-deletion strategy to an invisible *que->qui* rule. See Rizzi & Shlonsky (2007) for discussion.

In (10), as the upper part of the clause is truncated, no criterial subject position is present, and the wh subject can be successfully extracted from a non-criterial position, say Spec of T. Other languages use different strategies, such as alternative ways of satisfying the subject criterion, without actually moving the subject to the criterial Spec of Subj (e.g., the *que>qui* rule in French, Rizzi & Shlonsky (2007); see Berthelot (2017) for recent discussion).

3. Halting, complements, and specifiers: Small clauses in Romance/English

The labeling algorithm draws a sharp distinction between complements and specifiers. Complements are first merged in an X-YP configuration with their selecting head, therefore X always labels the structure created by merge, and no labeling problem arises: complements may remain *in situ* or move, depending on the presence of a higher attractor, but labeling does not enforce movement (or freezing). The case of specifiers is different. They typically (perhaps always) involve an XP-YP configuration, which gives rise to a labeling problem. Therefore, one of the two possible solutions (creation of a criterial configuration or further movement) must be adopted. In a nutshell:

(11) As far as labeling is concerned,
   a. complements may stay *in situ* or move;
   b. specifiers must stay if they are in a criterial configuration; otherwise they must move.

A potential problem for this simple picture is raised by the subject position of small clauses, which occupy a specifier position, and can both remain in situ or be (A or A') moved:

(12) a. I consider [$_{\alpha}$ John intelligent]
   b. John is considered [$_{\beta}$ ___ intelligent]
   c. A man who I consider [$_{\beta}$ ___ intelligent]

Let us consider two possible solutions for this problem.

Solution I. One possibility here would be to weaken (11) and admit a third case, a kind of specifier position, which is not criterial, and permits its filler to both stay and continue to move. For instance, it could be that agreement in Phi features, even if it does not define a criterial position, suffices to qualify a position as a possible halting site, as it permits labeling the mother node as Phi, the features shared by XP and YP (this is, in essence, the position adopted by Chomsky (2015)).

For concreteness, we will assume that the minimal small clause in (12) is headed by a Pred head (Bowers 1993; 2010; den Dikken 2006; Svenonius 1994), merged with the AP; subsequently, the subject is merged with the Pred constituent. (Alternatively, the subject could be merged directly with AP, as in Stowell (1982); the mediation of Pred is not critical here, but becomes crucial for the analysis of DP DP small clauses, as argued by Bowers (1993). See below.) Suppose also that Pred carries Phi features (let's say number and gender, which show up in the adjectival morphology in Romance). Sentence (12)a would then have the following representation:

(13) I consider [$_{\alpha}$ [$_{Phi}$ John] [Pred$_{Phi}$ intelligent]]]

Here *John* and Pred$_{Phi}$ would agree in the relevant Phi features; even if the position is not criterial, α could be labeled as Phi, giving rise to a well-formed structure, akin to AgrP in GB analysis. What about the possibility of extracting the subject, as in (12)b,c? Why wouldn't maximality block extraction in this case, too? If solution I is adopted, one possibility which comes to mind is to appeal to the "uninterpretable" character of the relevant Phi features expressed on the functional head Pred. If indeed such features are uninterpretable, and uninterpretable features are deleted before transfer to the semantic interface (Chomsky 1995), one could imagine that deletion of the uninterpretable Phi features is unordered with respect to labeling. The option of applying labeling first would yield (13) with α labeled as Phi - a well-formed structure with the subject *in situ*; the option of applying deletion of Phi in Pred first would yield a representation like the following:

(14) I consider [$_{\beta}$ [$_{Phi}$ John] [Pred$_{\sout{Phi}}$ intelligent]]]

At this point, *John* would be maximal, hence it would be free to move further, as in (12)b,c; the small clause β could be successfully labeled as Pred, and the structure would be well-formed again, as far as labeling is concerned; (12)a would have essentially the same representation as (12)b,c, the only crucial difference being the ordering labeling > deletion in (12)a, and deletion > labeling in (12)b-c.

Solution II. Another possibility to deal with the apparent lack of complementarity in (12) would be to stick to the restrictive assumptions in (11), hence assuming that only criterial configurations allow specifiers to halt, and explore the hypothesis that the categorial status of the small clause is substantively different in (12)a with respect to (12)b-c. If $\alpha \neq \beta$ in (12), it would be conceivable to continue to assume a rigid complementarity between "halting" Specs and Specs requiring further movement.

Let us pursue this second hypothesis. In (12)b-c, the small clause would have the representation previously assumed (now abstracting away from agreement in non-criterial features), with the subject merged with a PredP:

(15) ...[John [Pred [intelligent]]] = (12) b,c

This is a non-criterial XP-YP structure in which labeling requires movement of the subject, as in (12)b-c.

On the contrary, (12)a could involve a richer structure like (16), with a Subj head defining a criterial position:

(16) … [John Subj [__ Pred [intelligent]]] = (12)a

In this view, (12)a and (12)b-c differ in structure, in a manner consistent with the strong complementarity expressed by (11)b: In (15), the small clause subject is in a non-criterial position, hence it is forced to move, yielding (12)b-c. In (16), the subject is in a criterial position, where it is frozen, yielding (12)a.

Which one of the two approaches to (12) is to be adopted?

A first hint which seems to favor solution II is offered by the fact that some verbs tend to exclude a small clause with an overt subject, while they admit a small clause whose subject is moved further, e.g., in some varieties of English (Ian Roberts, p. c.):[3]

(17) a. *I think [$_{\alpha}$ John intelligent]
b. John is thought [$_{\beta}$ ___ intelligent]
c. A man who I think [$_{\beta}$ ___ intelligent]

In terms of solution II, the pattern can be simply captured by assuming that *think* selects PredP but not SubjP, while *consider* may select both. In terms of solution I, one would have to stipulate that with *think*, the only possible order of application is Deletion > Labeling, so that movement of the small clause subject would be compulsory; but this is hard to state as a lexically-governed property, while selection (as in solution II) is naturally expressible.

More important evidence for solution II is provided by interpretive and distributional properties of the small clause subject (here we rely on the discussion in Rizzi 2015b). If a variant of the Subject Criterion is satisfied in small clauses like (12)a, one would expect this position to pattern with canonical subject positions in other respects.

There is a well-known subject-object asymmetry in the distribution of bare plurals in Italian.[4]

(18) a. Gianni frequenta amici
'Gianni sees friends.'

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[3] The contrast (17)a-c is akin to the Romance pattern discussed in Kayne (1983), Rizzi (1982) according to which infinitives selected by epistemic verbs disallow overt subjects, but permit wh-extraction of the subject. The pattern is not fully parallel, though, as NP-movement does not rescue the Romance structure.
Rapoport (1987:199) notes that adjectival small clauses in Hebrew, embedded under 'think/consider' require the preposition *le* 'to' which, as in English, also introduces infinitives and indirect objects.

(i) Saba xošev et Rivka le pikxit
Grandfather thinks/considers ACC Rivka to intelligent
'Grandfather considers Rivka intelligent.'

Under passive, however, this preposition is optional, suggesting that more structure is involved when the small clause subject is unmoved, in line with solution II.

(ii) Rivka nexševet (le) pikxit
Rivka consider-PASSIVE to intelligent
'Rivka is considered intelligent.'

[4] Belletti & Bianchi (2014) argue that bare plurals in Italian are not (full-fledged) DPs; as such, they presumably fail to satisfy the Subject Criterion in (18)b, as the criterion may require a full DP for satisfaction.

b. *Amici frequentano Gianni
'Friends see Gianni'

Bare plurals are also impossible as subjects of small clauses, as Belletti (1988) observed.

(19) *Gianni considera [[amici] [simpatici]]
'Gianni considers friends nice.'

So, there is a clear parallelism between the subject position of full clauses and of small clauses, which is immediately captured by the hypothesis that the two positions have in common the satisfaction of the subject criterion (solution II). On the other hand, solution I would not immediately capture the ill-formedness of (19).[5]

If this analysis is on the right track, (certain) small clauses may share one important structural property with full clauses, namely, the fact of being headed by a Subj head that gives rise to a criterial configuration (but see below for a case in which the parallelism breaks down).

The theory of labeling we have adopted leads to a diversified analysis of embedded small clauses in English and Italian, which may involve simple or more complex structures, correlating with the possibility (and obligation) or exclusion of movement of the subject, a pattern now falling under the rubric of the "halting problem" (Rizzi 2015a). Other languages, such as Modern Hebrew, allow small clauses as main clauses. We may therefore ask the question if also main small clauses correspond to a variety of structural configurations, and how the halting problem manifests itself in such configurations.

4. Bare small clauses and copular sentences in Hebrew

Copular sentences are formed with copular 'be' in past and future tense clauses, (20)a,b, but without a copula in the present tense, (20)c. The absence of a copula in (20)c is a gap in the paradigm: The word which corresponds to the morphological form of the present tense of the root √hyy is *hove* but it has the meaning of the common noun 'present' and not that of the present tense form of 'be'.

(20) a. Dani haya more / xaver-i ha tov.
D. was teacher / friend-my the good
'Dani was a teacher / my good friend.'

b. Dani yhye more / xaver-i ha tov.
D. will be teacher / friend-my the good
'Dani will be a teacher / my good friend.'

c. Dani more / xaver-i ha tov.

[5] Basilico (2003) observes that the subject of some non-verbal small clauses possess topic-like properties also in English, where "topic-like" is understood in terms of the aboutness property. In this sense, our analysis converges with his, without assuming an explicit Top position as the external layer of the small clause.

D. *teacher / friend-mine the good*
'Dani is a teacher / my good friend.'

It is conceivable that 'bare' copular sentences contain a phonetically null (suppletive) variant of 'be'. Standard Arabic copular sentences provide a *prima facie* reason to doubt this.

Like Hebrew, Standard Arabic present-tense copular sentences lack a copula. Unlike Hebrew, Standard Arabic has morphological case suffixes. In the copula-less, present tense (21)a, both terms of the copular construction bear a nominative suffix. In (21)b, with an (overt) past-tense copula, the subject bears a nominative suffix and the predicate nominal an accusative suffix. If present-tense copular sentences have an unpronounced copula, one has to explain why its presence correlates with the absence of accusative Case, presumably assigned or checked not by the lexical verb itself but by a functional head such as v. If bare copular sentences literally lack a copular verb, the absence of accusative follows from the absence of v. The appearance of nominative case on the predicate nominals can then be attributed to the fact that nominative is the default case in Arabic and is suffixed onto nouns in the absence of a (structural) Case environment.

(21) a. al-rajul-u mudarris-un.
the man-NOM teacher-NOM
'The man is a teacher.'

b. kaana al-rajul-u mudarris-an.
was the-man-NOM teacher-ACC
'The man was a teacher.'

With Doron (1983), Rapoport (1987), Rothstein (1995) and Shlonsky (2000), we surmise that present tense, 'bare' copular sentences such as (20)c implicate no verb and no vP structure. Since 'bare' copular sentences constitute independent tense domains, we take it for granted that they contain a T head. T is 'defective', though, in that it doesn't take a verbal complement (and hence lacks 'verbal' features). We do not attempt a theoretical articulation of this property - see Doron (1983) for a proposal - and henceforth assume that in sentences such as (20)c, the complement of T is, minimally, a PredP, that is, a small clause that articulates the basic subject-predicate relation.

Following the discussion in section 3, since the subject in (20)c is not in a complement position, it must be occupying a halting spec position, that is, either a small-clause related subject position as in English/Romance small clauses (see (12)), or some higher subject position in the main clause.

In contrast to bare copular sentences like (20)c, there are types of copular sentences that cannot be bare. For such copular sentences to be grammatical, some functional material must appear between the two terms of the copular construction (Shlonsky (2000)). Examples of such sentences appear in (22) and (23). In the grammatical (a) examples, the negative particle *lo*, the emphatic affirmation particle *ken* or adverbs meaning 'of course', or 'certainly' appear between the two terms of the copular sentences. The (b) cases show that as 'bare' sentences, such copular sentences are

ungrammatical. The first pair illustrates generic statements with a bare plural subject and the second a sentence with a type-referring bare singular subject.

(22) a. 'orvim lo/ken/bevaday/betax šxorim.
ravens neg/yes/of course/certainly black
'Ravens are not/ARE/of course/certainly black.'

b. *'orvim šxorim.
ravens black
'Ravens are black.' (Greenberg 1998)

(23) a. namer lo/ken/bevaday/betax nadir be arc-enu.
tiger neg/yes/of course/certainly rare in country-ours
'Tigers are not/ARE/of course/certainly rare in our country.'

b. *namer nadir be arc-enu
tiger rare in country-ours
'Tigers are rare in our country.' (Doron 2003)

There are many bones of contention in the literature concerning the semantic treatment of genericity and related phenomena. One consensual idea, though, is that subjects of such sentences are barred from 'low' positions in the clause, positions that are accessible to subjects in non-generic propositions. It seems natural, therefore, to assume that subjects of such sentences cannot appear in the low, small-clause-related Subj position but only in a higher one, above negation/affirmation and adverbs such as 'of course' and 'certainly'. We assume, following in essence Cinque (1999 ch. 3), that these functional elements make available 'DP-related' projections.

In the presence of negation and emphatic affirmation (perhaps alternate values of a polarity head - Pol), it seems that a high subject position is obligatorily merged and must be occupied. Thus, subjects of negative/emphatically affirmed non-generic copular sentences obligatorily raise to the left of Pol, even if such movement is not associated with a particular interpretative property (apart, again, from "pure aboutness", which we take to be sufficient to define a criterial position, hence a possible halting site for A-movement). (24)a is the negative/emphatically affirmed variant of (20)c with the subject raised above negation; the contrast between (24)a and (24)b shows that the subject must raise above Pol.

(24) a. Dani lo /ken more / xaver-i ha tov.
Dani not IS teacher / friend-my the good
'Dani is not/IS a teacher /my good friend.'

b. *lo/ken Dani more / xaver-i ha tov.

An interim conclusion that we can draw at this point is that Hebrew makes available two halting specs in copular constructions, a low position akin to or perhaps identical to the small-clause-related subject position found in English and Romance small clauses, and a higher position in the clausal skeleton.

5. Inverse copular constructions and PRON

Assuming, then, that (20)c is derived by moving *Dani* from Spec/Pred to either Spec/Subj or to a higher subject position, we now ask why (25), which superficially involves a reversal of the position of the two constituents of the small clause, is ungrammatical. The question arises because we typically find in languages both direct and inverse copular constructions (in the sense of Moro (1997)*: John is my best friend, My best friend is John*). Clearly, if the underlying structure of (25) were as in (26), with Pred merged with *Dani* and *xaver-i ha tov* 'my good friend' merged with the resulting structure, there would be no obvious way to rule out (25) . But (26) is plausibly excluded, as an initial representation generated by external merge, because the proper name does not qualify as a possible predicative DP. [6]

(25) *xaver-i ha tov Dani
friend-my the good Dani
'My good friend is Dani.'

(26) [xaver-i ha tov [PRED Dani]]
friend-my the good Dani

Suppose, alternatively, that the PredP configuration underlying (20)c also underlies inverse copular constructions, which involve the predicate nominal *xaver-i ha tov* 'my good friend' raising over the subject *Dani*. The order in (25) is ungrammatical, so we have to rule out this particular instance of the inverse construction. We can exploit Relativized Minimality (Rizzi (1990) and subsequent work) to rule this sentence out, as movement of the predicate nominal across the c-commanding subject yields an ill-formed A-chain. (An indefinite predicate nominal such as *more* '(a) teacher' cannot appear as an inverted predicate, for reasons discussed in section 5.)

But inverse copular constructions do exist across languages, e.g., in English and Italian:

(27) a. John is my best friend.
b. My best friend is John.

(28) a. Gianni è il mio miglior amico.
b. Il mio miglior amico è Gianni.

On the face of it, it appears that English and Italian allow a violation of Relativized Minimality (RM) while Hebrew does not (in examples like (25)). In what follows, we attempt to resolve this problem by providing a unified analysis of inverse copular

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[6] Under certain circumstances, names can be interpreted predicatively, in which case even so-called identity statements harbor an asymmetry between the two DPs making up the small clause. Thus, Percus & Sharvit (2014), who develop this idea, cite the perfectly coherent (i) from Cumming (2008), which shows that (ii) cannot be correct, at least under the scope of *think*.

(i) Mary thinks that Jessica is Sam, but she doesn't think that Sam is Jessica.
(ii) [[A is B]] = [[B is A]]

See note 8 for further discussion.

constructions, based on Rizzi (2015b). Our proposal explains both why no violation of RM is incurred in the derivation of (27)b and (28)b and why Hebrew is (apparently) different. We begin with a discussion of Hebrew.

The first observation that needs to be made is that inverse copular sentences do exist in Hebrew, but they require the presence of a third person pronoun in a position between the two terms of the copular construction and higher than Pol. There are two variants of this pronominal copula. It can either be identical to the different number and gender forms of the personal pronoun, namely *hu* 'he', *hi* 'she' *hem* 'they.m' or *hen* 'they.f', or to the impersonal pronoun *ze*, which only partially and optionally alternates in phi features, (Danon 2012; Greenberg 2008; Sichel 1997, 2001; Spector Shirtz 2014). In this contribution, we limit ourselves to a study of the personal pronominal copula, labeled PRON by Doron (1983) and illustrated in (29)a. (29)b shows that Pron must be higher than Pol.

(29) a. xaver-i ha tov *(hu) Dani.
friend my the good PRON.ms Dani
'My good friend is Dani.'

b. xaver-i ha tov *(hu) (lo/ken) Dani.
friend my the good PRON.ms neg/yes Dani
'My good friend is not /IS Dani.'

PRON must be merged above Pol (compare (29)b and (30)), while inflected verbs, (31), including the verbal copula, (32), obligatorily follow Pol.[7]

(30) *xaver-i ha tov lo/ken hu Dani.

(31) a. Dani lo/ken ohev xacilim.
D. neg/yes likes eggplants
'Dani doesn't/does like eggplants.'

b. *Dani ohev lo/ken xacilim.

(32) a. Dani lo/ken haya more / xaver-i ha tov.
D. neg/yes was teacher / friend-my the good
'Dani was not/WAS a teacher / my good friend.'

b. *Dani haya lo/ken more / xaver-i ha tov.
D. was neg/yes teacher / friend-my the good

Adapting Doron's (1983) idea that PRON is a bundle of "unattached agreement features in INFL", we suggest (33), where uppercase SUBJ is used to distinguish the higher subject position from the lower subject position of small clauses in (16). We argue that the fronted predicate nominal in the inverse copular sentence in (30) is in Spec/SUBJ.

(33) PRON lexicalizes SUBJ

[7] The (b) sentences in (31) and (32) are acceptable with (contrastive) constituent negation/emphatic affirmation.

There is a further element of complexity. We concluded section 4 with the suggestion that Hebrew makes available not only a low subject position, in the periphery of PredP, but also a higher position, above Pol and certain adverbs. This higher position is not spelled out as PRON, as we have seen. So, we must postulate two distinct SUBJ positions higher than Pol, the highest of which is spelled out as PRON. This global cartography is summarized in (34) for the relevant part. SUBJ1 is the lower of the two high subject heads; it is phonologically null. SUBJ2 is the highest of the two and is lexicalized by PRON; subj (in lower case) is the PredP-peripheral subject head.

(34) ...DP SUBJ2 ...DP SUBJ1 ...Pol ...DP subj PredP
ɡ ɡ
PRON Ø

In bare copular sentences, the subject nominal is in Spec/subj. In some environments, it cannot remain so low and must raise to Spec/SUBJ1 - in the generic and type-construed sentences exemplified by the (a) examples of (22) and (23). (In such sentences, Pol appears to permit and impose the projection of SUBJ1). We continue to assume that subjects in Spec/SUBJ1 are pure 'aboutness' subjects, in the sense of Rizzi (2005; 2006).[8]

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[8] If Cumming's (2008) and Percus & Sharvit's (2014 *Jessica is Sam* sentences involve predication of some sort, see note 6, it is predicted that they could appear without PRON, as a reviewer points out. This prediction is borne out although the subject of such sentences must minimally access SUBJ1, (and can raise to SUBJ2 optionally.)

(i) a. Jessica (hi) lo/ken Sam.
J. *(PRON-fs)* *neg/yes* *S.*
'Jessica isn't/IS Sam.'

b. Sam (hu) lo/ken Jessica.
S. *(PRON-ms)* *neg/yes* *J.*
'Sam isn't/IS Jessica.'

Both are canonical copular sentences (derived from [Jessica PRED Sam] in (ia) and from [Sam PRED Jessica.] in (ib)) When one of the two names is more easily construed as a property than the other, for example, when it is a family name, one order constitutes a canonical copular sentence and the other an inverse one, requiring PRON.

(ii) a. Ur (hu) lo/ken mar Shlonsky.
Ur *(PRON-ms)* *neg/yes* *Mr.* *Shlonsky*
'Ur is Mr. Shlonsky.'

b. *Mar Shlonsky *(hu) lo Ur
Mr. *Shlonsky* *PRON-ms* *neg/yes* *Ur*
'Mr Shlonsky is Ur.'

As noted in Doron (1983), the only case where two names can occur in the 'bare' copular construction is in role-playing contexts

(iii) Hayom Dani Hamlet ve Rina Ophelia
Today *Dani* *Hamlet* *and* *Rina* *Ophelia*
Today, Dani is Hamlet and Rina is Ophelia.'

Subjects in Spec/SUBJ2 are interpretatively more constrained. Doron (1983) observes that wh movement of a lexically bare subject *mi* 'who' is incompatible with PRON, while wh movement of a lexically-restricted, D-linked subject like *eize baxur* 'which guy' is possible with PRON; compare (35)a and (35)b.[9]

(35) a. mi (*hu) more?
who PRON-ms teacher
'Who is a teacher?'

b. eize baxur?(hu) more?
who guy PRON-ms teacher
'Which guy is a teacher?'

Our suggestion is that in addition to the 'aboutness' property, Spec/SUBJ2 can only host subjects that are presuppositional, like 'which guy', and eschews non-presuppositional subjects like 'who'.

It has, likewise, often been noted (e.g., Heycock 2012), that indefinite subjects of inverse copular constructions must be strong, or presuppositional. Semantically weak, existentially-interpreted (bare) indefinites are ruled out as 'inverted' predicate nominals, although they are fine in the postcopular, canonical position, as well as in regular clauses. Contrast non- presuppositional 'a problem' with presuppositional 'one problem' in (36).[10]

(36) a. ba'aya *(axat) hi Dani.
problem (one) PRON-fs Dani
'One/*a problem is Dani.'

b. Dani hu ba'aya (axat).
Dani PRON-ms problem (one)
'Dani is one/a problem.'

c. ba'aya (axat) omedet be-dark-enu
problem(one) stands in-way-our
'One/a problem stands in our way.'

---

[9] Doron also notes that long wh-movement of the subject actually requires PRON, a fact which we believe should be linked to other differences between short vs. long subject wh movement and which lie beyond the scope of this contribution.

[10] The original English examples from Heycock (2012) in (i) illustrate the same point.

(i) a. One/*a problem is John.
b. John is one/a problem.
c. One/a problem stands in our way.

Note that Heycock exploits the presuppositional property of the inverted DP in her argument that inverted predicates are, in fact, *not* predicates.

Finally, note that an existentially-quantified subject is most saliently interpreted specifically (i.e., presuppositionally) when followed by PRON but as a weak existential in its absence.

(37) a. mišehu hu xaver šel Dani
someone PRON-ms friend of Dani
'Someone (specific) is Dani's friend.'

b. mišehu xaver šel Dani
someone friend of Dani
'Someone or another is Dani's friend.'

Hebrew PRON only appears with a defective T and cannot occur with a T that selects the copula. Thus, the co-occurrence of PRON and a verbal copula is strictly ungrammatical.[11]

(38) *xaver-i ha tov hu haya /yhye Dani.
friend my the good PRON.ms was/will be Dani
'My good friend was/will be Dani.'

Selectional restrictions by functional heads, however, vary crosslinguistically, at least to some extent, and there is no *principled* reason for which an element merged as SUBJ should resist co-occurrence with a tensed copula.

The option of merging both PRON and a tensed copula is apparently found in Polish, where SUBJ is lexicalized with an invariant element, *to.* Citko (2008) characterizes *to* as a 'pronominal copula', glossing it PRON, and provides the following paradigm (her (4) and (5)). As (39)c shows, PRON can co-occur with a verbal copula (a 'dual copula sentence', in Citko's terms). Moreover, *to* can co-occur with 'be' in all tenses in Polish.

(39) a. Jan **jest** moim najlepszym przyjacielem. *jest*: verbal copula
Jan is my best friend
'Jan is my best friend.'

[11] Berman and Grosu (1976) note that (38) is grammatical when *hu* is a resumptive pronoun and 'my good friend' is a topic. Not only does such a sentence manifest the particular intonational contour of topicalization - a pause between the topic and the following phrase - but it resists a quantificational subject, a typical property of topics, contrast (ia) with PRON and (ib) with *hu* as a resumptive pronoun.

(i) a. af student hu lo ga'on.
no student PRON-ms neg genius
'No student is a genius.'

b. *af student hu lo haya ga'on.
no student he neg was genius
lit. 'No student, he was a genius.'

b. Jan **to** mo'j najlepszy przyjaciel. *to*: pronominal copula
Jan PRON my best friend.
'Jan is my best friend.'

c. Jan **to** **jest** mo´j najlepszy przyjaciel. *to* and *jest*
Jan PRON is my best friend
'Jan is my best friend.'

We have here a state of affairs typically arising in cartographic studies. In Hebrew, Pron and a verbal copula never co-occur, but transitivity arguments (their respective ordering with negative/affirmative markers) lead to the conclusion of an ordering Pron > verbal copula. In Polish, the ban against co-occurrence is lifted, and we directly observe this ordering constraint. Comparative considerations thus validate the legitimacy of transitivity arguments.

While PRON is optional in canonical copular constructions, as (39) shows (as well as in *John is a doctor* -type examples (Citko's (33) and (34)), Citko demonstrates that it is obligatory in inverse copular ones (see her (30).)

Polish, like English, does not exploit the 'low' subj position in unselected copular clauses and the lowest halting position for the subject is Spec/SUBJ1, the 'aboutness' position that, in this language, precedes the overt copula (and follows *to*). The subject appears in Spec/SUBJ2 in basically the same environment as it does in Hebrew, obligatorily so in inverse copula sentences.

Having argued for two 'high' subject positions in copular sentences, two questions must now be addressed: Why must inverted predicate nominals target Spec/SUBJ2 (and not simply move to Spec/SUBJ1) and how is this movement compatible with RM, on the assumption, made explicit at the beginning of this section, that the predicate nominal moves over the subject.

We now argue that there are additional steps in the derivation of inverse copular constructions that serve to circumvent the RM configuration. Our derivational hypothesis, based on Rizzi's (2015b) analysis of Italian inverse copular constructions, is constructed in several steps: We first argue that the subject in an inverse copular sentence is moved to a low focus position in the clause. Then, the remnant PredP is moved (smuggled) over it and finally, the predicate nominal is extracted out of the remnant PredP and merged with SUBJ.

6. The derivation of inverse copular sentences

6.1. Focus in inverted copular sentences

It has often been observed that the post-copular nominal in an inverse copular sentence is focalized (Heycock (2012), and references cited therein).

Heycock (2012) provides an argument from English, which we transpose to Hebrew.

First, we see that the same predicative copular sentence can be used felicitously in both (40) and (41):

(40) A: mi haya ha ašem? (Dani o Bill?)
'Who was the culprit? (Dani or Bill?)

B: DANI haya ha ašem.
DANI was the culprit.

(41) A: sapri li 'al Dani. hu haya ha ašem o ha qorban?
'Tell me about Dani. He was the culprit or the victim?'

B: Dani haya ha AŠEM.
Dani was the CULPRIT.

In contrast, the inverted sentence is good in only one of these two contexts, where the focal stress falls on the postcopular constituent. [12]

(42) A: Mi haya ha ašem? (Dani o Bill?)
'Who was the culprit? (Dani or Bill?)

B: ha ašem haya DANI.
The culprit was DANI.

(43) A: sapri li 'al Dani. hu haya ha ašem o ha qorban?
'Tell me about Dani. He was the culprit or the victim?'

B: *ha AŠEM haya Dani.
'The CULPRIT was Dani.'

We adopt a cartographic analysis of focalization in inverted copular sentences. Belletti (2004) argues in favor of a low focus phrase in the vP/VP periphery. So, one possibility is that the focused subject of the small clause is moved to a focus position on the left periphery of the VP of the copula. Belletti's proposal can be straightforwardly adapted to (40)-(43), to the English equivalents that Heycock discusses, and indeed, to inverted copular sentences in general.

Extending it to inverted copular sentences without a copula, as in (29), requires an extension of Belletti's concept of a low focus phrase from vP to non-verbal predicative structures. Suppose, then, that a FocusP can be merged in the immediate or less immediate periphery of the small clause across languages.

[12] Along similar lines, Rizzi (2015b) provides evidence of the obligatorily focal character of the postcopular constituent in Romance based on backward pronominalization, which typically is not allowed with a focal antecedent (Chomsky 1976). In fact, backward pronominalization is systematically excluded in inverse copular constructions.

The question that has occupied researchers faced with the patterns just described is why the postcopular subject *must* be in focus. Following Rizzi, (2015b), we conjecture

(44) The necessarily focal character of the subject in inverse copular constructions can be made to follow from locality (Relativized Minimality).

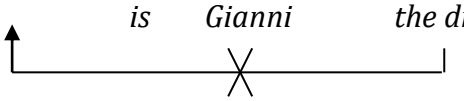
6.2. Smuggling of PredP in the derivation of the inverted order: Romance

We have been assuming that the direct, or canonical order of copular constructions in Italian is derived by internal merge of the small clause subject to a SUBJ position in the higher part of the IP:

(45) Gianni SUBJ è [~~Gianni~~ [Pred [il direttore]]
Gianni *is* *the director*

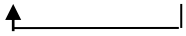
Given a uniform underlying representation for both direct and inverse copular constructions, the inverted one, we have argued, cannot be directly derived because movement of the predicate nominal *il direttore* to Spec/Subj crossing *Gianni*, would violate RM.

(46) SUBJ è [[Gianni] [Pred [il direttore]]]
is *Gianni* *the director*

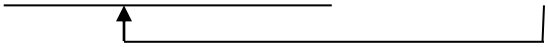


In terms of the proposal in Rizzi (2015b), the derivation of inverted copular constructions proceeds as follows. First, the subject of the small clause must be moved to the low Focus position of Belletti (2004); PredP is then "smuggled" past it, (in the sense of Collins 2005) and then the predicative DP is extracted out of the smuggled PredP and moved to the main clause or high Spec/SUBJ (Cardinaletti (2004)):

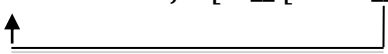
(47) a. SUBJ è [Gianni Foc [SC __ [Pred [il direttore]]]]



b. SUBJ è [SC __ [Pred [il direttore]]] [Gianni Foc __]



c. Il direttore SUBJ è [SC __ [Pred __]] [Gianni Foc __]



The smuggling of the sc should be viewed as a member of a family of movements of predicative structures within the IP: Collins' (2005) vP movement to Voice in passive; the reordering giving rise to superficial violations of the adverbial hierarchy according to Cinque (1999) (*John doesn't any longer [often win]* → *John doesn't [often win] any longer* __); the analysis of psych-verbs (Belletti & Rizzi (2012)), and of the causative construction (Belletti 2015).

The three movement steps diagrammed in (47) make it possible for the predicate nominal to be moved across the subject without violating RM. Focalization of *Gianni* removes the subject of the small clause, then the remnant of the small clause is

smuggled, as in (47)b, and at this point the predicative DP can be moved without incurring a violation of locality.

It may be observed here that, once the small clause is smuggled, the trace of the subject is still present, as representation (47)c indicates. Why doesn't the subject trace still determine a RM effect, blocking extraction of predicative DP? Krapova and Cinque (2008), in the context of their analysis of multiple wh-movement in Bulgarian, argue for an interpretation of RM according to which an element Z counts as an intervener between X and Y in the configuration X…Z…Y only when all the occurrences of Z actually intervene between X and Y (within a particular phase). In (47)b, after *Gianni* has been moved to Spec/Foc, only one occurrence of *Gianni* intervenes between *il direttore* and its trace, the other occurrence occupying the lower Spec/Foc position. Under the Krapova-Cinque interpretation, the trace of the subject does not count as an intervener for RM in (47)c. Therefore, previous movement of the subject has the effect of liberating further movement of the predicative DP, as desired. Thus, the possibility of obtaining an inverted copular construction without violating locality is made contingent on the previous focalization of the subject. This captures an otherwise surprising property of the inverted construction, the necessarily focal character of the subject.

6.3. Smuggling of PredP: Hebrew

The analysis of the Italian construction leaves open the question of where the smuggling step takes place. Hebrew offers an additional element that directly bears on this question. Recall that in inverted copular sentences , PRON is obligatory:

(48) a. ha more *(hu) Dani.
the teacher PRON.ms Dani
'The teacher is Dani.'

b. Dani (hu) ha more.
Dani PRON.ms the teacher
'Dani is the teacher.'

Consider the clausal map we have been assuming, repeated here for ease of reference, and for the relevant part:

(49) SUBJ2 ... SUBJ1 ... Foc … [DPa [Pred DPb]]
ʛ ʛ
PRON Ø

In the direct construction in (48)b the subject DP, namely DPa of (49), may stop in any of the Subj positions, and only if it reaches the highest one, SUBJ2, does *hu* appear.[13]

[13] How can the subject criterion be simultaneously satisfied in SUBJ1 and SUBJ2 in cases like (48)b? We assume that SUBJ1 can be head-moved to SUBJ2 so that the complex head SUBJ1+SUBJ2 is created, and the nominal element in its Spec simultaneously satisfies both criterial requirements. See Rizzi (2011), Shlonsky (2014a) for other cases of simultaneous criterial satisfaction, made possible by incorporation of one criterial head into another.

The obligatoriness of *hu* in inverted sentences such as (48)a shows that the inverted predicative DP necessarily reaches the highest subject position. Extending to the Hebrew paradigm the analysis of Italian in (47), the question arises of why Spec/SUBJ1 could not be used as the landing site of the moved predicative DP (in which case the absence of *hu* would be expected). A way to force the use of SUBJ2 in the inverse construction (hence the obligatory appearance of *hu*) is to assume that the landing site of (the relevant case of) smuggling is higher than the SUBJ1 layer.

Adapting the analysis of Italian to Hebrew, we thus have, as the initial step, the focalization of the subject of the small clause, DPa:

(50) ... SUBJ2 ... SUBJ1 ... DPa Foc ... [__ [Pred DPb]]
ɡ ɡ
PRON Ø

After merger of the relevant functional structure, the remnant of the small clause is smuggled to a position in between SUBJ1 and SUBJ2:

(51) ... SUBJ2 ... [__ [Pred DPb]] ... SUBJ1 ... DPa Foc __ ...
ɡ ɡ
PRON Ø

At this point, the predicative DP, DPb of (49), can be moved to Spec/SUBJ2, yielding the inverted order. As SUBJ2 is necessarily activated here to provide a landing site for the predicative DP, PRON is obligatorily present.

This analysis raises the question of why smuggling necessarily targets a position higher than SUBJ1 as in (51). As mentioned in 6.2, the occurrence of smuggling postulated here may be considered one instance of a family of such processes, moving verbal chunks and other predicative structures in the IP configuration. The process may target spots at different heights in the IP spine, depending on the characteristics of the particular construction (we assume that different attractors for a verbal or predicative structural chunk may be available at different heights of the IP spine). If so, why couldn't smuggling target a position lower than SUBJ1 in the inverted copular construction, as in (52), with subsequent movement of DPb to Spec SUBJ1?

(52) ... SUBJ1 ... [__ [Pred DPb]] ... DPa Foc __ ...
|
Ø

We know that this derivation must be excluded, because if it were possible, the obligatory appearance of *hu* (= SUBJ2) would not be captured. Why is it excluded? We assume that SUBJ1 is intimately related to the case-agreement system, and in particular it is responsible for case-licensing of the DP it probes (see the next session for the consequences of this hypothesis for the agreement pattern).

We continue to assume, with standard approaches to case, that case-licensing is assured by a head-DP probing relation. In case of the predicative DPb, case-licensing is plausibly determined by the Pred head (which may assign a special case to DPb, or license assignment of the default case, depending on other properties of the construction; see the discussion in section 4), so SUBJ1 could not enter into a probe-goal relation with DPb in (52) (the competing and closer case licensing Pred head would give rise to a minimality effect). Hence, if probing by a given head is a prerequisite for movement to its Spec, DPb could not be attracted to Spec SUBJ1 and the inverted order could not be derived from (52). The inverted construction requires the higher probe SUBJ2, which we assume not to be directly linked to the case-agreement system, and capable of probing DPb (for the sake of the current discussion, we may simply assume that SUBJ2 probes a +N element, irrespective of its case properties, much as in Rizzi & Shlonsky 2007).

7. The agreement pattern.

Hebrew provides direct evidence, through the obligatory presence of *hu*, that the highest part of the IP structure must be involved in the derivation of inverted copular constructions. But can this analysis generalize to other languages? The peculiar agreement pattern in the inverted construction in languages like Italian supports a generalization of the proposed analysis.

As is well known, in cases in which the two DP's do not match in Phi features, the copular verb in Italian agrees with the pre-copular nominal in canonically-ordered copular constructions and with the postcopular one in inversely-ordered ones (examples from Moro 1997:28).

(53) a. le foto del muro furono/*fu la causa della rivolta .
the pictures of the wall were/was the cause of the riot

b. la causa della rivolta furono/*fu le foto del muro
the cause of the riot were/was the pictures of the wall

The generalization is that the copula agrees in Phi features with the subject (DPa in (51)), irrespective of the surface direct or inverted order.

English expresses another major pattern: Agreement in copular constructions is always with the pre-copular and not with the post-copular DP, no matter whether the construction is direct or inverted.

(54) a. The pictures on the wall were/*was the cause of the riot.
b. The cause of the riot *were/was the pictures on the wall.

Let us look at the Italian pattern first, focusing on the agreement in the inverted construction. It follows directly from the proposed analysis if indeed the smuggling step is higher than SUBJ1 also in this language. Consider the initial representation, by assuming an analysis fully parallel to (51) (except that SUBJ2 is not spelled-out in Italian):

(55) ... SUBJ2 ... SUBJ1 ... Foc … [[le foto del muro]_[Pred [la causa della rivolta]]
The pictures of the wall the cause of the riot

Here the subject of the small clause gets moved to Spec/Foc, yielding

(56) SUBJ2 ... SUBJ1 ... [le foto del muro] Foc … [___[Pred [la causa della rivolta]]
The pictures of the wall the cause of the riot

We continue to assume that SUBJ1 is the functional head responsible for the case-agreement system, and in particular for the agreement specification on the verb. So, a probing relation is established between SUBJ1 and *le foto del muro*, in the low focus position; this relation ultimately manifests itself in the plural agreement morphology on the copular verb. At this point, smuggling of the sc takes place. Assuming the same landing site for smuggling hypothesized for the Hebrew case, i.e., in-between SUBJ2 and SUBJ1, the following is produced:

(57) SUBJ2 ... [__[Pred [la causa della rivolta]] SUBJ1 ... [le foto del muro] Foc … __
the cause of the riot The pictures of the wall

From here, the predicative DP, DPb, can be attracted to the Spec of SUBJ2. Since SUBJ1 is the head ultimately responsible for the morphological agreement of the lexical verb, agreement is already determined at the point at which the predicative DP is moved. Consequently, movement of *la causa della rivolta* to Spec SUBJ2 has no impact on verbal agreement. Notice that this analysis requires smuggling to take place to a position higher than SUBJ1 much as in the Hebrew case: if smuggling could take place to a lower position, yielding

(58) ... SUBJ1 [__[Pred [la causa della rivolta]] ... [le foto del muro] Foc…__
the cause of the riot The pictures of the wall

SUBJ1 could not probe the predicative DPb *la causa della rivolta* because of the intervention of the case licensing Pred head. Hence, DPb could not be attracted to Spec SUBJ1, and the inverse construction could not be derived. For the derivation of the inverted construction to take place, then, it is necessary that smuggling target a higher point, and that a second attractor SUBJ2 comes to the fore, as in (56), much as in the Hebrew case.

Consider now the agreement pattern illustrated by English in (54): here, agreement always is with the initial DP, both in the direct and in the inverted construction. Why is this so, if a structure and derivation analogous to the Hebrew and the Italian one is assumed? Notice that Italian and English differ in the agreement pattern in that "rightward" agreement is possible in Italian but not in English:

(59) a. sono io
Am I

b. It is me /*It am I

Guasti & Rizzi (2002) argue for a parametric difference between Italian and English such that Italian permits morphological verbal agreement on the basis of a simple agree (probing) relation between the relevant inflectional head and a nominal element in its c-command domain, whereas English requires the establishment of both an agree and a Spec-head relation between the two (a difference possibly related to the Null Subject Parameter; see also Franck et al. (2006) for discussion and Roy and Shlonsky (2016) for a relevant extension to French).

So, in English, at the point at which the equivalent of a representation like (56) is reached, agreement of the copula with the focalized subject cannot be implemented, as the agreement probe (SUBJ1) and its target (the focalized subject) are not in the requisite spec-head configuration. Copular agreement cannot be determined at this stage. Then, smuggling takes place and the predicative DP is moved to Spec SUBJ2. Suppose that, as assumed in note 13, SUBJ1 can move to SUBJ2 via head movement. At this point, the structure has a Spec-head configuration between a nominal, in this case the predicative DP, and SUBJ1 (the head responsible for the case-agreement system, moved and incorporated into SUBJ2.). The language-specific requirement for verbal agreement is now met, and the copular verb agrees with the predicative DP in English inverse copular constructions[14]. The generalization observed in English (the copula agrees with the first DP both in direct and inverse copular constructions) thus follows from the fact that the first DP is the only one that satisfies, in both the direct and inverse constructions, the language specific condition for verbal agreement, namely the establishment of a Spec-head configuration.[15]

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[14] Two anonymous reviewers observe that if the predicative DP is already case-licensed by Pred, it is surprising that it may move to spec SUBJ2 and enter into a case-agreement relation with SUBJ1 (moved and incorporated into SUBJ2). But it should be noticed that in the system proposed here, attraction to SUBJ2 is determined by +N, not by agreement features (see the last paragraph of section 6.3), so that attraction should not be affected by the fact that the DP has already been case-licensed; the fact that incorporation of SUBJ1 into SUBJ2 permits agreement in a spec-head configuration suggests a mechanism of "parasitic" agreement which we will not try to work out here (nor will we address the question of what case the predicative DP actually bears, and if the construction requires a mechanism of case overwriting).

[15] In the canonical construction, agreement in Hebrew is like in English and Italian, as illustrated by (ia). Judgments concerning the inverted construction, however, are extremely variable. For Shlonsky, agreement to the left or to the right are both possible in (ib), but this judgment is unstable and varies with the choice of lexical elements and tense. This instability is related, we believe, to the instability of judgments concerning null subjects (in referentially-dependent contexts; see Shlonsky (2009; 2014b)). If the Italian strategy of agreement without movement to the specifier of the probe is related to the setting of the null subject parameter, then the agreement variation in Hebrew can be taken to reflect the availability of both the Italian strategy of Search without Move or the English one that requires Move.

(i) a. ha tmunot 'al ha kir hayu /*hayta ha siba la hitkomemut.
the pictures on the wall were/was the cause of-the uprising

b. [SEP] ha siba la hitkomemut #hayu /#hayta ha tmunot 'al ha kir.

8. Evidence for Criterial Freezing in the low FocusP

Let us now go back to freezing effects. A salient property of the inverse copular construction, well described in the literature (Longobardi 1985; Moro 1997; 2000) is that the postverbal subject is unmovable. Compare direct and inverted copular constructions:

(60) a. Chi credi che sia il direttore? direct
'Who do you think that is the director?'

b. *Chi credi che il direttore sia __? inverted
'Who do you think that the director is?'

(61) a. Ecco l'uomo che credo che sia il direttore direct
'Here is the man who I believe that is the director'

b. *Ecco l'uomo che credo che il direttore sia __ inverted
'Here is the man who I believe that the director is'

The freezing of the postcopular subject in inverted copular constructions is naturally interpretable as a case of criterial freezing arising in the low Foc position, (Rizzi 2015b), reducible, as before, to labeling and maximality.[16]

(62) Il direttore SUBJ è [__ [Pred __]] [$_{\beta}$ Gianni$_{+Foc}$ Foc __]

Here, *Gianni* is in a criterial configuration, and it shares the +Foc feature with the criterial head Foc. We thus expect the freezing effect illustrated in (60)-(61): In terms of labeling and maximality, constituent β is labeled by the criterial feature Foc; at this point, *Gianni* is not maximal with respect to the Foc feature, hence it cannot be moved under maximality (see Rizzi 2015b for the reasons why the whole FocP can't move either).

A parallel pattern of freezing emerges in Hebrew, in both present tense inverse copular constructions, with PRON, and in past tense sentences with *be*. (63) illustrates interrogative wh movement and (64) relativization.

(63) a. mi ata xošev še hu/haya ha mnahel?
who you think that PRON/was the director

---

the cause of-the uprising were/was the pictures of the wall [L SEP]

Significant variability in agreement in copular constructions in Germanic is documented in Hartmann & Heycock (2014) and Heycock (2012) and attributed to additional forms of parametrization. Our understanding of the Hebrew patterns would benefit significantly from studies like theirs.

[16] Moro (1997: 58) observes some cases in which a bare wh-element is extractable from the inverse copula construction, as in *What do you think a picture of the wall was?*. He argues that in these cases *what* does not stand for the whole postcopular DP, but rather is extracted from it, an analysis consistent with our account.

b. *mi ata xošev še ha mnahel hu/haya?
who you think that the director PRON/was

(64) a. hine ha iš še ani ma'amin še hu/haya ha mnahel.
here the man that I believe that PRON/was the director

b. *hine ha iš še ani ma'amin še ha mnahel hu/haya.
here the man that I believe that the director PRON/was

The same analysis in terms of freezing, and ultimately of labeling and maximality, can be adopted here.

9. Another freezing effect in direct copular constructions

Note, now, that if the wh operator in (63)b is *ma* 'what', rather than *mi* 'who', movement is grammatical in the variant with the copula (in the past tense) but remains ungrammatical with PRON.

(65) a. ma ata xošev še ha mnahel haya?
what you think that the director was
'What do you think that the director was?'

b. *ma ata xošev še ha mnahel hu?
what you think that the director PRON
'What do you think that the director is?'

It is natural to interpret (65)a as a direct copular sentence with 'the director' as subject and 'what' questioning a predicate nominal rather than an (inverted) subject. For example, the sentence can elicit a response such as 'an idiot'. Under this interpretation, the extracted wh word is the object of Pred, which is not a freezing position.

The ungrammaticality of (65)b is surprising, since it has the same subject-predicate format as (65)a, modulo tense. In fact, any extraction of a post-PRON NP/DP is ungrammatical, independently of whether it is the inverted subject or the canonical predicate of a copular construction, an observation originally made in Doron (1983). In a canonical copular sentence, for example, there is a sharp contrast between extraction of the predicate nominal in a bare sentence or one with a copula (grammatical) and in a sentence with PRON (ungrammatical.)

(66) a. mi/ma ata xošev še Dani (haya)?
who/what you think that Dani (was)
'Who/what do you think that Dani is/was?'

b. *mi/*ma ata xošev še Dani hu?
who/what you think that Dani PRON.3ms
'Who/what do you think that Dani is?'

Interestingly, when negation or emphatic affirmation follow PRON, the ungrammaticality of (65)b and, similarly, of (66)b, disappears:

(67) a. mi/ma ata xošev še Dani hu lo/ken?
who/what you think that Dani PRON.3ms not/yes
'Who/what do you think that Dani is not /IS?

b. ma ata xošev še ha mnahel hu lo/ken?
what you think that the director pron not/yes
'What do you think that the director is not /IS?'

The pattern may be connected to our account of freezing effects in terms of labeling and maximality. In case the copula is verbal, the predicative constituent questioned by *mi/ma*, nominal in nature, is maximal, hence extractable (unless other constraints are violated). If the structure involves a nominal predicate in the immediate context of a pronominal copula, the structure is well formed, but the copula and the predicate share a nominal feature, so that the predicate is non-maximal w.r.t. the nominal feature.

(68) … hu mi/ma …
+N +N

Under maximality, the nominal predicate cannot be extracted in this configuration, e.g., in (66)b.

Notice that representation (68) oversimplifies the problem. Under the analysis introduced in section 5, *hu* is not structurally adjacent to the nominal predicate, as the configuration includes phonetically null functional structure, a Pred head selecting *mi/ma*, a defective T head, etc.; so, a maximality approach would require that Pred and all the intervening projections in the stretch from *mi/ma* to *hu* are +N. How can this be achieved? Consider the following speculative solution. We have assumed so far that *hu* is externally merged in SUBJ2. But consider now the alternative that *hu* is in fact merged as a (nominal) lexicalization of Pred, and is subsequently moved head to head to SUBJ2. Such movement would have the consequence of attributing +N to all the (null) heads in its path. As a result, the predicate *mi/ma* (and all the projections in the path) would become non-maximal with respect to this feature and could not be extracted.

No maximality problem arises in case of a verbal copula, as in (66)a. As for copular sentences without the copula - (66)a with the parentheses activated- it is sufficient to assume that, in the absence of *hu,* Pred would not be +N, so that the extracted predicate nominal *mi/ma* would be maximal.

In (67), an overt negative or positive polarity phrase intervenes between *hu* and the nominal predicate: By hypothesis, these heads would interrupt head movement of *hu* above them. If head movement from Pred is barred, the only option here would be to merge *hu* directly in SUBJ2. As a result, the predicate phrase *mi/ma* would be maximal, as the selecting Pred head would not be specified +N. Extraction would then be possible, under maximality.

This line of thinking is consistent with the view that movement (here of *hu* from PRED to SUBJ2) is more economical than external-merge (here of *hu* directly in SUBJ2): the latter is appealed to only when movement is blocked.

Traditionally, the contrast in (66) could have been analyzed in terms of the ECP and proper government (provided by the verbal copula in (66)a, but not by the nominal copula in (66)b) and echos of this analysis can be found in Doron (1983). Labeling and maximality offer an alternative to an ECP-based analysis here as well.

10. Conclusion

We have argued that the basic merge pattern of copular sentences is asymmetric: The predicate is merged as the complement of Pred and its subject is merged with this category. Labeling requires that the subject move. In copular sentences manifesting the canonical subject-predicate order, the subject moves to some higher position in the clause (subject of the finite clause or some A' position). In order to render small clauses, in the traditional sense, compatible with labeling, we adopted Rizzi's (2015b) idea to the effect that the subject moves minimally to a position in the periphery of the small clause. We called this position subj.

In Hebrew, small clauses with subj can appear in unselected contexts. We argued that this is due to the absence of a copular verb, a vP and ultimately rooted in a language-specific property of T.

Hebrew also shows that certain subject-predicate articulations cannot be satisfied in such a minimal structure. Generic statements and type-referring subjects require a larger structure in which the subject is raised higher than subj. We identified two such positions: The higher one, SUBJ2, is lexicalized by PRON in Hebrew present-tense copula-less sentences. The lower position, SUBJ1, is not lexicalized but its presence can be indirectly discerned by the presence of functional material in between the subject and the predicate. SUBJ1 is the seat of clausal Phi – the probe for subject-verb agreement.

Inverted copular constructions, which manifest the order predicate-subject, are derived in three steps. First, the PredP subject is moved to a low focus position. Second, the remnant PredP is raised above SUBJ1. Third, the predicate is extracted from the smuggled constituent and merged with SUBJ2. This derivation is consistent with Relativized Minimality. As the movement of the subject to Spec/Foc is an essential step to avoid a violation of RM, the analysis explains the obligatoriness of subject focalization in inverse copular constructions in Italian, English and Hebrew. This analysis involves an application of the smuggling step in between SUBJ1 and SUBJ2. We showed that this assumption on the landing site of smuggling naturally captures the different patterns of verbal agreement in Italian and English inverse constructions, under plausible independent forms of parameterization of the verbal agreement system.

Finally, we addressed freezing effects in copular constructions. The postcopular subject is frozen in clause-final position by criterial freezing (ultimately, labeling and maximality) in both Italian and Hebrew. Hebrew also shows a freezing effect of the predicative DP in direct copular constructions involving *hu*, an effect that, through auxiliary assumptions, is also amenable to a consequence of the maximality principle.

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