

Non-Monotonic Derivations

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1. Introduction

Among the most prominent principles within derivational theories of syntax are the Strict Cycle Condition (SCC) and the Minimal Link Condition (MLC). The purpose of these principles is to constrain syntactic derivations, in order to avoid overgeneration. Both, the SCC and the MLC have a rather good reputation. Empirically, they are well motivated. On the conceptual side, they are show cases of elegant and explanatory grammatical principles because they are formulated in a very general way, neither referring to particular types of operations nor to particular types of representations. This lends much theoretical plausibility to them. Despite all this, it has been noted in the literature that there are syntactic analyses, well motivated otherwise, that are in conflict with either the MLC or the SCC. Consequently, the question arises as to how this conflict can be resolved. This is, in a nutshell, the puzzle the present study is concerned with.

Of course, the puzzle has been addressed before, and there are various proposals in the literature as to what a solution to it may look like. The most radical one consists in replacing the respective grammatical principle that causes the conflict (i.e., the MLC or the SCC) by another principle with similar effects. As far as the MLC is concerned, there are several proposals of this kind (see, for instance, Takahashi 2001; 2002, Frank 2002, Müller 2004, Lahne 2012). However, it is unclear whether any of them is able to completely derive the effects usually ascribed to the MLC while at the same time avoiding the above mentioned conflict. Similar considerations apply with respect to alternatives to the SCC (see Chomsky 1993, Watanabe 1995, Bošković and Lasnik 1999). Another, less radical, strategy to approach the problem consists in allowing for a loophole in the MLC/SCC that can be exploited in particular contexts. See Chomsky (1993; 2000; 2001) on various proposals concerning the MLC, and Richards (1997; 2001), Anagnostopoulou (2003), or Stepanov (2004) on the SCC. Typically, proposals that fall under this strategy suffer from one of two problems (or from both): either the loophole they are based on rests on a stipulation; or they fail to carry over to cases that seem to instantiate the same pattern (see chapter 8 for discussion).

In the present study, I propose a novel and general approach to resolve the above mentioned conflict. Moreover, I argue that this proposal, at least in its purest form, is derivable from independently motivated principles of syntactic theory. In a nutshell, the idea is that syntactic derivations can be *non-monotonic* in the sense that the representations generated by derivations may both grow and shrink, and that it is precisely this property that enables such derivations to avoid a violation of the MLC or the SCC in contexts where strictly monotonic derivations are bound to fail. Thus, by invoking non-monotonic derivations both the MLC and the SCC can be maintained in their strongest form.

The proposal makes use of two ingredients. The first one is the hypothesis that syntactic movement can be disassembled into a step that removes a category α from a tree β (see Müller 2015 for independent arguments) and an operation that remerges α at

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some later step. The distinction between removal and remerge is not detectable if both operations apply directly one after another. In such a case, the result is the run-of-the-mill movement operation that belongs to the standard toolkit of many syntacticians. However, splitting up movement into removal and remerge does become detectable if another syntactic process ψ applies in between the former two steps. This is possible if one accepts the idea that while ψ applies, α (after its removal from β) is temporarily stored in some additional “workspace”, a concept that is needed on independent grounds (see Bobaljik 1995*b*, Uriagereka 1999). Only after ψ has applied is α reintroduced into β . In this way, α cannot interact with ψ because it is temporarily removed from the representation that ψ operates on. Ultimately, this is what avoids a violation of the MLC or the SCC.

The second ingredient involves head-movement. In some cases, the SCC requires that for ψ to apply the top level projection (or a sequence of top level projections) of the current phrase marker be eliminated (cf. Ross 1986: 27-69, Müller 2015 on related concepts of structural removal). This is achieved by removing the projection’s head H (cf. Stepanov 2012), which is also temporarily stored in a separate workspace. Crucially, removal of H requires a trigger. I argue that such trigger is present if H is the target of head-movement. As a result, non-monotonic derivations are restricted to contexts that involve (inter alia) head-movement.¹ Elimination of the top-level projection effectively makes the derived tree β shrink. Later in the derivation, H is remerged with β , thus restoring its previous height. Syntactic structures that are generated in this way do not continuously grow, hence the notion of a non-monotonic derivation.

The outline of the study is as follows. Chapter 2 provides the general background and gives an abstract sketch of the problem and the solution envisaged. I begin with the working definitions of the SCC and the MLC, also presenting some of the empirical facts that have been argued in the literature to motivate these principles (sections 2.1 and 2.2). In section 2.3, I sketch the abstract shape of the central problem that is under investigation in more detail. I also report on some of the previous solutions to the problem that have been proposed in the literature. One of the solutions, Chomsky’s (1993) theory of equidistance, will receive particular attention (section 2.3.3), mainly because the present approach shares an interesting property with it: in both, the theory of equidistance and the theory of non-monotonic derivations, the solution of the problem is contingent on head-movement. It will become clear in section 2.4.4 that while this property must be stipulated in the equidistance theory, it ultimately falls out in the present approach as a consequence of the theory of head-movement (which in turn is motivated by the SCC). Before this can be illustrated, two auxiliary assumptions have to be motivated: first, the necessity of the notion of workspace together with the idea that movement can make use of this notion (section 2.4.2), and second, Bobaljik’s (1995*a*)

¹The idea that grammatical restrictions can be voided by head-movement is not new. Baker (1988) proposes that head-movement removes barriers for government (the “Government Transparency Corollary”); Chomsky (1993; 1995) suggests that the MLC can be suspended by head-movement because the latter renders two categories “equidistant” (see section 2.3.3 for details); and Dikken (2007) argues that opaque domains (as defined by the Phase Impenetrability Condition of Chomsky 2000; 2001) can be altered if head-movement applies.

theory of head-movement (section 2.4.3).

Chapter 3 then presents the main theoretical background assumptions that the overall analysis is based on. Some minor assumptions will be introduced in later chapters where necessary.

In chapters 4–7, different instantiations of the abstract problem illustrated in section 2.3 of chapter 2 are discussed, and in each case it is illustrated how a non-monotonic derivation provides the solution. Chapter 4 is concerned with object shift phenomena. Sections 4.1.1–4.1.2 deal with the problem of subject-verb agreement in Spanish VOS-structures. In sections 4.1.3–4.1.4, a non-monotonic solution for the derivation of French causatives is proposed (including a treatment of clitic climbing, see section 4.1.5). Section 4.2 is concerned with object shift in Scandinavian. In particular, Vikner’s (1989) puzzle is introduced and newly motivated on the basis of intervention effects with floating quantifiers (sections 4.2.1–4.2.2). A solution in terms of non-monotonic derivations follows in section 4.2.3. In section 4.3, I show that Holmberg’s (1986) generalization can be derived as well. This includes a discussion of the verb topicalization facts brought up in Holmberg (1999) (see section 4.3.2). Section 4.4 illustrates that Vikner’s puzzle can be replicated (and solved) in the context of object shift in Belfast English. The chapter is closed by section 4.5 with a discussion of apparent MLC-violations occurring with object shift as it arises in double object constructions in Kinande and some Khoisan languages.

Chapter 5 addresses different types of subject-verb inversion. In section 5.1, I offer a modified version of the analysis of quotative inversion in English presented in Collins (1997). In particular, I claim that quotative inversion involves an intermediate derivational stage that brings about a problem similar to the one discussed with respect to object shift (section 5.1.1): both, quotative inversion and object shift involve intervention at the vP-edge, the difference merely being that the intervener in object shift reaches its critical position via movement while the intervener in quotative inversion is introduced via Merge. The non-monotonic derivation given in section 5.1.2, which solves the intervention problem, automatically derives the inversion, thereby assimilating the analysis of quotative inversion to the derivation of Holmberg’s generalization (from section 4.3). Section 5.2 introduces the phenomenon of stylistic inversion in French and suggests that the same analysis proposed for quotative inversion carries over to stylistic inversion (section 5.2.1). Section 5.2.2 discusses the transitivity restriction active in both types of inversion. Moreover, it is suggested in chapter 5 that the observation that quotative inversion is incompatible with compound tenses (see section 5.1.2) and the fact that in stylistic inversion both the finite auxiliary and the participle of a compound tense undergo raising across the subject (section 5.2.1) are different sides of the same coin. These facts receive an explanation within the present theory, which assimilates them to the case of verb topicalization in Scandinavian object shift (cf. section 4.3.2 of chapter 4). Chapter 5 closes with a brief discussion of predicate inversion in English (and some other languages) in section 5.3.

In chapter 6, I turn to constructions that involve raising to subject across an intervener. Section 6.1.1 briefly mentions some previous approaches to subject raising across an intervening experiencer in English. The account in terms of non-monotonic raising is given in section 6.1.2. Section 6.1.3 addresses cases where raising becomes possible

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because the intervener is moved out of the way by some independent process (cliticization or \bar{A} -movement). In section 6.2, I address independent evidence for the approach in terms of non-monotonic derivations that is based on (the absence of) Principle C effects. Section 6.2 presents Lebeaux’s (2009) puzzle, and suggests that it receives a natural solution if subject raising across an intervening experiencer proceeds non-monotonically. The background idea is that Principle C must be fulfilled at every point of the derivation. In section 6.3, I further motivate the idea that Principle C is checked derivationally, arguing that this assumption allows for a simple explanation of the ungrammaticality of structures that involve raising across anaphors (for instance in Romance languages, as opposed to English). In particular, I argue that the distinction between languages that allow for raising across an experiencer by means of a non-monotonic derivation (such as English) and those that employ cliticization (such as Romance languages) correlates with a difference with respect to the possibility to raise across an anaphor. I also suggest that this analysis fares better than alternative accounts proposed in the literature, concretely Rizzi’s (1986) theory of chain formation and McGinnis’s (1998) proposal in terms of lethal ambiguity (see sections 6.3.1–6.3.3). Section 6.4 briefly addresses a potential argument for non-monotonic raising based on pit-stop binding in English. Section 6.5 proposes a non-monotonic analysis of “long passivization” of a direct object across an indirect object, also providing some independent evidence in terms of an interaction with Principle C (section 6.5.4). An similar analysis of raising with psych-predicates is presented in section 6.6.

Chapter 7 deals with different phenomena that involve \bar{A} -dependencies. It may be considered somewhat more programmatic as the evidence for removal of projections is not to the same extent motivated by overt head-movement but rather rests on the assumption that there is feature inheritance (Chomsky 2008; Richards 2007), which does not have overt reflexes. Section 7.1 briefly discusses a possible extension of the theory of non-monotonic derivations to the phenomenon of superiority (or, more precisely, the observation that many languages do not show superiority effects). Section 7.2 deals with the observation that topicalization in English creates strict islands for \bar{A} -movement while affective preposing does not. The non-monotonic solution connects this asymmetry to the fact that the latter construction involves subject-auxiliary inversion (T-to-C movement) while the former does not. Section 7.3 reconsiders the derivation of the Nested Dependency Condition from the MLC. I point out that in order to reconcile it with some other tenets of the present study it is useful to assume that embedded CPs get their edge feature via feature inheritance. In section 7.4, I illustrate how the assumption about feature inheritance by embedded CPs makes possible a new proposal as to why complex noun phrase islands exists. I also provide an explanation in terms of a non-monotonic derivation for why Scandinavian languages are able to bypass this type of island. Again, the solution creates a connection to head-movement, this time head-movement in the nominal domain.

Chapter 8 summarizes the results of the study.

2. Setting the stage

At the beginning of this chapter, the working definitions of the Strict Cycle Condition and the Minimal Link Condition are given. It is on these definitions that the discussion in the study is based on. The section also contains a brief sketch of the motivation that stands behind these two prominent principles of grammar. Section 2.3 introduces the problem in its abstract form. Sections 2.4.1–2.4.3 prepare the ground for the solution. The solution is then sketched in section 2.4.4, illustrating how equidistance effects can be derived from the SCC.

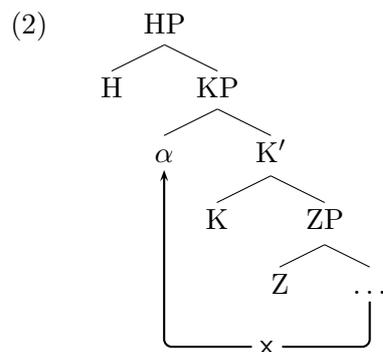
2.1. The Strict Cycle Condition

Chomsky (1973: 243) introduced the Strict Cycle Condition (SCC) to the theory of syntax (see Kean 1974 and Mascaró 1976 for early applications of the SCC in phonological theory). The purpose of the SCC is to block a type of derivation that is unwanted because it can lead to ungrammatical results. In a nutshell, the SCC militates against modifying proper subparts of the syntactic object currently under construction. The definition assumed here is given in (1).

- (1) *Strict Cycle Condition:*
If Σ is the root of the current phrase marker, then no operation can take place exclusively within Ω , where Ω is properly dominated by Σ .

There are various ways one can define the SCC. Note that the definition in (1) is rather strict in the sense that it presupposes that every node in a syntactic representation forms a cyclic domain of its own.

The operation that (1) refers to can, in principle, be any syntactic operation, that is, Agree, Merge, or Move. (2) gives an abstract example in which the SCC is violated by applying movement of α within KP (= Ω), KP being a proper subtree of the current phrase marker HP (= Σ). The movement of α in (2) is in effect blocked by the SCC. This is graphically indicated by crossing out the movement arrow.



2. Setting the stage

In tree structures, such as the one in (2), I indicate the base position of movement by three dots. In structures with indexed bracketing, I use the trace symbol *t*. Both notations leave open what kind of element exactly is left behind by movement. As for phrasal movement, I assume that it leaves behind an impoverished category, bereft of any substantial morpho-syntactic features, which may just serve as a mark of reconstruction; as for head-movement, I assume that it may optionally leave behind a copy (Chomsky 1995) or nothing at all; see sections 2.3.2 and 2.4.4 for brief but relevant remarks.

In what follows, I sketch two arguments for the SCC that have been brought forward in the literature in order to further illustrate its motivation and functioning. The first one is based on an explanation of the *wh*-island condition and the second is concerned with “derived” islands.

It has been observed that movement of a *wh*-phrase leads to markedness or even ungrammaticality in English when it crosses another *wh*-phrase that occupies its scope position. The observation goes back at least as far as Chomsky (1964: 44). An illustrative contrast is given in (3-a,b).

- (3) a. Where did you say [_{CP} that Bill bought the sofa *t*]?
 b. *Where did you ask [_{CP} what Bill bought *t t*]?
-

In both (3-a,b), the *wh*-phrase *where* takes scope over the matrix interrogative CP and thus moves from its base position in the embedded CP to the left edge of the matrix CP. Such movement is unproblematic in (3-a). However, in (3-b) there is an additional *wh*-phrase *what*, which moves from its base position to its scope position at the left edge of the embedded interrogative CP. As a consequence, movement of its clause mate *wh*-phrase *where* to the left edge of the matrix CP becomes impossible. Thus, a CP that is introduced by a *wh*-element is an “island” for movement out of this CP.¹

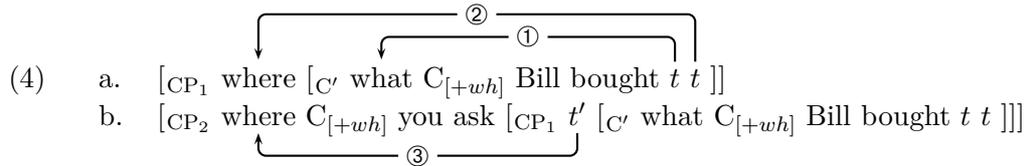
At a descriptive level, one may say that the grammar of English comprises a *wh*-island constraint that ensures the islandhood observed in (3-b). Ideally, however, the *wh*-island constraint is not a primitive of the theory but rather is derived from the interaction of other (more basic) principles of the grammar. As is illustrated now, the SCC in (1) is such a principle. The fact that the derivation of the *wh*-island constraint requires recourse to the SCC provides independent motivation for the latter. The idea is as follows (see van Riemsdijk and Williams 1986: 59-62, Freidin 1992: 105-108, Kitahara 1997: 26-28). First, suppose that movement out of a CP must pass successive-cyclically via the specifier of CP (see Chomsky 1973 and much subsequent literature). Second, assume that the C-head of an interrogative clause (a C-head bearing the feature [+WH]) can maximally project one such SpecC-position in English.² Given these background assumptions, it must now be ensured that every possible derivation of (3-b) violates some principle of

¹The notion of island was introduced by Ross (1967: 449-478).

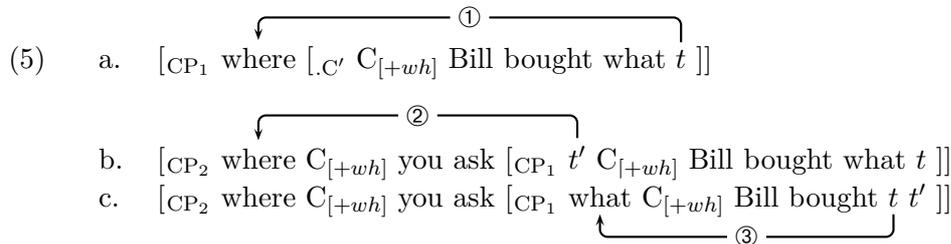
²This was stipulated by Reinhart (1981). Although one may attempt to derive the *wh*-island constraint from the MLC, this is presumably not possible under the assumptions made in the present study. I therefore stick to the stipulation instead.

grammar. It turns out that this requires assuming (something like) the SCC.

There are at least two conceivable derivations of (3-b). Both involve three movement steps. The first derivation, which is shown in (4-a,b), first moves *what* to an inner SpecC of the embedded CP₁, see step ① in (4-a), followed by movement of *where* to an outer SpecC of CP₁ (step ②), followed by movement of *where* to SpecC of the matrix CP₂, see step ③ in (4-b). Obviously, step ② violates the assumption that a [+WH] C-head does not tolerate multiple Specs. This effectively excludes (4).



The second derivation of (3-b), which is given in (5-a-c), does not make use of multiple SpecCs. The first step is the same as in (4), see (5-a). Step ② in (5-b) involves movement of *where* to the specifier of CP₂. Finally, *what* is moved to the specifier of CP₁, see step ③ in (5-c). Assuming that step ③ does not create a second specifier in CP₁, it does not violate any principle of grammar so far. Crucially, the derivation in (5) must be excluded, too. The point is that it can be excluded if one assumes the SCC: step ③ in (5-c) exclusively involves the cyclic domain CP₁, which is a proper subpart of the current cyclic domain CP₂. (5) thus violates the SCC.



A similar argument for the SCC is based on a generalization that is known as the Freezing Principle (FP), see Ross (1967), a version of which is given in (6).³

(6) *Freezing Principle:*

A category α cannot be moved out of a category β if β has undergone movement at some previous step in the derivation.

I start by briefly sketching the motivation that is behind the FP. To this end, consider the contrast in (7-a,b). Both (7-a,b) involve movement of the *wh*-phrase *who* across a clause boundary to the SpecC-position of the matrix CP. By assumption (see above), such movement must make an intermediate halt in the embedded SpecC, which is indicated by the intermediate trace *t'* in (7-a).

- (7) a. Who do you think [CP *t'* that Mary went out [PP with *t*]]?
 b. *Who do you think [CP [PP with *t*] that Mary went out *t*]?

³Wexler and Culicover (1980) call it the “Raising Principle”.

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In both (7-a,b) the *wh*-phrase originates in a PP headed by the preposition *with*. The difference between (7-a,b) is that (7-a) only moves the *wh*-phrase in the initial step, thereby stranding the preposition in the base position, see step ① in (8-a). This is an option in English (for certain PPs). In contrast, (7-b) first pied-pipes the PP (comprising preposition and *wh*-phrase) to the embedded SpecC (step ① in (8-b)). Then, in step ②, stranding of the preposition applies. At this point, the PP is already in the embedded SpecC, the position in which *wh*-movement makes a stop on its way to the matrix SpecC.

- (8) a. Who do you think [_{CP} *t'* that Mary went out [_{PP} with *t*]]?
 b. *Who do you think [_{CP} [_{PP} with *t*] that Mary went out *t*]?
-

Postal (1972) uses the ungrammaticality of (7-b) as an argument against the assumption that movement out of CP makes an intermediate stop in SpecC. If, however, one does not want to give up the idea that movement out of CP applies successive-cyclically via SpecC (and there are reasons not to give it up, see Georgi 2014: chapter 2 for a recent overview), then a constraint is needed to block the derivation in (8-b). The FP is such a constraint: movement out of PP (step ② in (8-b)) is banned by the FP because PP has been moved to SpecC in a previous step.

Returning to the main plot, the argument for the SCC is based on the insight that the FP alone is not able to block a particular kind of unwanted derivation. However, if the FP and the SCC work in tandem, then the unwanted derivation can be blocked (see Collins 1994, Chomsky 1995: 328, Kitahara 1997: 29-30, and Heck and Müller 2000*a* for related discussions). This then, gives an argument for the SCC. Concretely, the argument is based on contrasts such as the one in (9-a,b) (see Wexler and Culicover 1980: 335). In both examples, the preposition *from* is stranded by *wh*-movement. In (9-a), the PP which *from* is the head of remains in its base position. In (9-b), in contrast, the PP undergoes extraposition (movement to the right) from the noun *some people* it relates to.

- (9) a. Which city did you call [_{NP} some people [_{PP} from *t*]] up?
 b. *Which city did you call [_{NP} some people *t*] up [_{PP} from *t*]?

Suppose now that PP-extraposition in English targets a position that is structurally lower than the position targeted by *wh*-movement. In order to explain the ungrammaticality of (9-b), it is necessary to block any derivation that generates it. The following two derivations must be considered. First, there is the derivation in (10), which first applies extraposition to the PP (step ①) and then *wh*-movement to *which city* (step ②). Obviously, step ② in (10-b) is blocked by the FP: *wh*-movement applies out of a category that has been moved in a previous step.

- (10) a. you call some people *t* up [_{PP} from which city]
 b. which city you call some people *t* up [_{PP} from *t*]
-

Second, there is the derivation in (11). This derivation obeys the FP because, this time, *wh*-movement (step ①) applies before extraposition (step ②).

- (11) a. which city you call some people [PP from *t*] up
 b. which city you call some people *t* up [PP from *t*]
-

Yet, (11) has to be blocked somehow. This is achieved by the SCC: under the assumption that extraposition targets a position P that is lower than the position P' targeted by *wh*-movement (such that P is dominated by a cyclic node properly included in the minimal cyclic domain dominating P'), step ② in (11) violates the SCC. Under these assumptions, the ungrammaticality of (9-b) can be taken to provide another argument for the SCC.

2.2. The Minimal Link Condition

Evidence for the Minimal Link Condition (MLC) is ubiquitous, even if one confines oneself to the realm of movement phenomena. The following presents a small collection of relevant phenomena that may serve to motivate the usefulness of the MLC.

To begin with, English is a language that requires that exactly one question word (*wh*-phrase) is fronted to the beginning of an information seeking interrogative clause by the operation of *wh*-movement. As observed by Kuno and Robinson (1972: 474), in a multiple question containing two *wh*-phrases in English, for instance a subject and an object, only the higher one can undergo *wh*-movement (12-a,b).

- (12) a. Who do you think *t* bought what?
 b. *What do you think who bought *t*?
-

Pesetsky (1982: 602) and Barss and Lasnik (1986: 349) observe that the same asymmetry also holds in English if the *wh*-phrases that are involved are both objects. This is illustrated in (13) and (14).

- (13) a. Who did you persuade *t* to read what?
 b. *What did you persuade who to read *t*?
- (14) a. Who did you give *t* what?
 b. *What did you give who *t*?
-

Chomsky (1973: 243) introduces the notion of superiority to characterize this phenomenon. The idea is that only the “superior”, i.e., the structurally higher, of two or more phrases can be affected by movement, even if more than one phrase would, in principle, be of the right type to undergo the movement in question. Chomsky’s (1973) constraint is given in (15).

2. Setting the stage

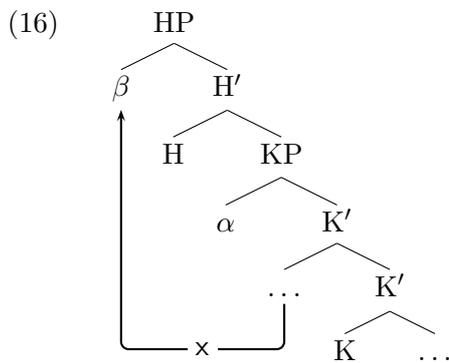
(15) *Superiority Condition:*

No rule can involve X, Y in the structure

... X ... [... Z ... WYV ...] ...,

where the rule applies ambiguously to Z and Y, and Z is superior to Y.

The Superiority Condition minimizes the length of the path between two elements that are to be connected by a rule of grammar (such as movement). In this sense, (15) is a minimality requirement for rule application. The exact structural notion of superiority can be expressed in terms of c-command: α is superior to β if α (asymmetrically) c-commands β . Assuming that X in (15) is a head that looks for a phrase to attract to its specifier, this is abstractly illustrated in (16) (where $X = H$, $Z = \alpha$, and $Y = t/\beta$).



(15) is already defined in a sufficiently general way such that it can be applied in a straightforward manner to transformations other than *wh*-movement. And in fact, other phenomena that exhibit the pattern (16) can be found (see below). But despite the general applicability of (15), the notion of superiority nowadays has practically become synonym for the movement restriction showing up with *wh*-phrases, as illustrated in (12)–(14).⁴ This may be one reason why, later on, the Superiority Condition was replaced by the Minimal Link Condition (MLC; Fanselow 1991, Ferguson 1993, Chomsky 1995), a version of which is given in (17).

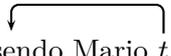
(17) *Minimal Link Condition:*

If in a representation $H \dots [\dots \alpha \dots [\dots \beta \dots]] \dots$ both α and β are of the right type to establish a relation R with H, then H can establish R only with α (but not with β).

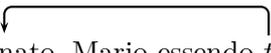
The parallelism between (17) and (15) is obvious. Note that because of the use of the variables Z, Y and α , β the definitions of both (15) and (17) can be understood in such a way that the “rule” (in the case of (15)) or “relation” (in the case of (17)) is relativized to a particular morpho-syntactic feature (as, for instance, [+WH]). If (15)/(17) are understood in this way, then the rule/relation in question is sensitive only to elements that bear this feature. For the rest of the study, I will not be concerned with Superiority Condition but rather concentrate on the MLC instead.

⁴I will stick to this tradition and use the notion of superiority exclusively in the context of *wh*-movement.

Returning to the empirical facts that support the MLC consider the following relevant observations concerning head-movement, which are due to Rizzi (2001). In Italian both gerundives and participles can, in principle, undergo inversion with the subject, which may be analyzed as movement of the verbal element to the C-head (18-a,b).

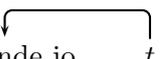
- (18) a.  Essendo Mario *t* tornato a Milano, ...
 being Mario returned to Milano
 “Mario, having returned to Milano, ...”
- b.  Tornato Mario *t* a Milano, ...
 returned Mario to Milano
 “Mario, returned to Milano, ...”

Thus, in principle, both a participle and a gerundive can establish the relevant relation with C. Crucially, if both a (higher) gerundive and a (lower) participle show up in the same clause, the participle cannot move to C, thereby crossing the gerundive (19). In contrast, the gerundive can move to C also in the presence of a participle (18-a).

- (19)  *Tornato Mario essendo *t* a Milano, ...
 returned Mario being to Milano

It is obvious that these facts may receive an explanation in terms of the MLC.⁵

A-movement also appears to be subject to the MLC. Scandinavian object shift, which exclusively applies to pronominal objects in Danish, displaces objects to a position to the left of certain adverbials, such as *jo* “indeed” in (20-a,b). As noted in Vikner (1989: 151), object shift cannot target the lower of two objects, thereby crossing the higher object (20-b).

- (20) a.  Peter viste hende *jo* *t* bogen
 Peter showed her indeed the.book
 “Peter indeed showed her the book.”
- b.  *Peter viste den *jo* Marie *t*.
 Peter showed it indeed Marie
 “Peter indeed showed it to Marie.”

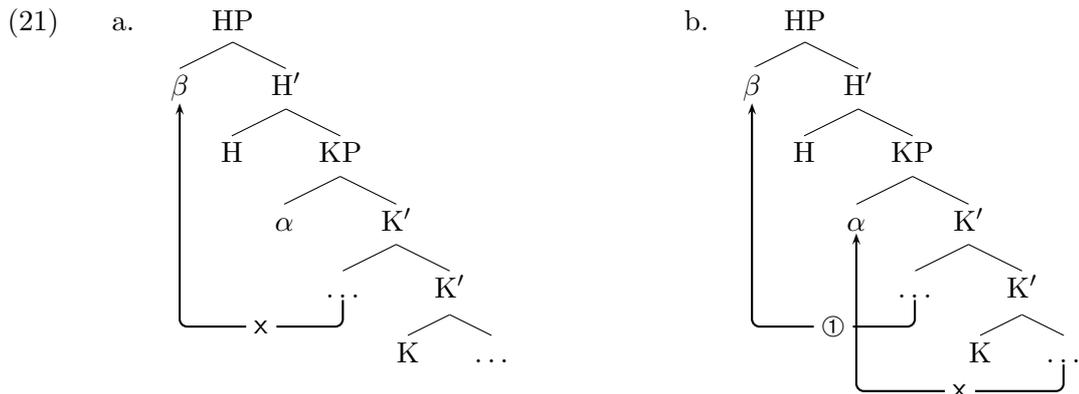
⁵Rizzi (2001) accounts for the ungrammaticality of (19) by another constraint, Relativized Minimality (RM, going back to Rizzi 1990). RM is oriented towards the potential landing sites of a movement operation. This means that a lower landing site S blocks movement to a higher, c-commanding landing site S'. In this respect, RM differs from both the Superiority Condition and the MLC, which are “target” oriented, i.e., oriented towards categories that may undergo some operation (such as movement). Under this view, a higher target blocks a lower one. In addition to this, RM exclusively compares landing sites of the same type (i.e. head-position, A-position, and \bar{A} -position) while the MLC is relativized to targets bearing the same morpho-syntactic feature. Despite all this, MLC and RM are related in being both minimality requirements.

2. Setting the stage

The similarity of (20-a,b) to the patterns observed with respect to *wh*-movement in English or head-movement in Italian is striking. Accordingly, Vikner (1989: 148) proposes to explain the ungrammaticality of (20-b) in terms of a minimality requirement (by invoking the constraint Relativized Minimality, cf. footnote 5). Of course, Vikner’s (1989) analysis can be translated straightforwardly into an MLC-account (see also sections 4.5 and 6.5 for more discussion of MLC effects with object shift in double object constructions).

2.3. Introducing the problem

In what follows, I presuppose that the SCC and the MLC are well motivated as general principles of syntax. Against this background, the following issue arises. Suppose that α and β in (21) are sufficiently similar such that H could, in principle, attract either of them, i.e., establish a relation in the sense of definition (17). Then, on the one hand, β in (21-a) is not expected to be able move to SpecH, given the MLC: α in SpecK intervenes (in terms of asymmetric c-command) between the attracting head H and β . On the other hand, the SCC blocks a derivation that first moves β to SpecH and only after that merges α to SpecK, for instance by moving α from a lower position, see (21-b).



There is, however, evidence that configurations such as the one in (21) sometimes do show up in natural language syntax. The question then arises as to how this can be explained.

2.3.1. Nested and crossing dependencies

Let us consider a concrete example. Quite a few languages do not seem to exhibit superiority effects with *wh*-movement in multiple questions (see Fanselow et al. 2015 for discussion). Among these languages is Swedish as illustrated by (22-a,b) (see Fanselow 2004: 89, 93, footnote 1).

- (22) a.
- what bought who
“Who bought what?”

- b. Vad tror vem att Johan gjorde *t*?
 what believes who that Johan did
 “Who believes that Johan did what?”

At first sight, this is unexpected if MLC and SCC hold in Swedish, too. As a reaction, one could, in principle, assume that whether the grammar of a particular language incorporates the MLC or SCC is a matter of parametric variation. In other words, what (22-a,b) might suggest is that the MLC or the SCC is not part of the grammar of Swedish. People have been reluctant to give up the SCC (and for good reasons). However, it has been proposed on the basis of facts such as (22-a,b) that the MLC should be dispensed with, at least as a universal principle constraining \bar{A} -movement (see, for instance, Fanselow 2004 and Haider 2004; see also Frank 2002: 128-133 for general discussion).

However, there is some reason to believe that the MLC does constrain \bar{A} -movement in Swedish after all. The argument is the following (cf. Fanselow 1991: 326-340 and Fanselow 2004 for relevant discussion, albeit with a different conclusion). Fodor (1978) observes for English that when multiple \bar{A} -movement dependencies overlap, then it must be the case that one dependency is nested inside the other; crossing dependencies lead to ill-formedness (see also Kuno and Robinson 1972: 474, footnote 15; Pesetsky 1982: 267-272). Relevant contrasts from English are given in (23-a,b) and (24-a,b).

- (23) a. Which violins are these sonatas easy to play *t* on *t*?
 b. *Which sonatas are these violins easy to play *t* on *t*?
- (24) a. What books do you know who to persuade *t* to read *t*?
 b. *Who do you know what books to persuade *t* to read *t*?

Example (24-a) is itself marked, involving movement from a *wh*-island. Its markedness is, however, relatively moderate since an argument is extracted, and the embedded clause is infinitival. In any event, the status of (24-a) clearly contrasts with the strong ungrammaticality of (24-b), which is attributed in Fodor (1978) to a constraint called the Nested Dependency Condition (NDC). As noted by Kitahara (1997: 73-74), see also Kitahara (1994), the NDC can be derived from the interaction of MLC and SCC.⁶ This is illustrated by the derivations in (25-a,b) and (26-a,b). The CP-domain depicted in (25) and (26) represents the left edge of the embedded infinitive in (24-a,b), with $\alpha = \textit{which/these sonatas}$ and $\beta = \textit{which/these violins}$.⁷

Let me start by considering possible derivations of (23-a) in (25).

⁶See also Richards (2001: 243-244) for discussion; Pesetsky (1987b) suggests to derive the NDC from the Superiority Condition.

⁷For reasons of exposition, I am pretending here that what moves to the left edge of the embedded infinitive is *these sonatas/these violins*. Nothing changes if one adopts an analysis of *tough*-movement that involves movement of an empty operator instead (see Chomsky 1977).

violation of (26-a) at the cost of violating the SCC instead (the second step exclusively applies to the cyclic domain C' , properly included by the current root CP). And there is also a third derivation that combines the MLC violation of (26-a) and the SCC violation of (26-b), which is not given here. Assuming that these are the only derivations that could possibly generate the string in (23-b), it follows that the ungrammaticality of (23-b) derives from the MLC and the SCC.

The reason why this is of interest in the present context is that Maling and Zaenen (1982: 236) claim that Swedish obeys the NDC (see also Engdahl 1986: 127).⁸ This is illustrated in (27), taken from Fanselow (1991: 326):

- (27) *Den här presenten kan du säkert aldrig komma på vem jag fick t av t .
 this here present can you surely never come on whom I got from
 “You surely can never guess who I got this present from.”
-

Given the discussion above, this suggests that the MLC *is* active in Swedish. From this, I conclude that the fact that Swedish does not exhibit superiority effects with *wh*-movement requires some explanation other than simply discarding the MLC (for the grammar of Swedish). In section 7.1, such a proposal is made.

Before I sketch some previous accounts of the problem posed by (21-a), let me briefly mention that there are languages that allow for crossing dependencies, for instance Norwegian (Koch-Christensen 1982; see also footnote 8):

- (28) Hvilke malerier har ikke Petter noen vegg å henge opp t på t ?
 which paintings has not Peter any wall to hang up on
 “What paintings doesn’t Peter have any wall to hang up on?”
-

Given that Norwegian and Swedish are closely related, one might wonder whether it is a good idea to derive the NDC from such abstract (and thus deep) principles as the MLC and the SCC. In section 7.3, I will illustrate that there is a way to derive crossing dependencies that obeys both the MLC and the SCC. The assumption will then be that this derivation becomes possible by a low level parameter.

2.3.2. Previous accounts

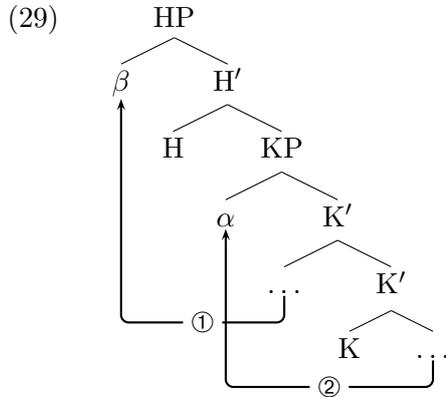
At least four solutions to the problem (21-a) have been proposed in the literature. One of them involves a weakening of the SCC. The other three offer proposals as to why the MLC may be circumvented sometimes. In what follows, I briefly sketch them.

As just mentioned, the idea of the first solution is that the SCC can be weakened under particular circumstances. As a consequence, the derivation in (21-b), here repeated as (29), becomes available: β is attracted to SpecH before α is introduced into the structure. The introduction of α proceeds at a later step (“late Merger”), by external or internal Merge; (29) illustrates the latter case. Since α is not yet present when β moves, it cannot

⁸Engdahl (1982: 169-170) adds the qualification that there are some speakers of Swedish that allow for crossing dependencies. This does not affect the present argument, though.

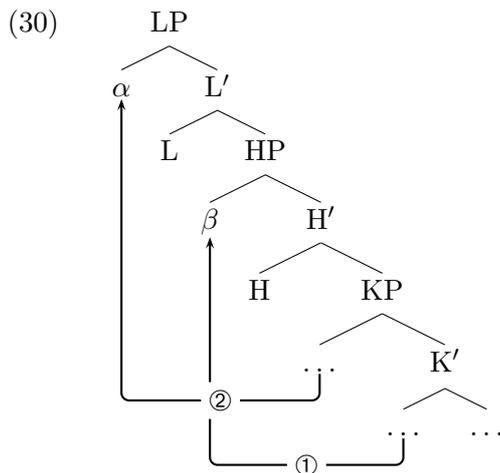
2. Setting the stage

block movement. Instances of this solution are proposed in Anagnostopoulou (2003: 224-230), Richards (1997; 2001), or Stepanov (2004).



The second solution makes use of the idea that α , although present in the structure, may be invisible to H due to the former's not being “active”. Two types of inactivity have been proposed. The first proposal has it that A-moved elements are invisible for A-relations as they have already discharged their case feature (see McGinnis 1998: 36, Chomsky 2000: 123; 2001: 6, Broekhuis 2008: 141-144). According to the second proposal, \bar{A} -moved elements are generally invisible because they are insulated by an additional shell induced by \bar{A} -movement (see Řezáč 2003: 177-179, Bobaljik and Branigan 2006, Safir 2015).

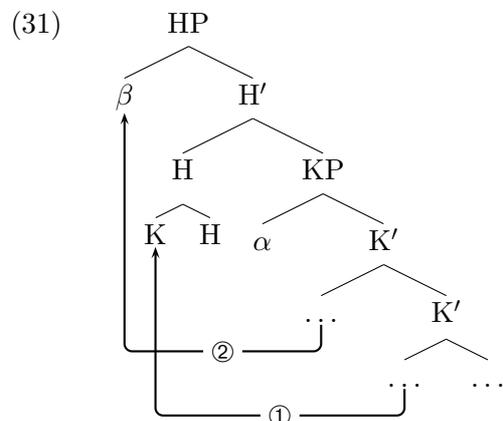
Solution number three is based on the idea that constraints are not checked derivationally (i.e. after every derivational step) but only at the level of certain representations (see Chomsky 2001: 26-37). This means for (30) that movement of β across α is possible because at the relevant level of representation where the MLC is checked, the category LP in (30), α does not intervene anymore: it has undergone movement itself.⁹



The fourth solution arguably is the most elaborate one. Its gist is that two categories α and β cannot be discriminated by the MLC if they are “equidistant” with respect to some

⁹This either presupposes that movement of α does not leave a trace/copy or that this trace/copy is “invisible”; see Chomsky (2000: 131) on the latter assumption.

attracting head H. Actually, there are different versions of the theory of equidistance (see section 2.3.3 for details), but according to the “original” version (see section 2.3.3) α and β are equidistant with respect to H if and only if they are immediately dominated by the same minimal projection KP and if K has moved to H. This is illustrated in (31).



Note that if α and β are equidistant either of them may be attracted by H, in principle. This is the proposal in Chomsky (1993) (adopted, for instance, by Bures 1992, Koizumi 1995, Bobaljik and Jonas 1996, and Collins and Thráinsson 1996).

All four solutions are, in principle, able to solve the problem posed by (21-a). One may argue, however, that each of them has its drawbacks. To begin with, weakening the SCC has been proposed in other contexts too, most prominently as a means to account for the particular behavior of adjuncts, as opposed to arguments, with respect to binding principles (see Lebeaux 1988; 1991 and subsequent literature). It is noteworthy in the present context that virtually all of the instances of (21-a) that will be discussed in the following chapters involve arguments, not adjuncts. In addition to this, the present study makes extensive use of a strong interpretation of the SCC. To the extent that it is successful, this can be taken as an (indirect) argument against weakening the SCC, at least what concerns the syntax of arguments.

The hypothesis that A-moved elements are invisible (for further A-operations) faces many empirical problems (e.g. Nevins 2004, Merchant 2006, or Preminger 2014). This is perhaps less the case for the idea that \bar{A} -moved elements are invisible with respect to A-operations. Here, I will not try to provide a thorough assessment of this hypothesis but rather confine myself to making the following two remarks. First, the proposal in Řezáč (2003) (and also Safir 2015, building on this work) presupposes a weakening of the SCC: insulation is the result of acyclically building a shell around an \bar{A} -moved element. Again, the arguments for a strong interpretation of the SCC put forward in the present study may speak against such an approach. Second, the insulation approach to the problem posed by (21-a) does not seem general enough: namely, it falls short of providing a solution to cases where the potential intervener has undergone A-movement.

Confining constraint evaluation to particular levels of syntactic representation seems conceptually problematic within a theory that is inherently derivational. As argued by Epstein et al. (1998) and Brody (2001; 2002), the representational residue of derivational theories should be minimized. Moreover, as will become clear later on, many of the

2. *Setting the stage*

instances of (21-a) discussed in this study do not lend themselves to a treatment in terms of this approach simply because the intervener is not moved out of the way at any later stage of the derivation.

The theory of equidistance is attractive in so far as it correlates the apparent possibility to violate the MLC (or SCC) with the presence of head-movement. This renders the theory, at least in principle, rather restrictive. Moreover, it provides a handle for explaining why not every language allows in every context for β to cross α , as in (21-a). Rather, raising β across α will only be possible if it is accompanied by head-movement, as in (31). Suppose you find that in some language A-moved elements are interveners in one construction but not in another. In the first of the above mentioned accounts, this would require the rather awkward assumption that the SCC can be weakened in some constructions but not in others. In the second approach, it is not clear at all how such a pattern could be captured. The third account could postulate that the relevant level of representation is reached when the crucial movements happen in one construction but not in the other. But it may face a problem if it turns out that what looks like the same construction in different languages behaves differently in these languages with respect to intervention. To deal with this situation, one would have to assume that constraint evaluation applies at different levels of representation in different languages. In contrast, the theory of equidistance can, potentially at least, account for these differences by making reference to head movement, which is known on independent grounds to show sufficient variation within and across languages. The conceptual drawback of the equidistance account lies in the fact that the correlation between head-movement and apparent violations of the MLC/SCC as such remains a stipulation in the sense that it does not follow from independent motivated principles of grammar.

As will become clear in section 2.4.4 of this chapter, the present proposal shares with the equidistance theory the idea that there is a correlation between apparent violations of the MLC/SCC and head-movement. To be able to compare the two approaches in more detail, it is therefore instructive to first provide a closer look at the theory of equidistance. This is done in the next section.

2.3.3. A brief history of equidistance

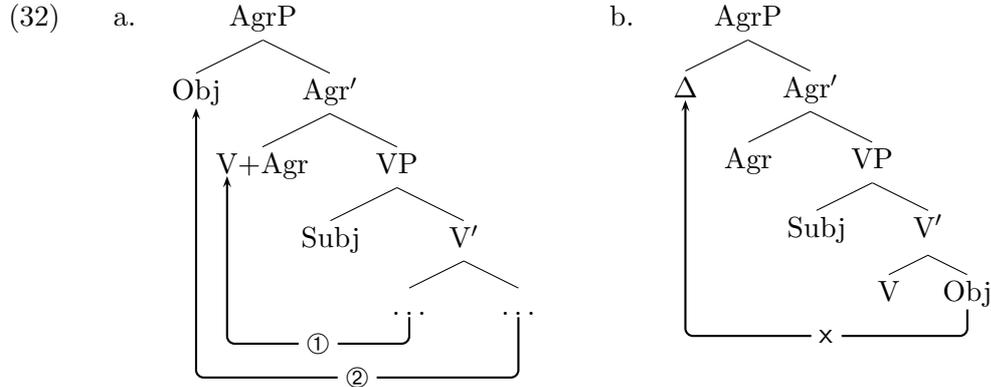
The presentation of the theory of equidistance in Chomsky (1993; 1995) is complex since the assumptions about phrase structure and type of locality theory change during the discussion. All in all, however, one can distinguish three variants of the theory of equidistance.

The first variant, the theory presented in Chomsky (1993: 15-19), is motivated mainly by Holmberg's (1986) generalization, which states that the type of object movement one finds in the Scandinavian languages (known as "object shift") is dependent on movement of the main verb (see chapter 4.3 for discussion). This dependency is supposed to be a consequence of equidistance.¹⁰ In a nutshell, the idea is that object shift lands in the specifier of a projection (Agr(O)P) above the base position of the subject (SpecV).

¹⁰See Bobaljik (1995b: chapter 3), Holmberg (1999), and Broekhuis (2008: 132-152) for critical assessments of an equidistance based approach to Holmberg's (1986) generalization.

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Object shift across the subject, so the assumption, is only legitimate with respect to some locality requirement (Relativized Minimality, Rizzi 1990; Shortest Move, Chomsky 1995) if SpecAgr and SpecV count as equidistant with respect to the base position of the object. Equidistance of SpecAgr and SpecV, in turn, is created only if the verb moves to Agr (see also Chomsky 1995: 182-186, 298-299). This is illustrated in (32-a,b).



On a more technical level, the derivation of equidistance of SpecV and SpecAgr presupposes that SpecAgr exists before movement of the object applies. (This is necessary as the locality condition in question is oriented towards potential landing positions of movement, see footnote 5 above.) This is possible under the assumption that specifier positions are created by inserting a place holder Δ , which later is replaced by the moved item (32-b). By definition then, two positions are equidistant, if they are part of the same minimal domain of some head-chain CH. The definition of the notion of minimal domain and the auxiliary notion of domain it refers to are given in (33) and (34), respectively.

(33) *Minimal domain:*

The minimal domain of a chain $CH = \langle \alpha, t \rangle$, $\min(\text{dom}(CH))$, is the smallest subset K of $\text{dom}(CH)$ such that for any $\gamma \in \text{dom}(CH)$ there is some $\beta \in K$ that reflexively dominates γ .

(34) *Domain:*

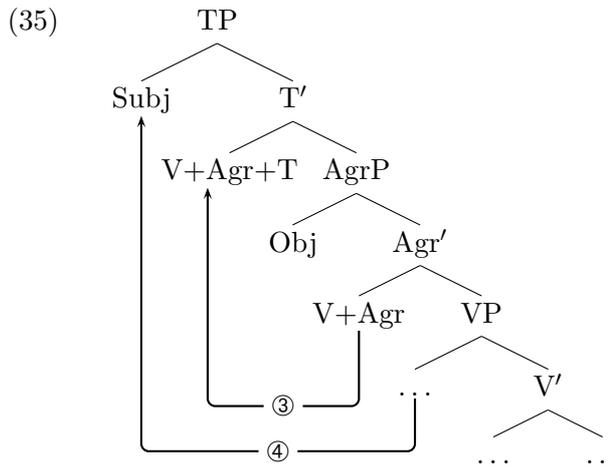
The domain of a chain $CH = \langle \alpha, t \rangle$, $\text{dom}(CH)$, is the set of categories that are dominated by the smallest XP dominating α , and that do not contain α or its trace t .

A head-chain CH can be trivial (if no head-movement applies) or complex. Take the case of (32-a) above. The head α of the head-chain CH in question is V. The smallest XP dominating α is then AgrP. The domain of the chain, $\text{dom}(CH)$, is computed before movement of the object applies. In (32-a), $\text{dom}(CH)$ contains Δ , Obj, and Subj, plus everything dominated by these three categories. Accordingly, $\min(\text{dom}(CH))$ in (32-a) is the set $\{\Delta, \text{Obj}, \text{Subj}\}$. As a consequence, Δ (in SpecAgr) and the subject (in SpecV) are part of the same minimal domain (of CH), thus equidistant. Therefore, movement of the object is allowed to land in SpecAgr.

Typically, object shift in Scandinavian does not change the word order of subject and object in the output string because the subject undergoes another movement step

2. Setting the stage

to SpecT. As discussed in Bobaljik and Jonas (1996: 202-203), the same logic thus requires movement of Agr to T if raising of the subject to SpecT across the shifted object in SpecAgr is to avoid a locality violation. (The issue is also addressed in Chomsky 1995: 357, albeit in the context of the simplified variant of equidistance, see below.) Head-movement also restores the SVO word order, according to the facts. This is illustrated in (35).



This is the first, “original” theory of equidistance.

In Chomsky (1995: 297-299), the notion of equidistance is redefined so as to adopt it to some new assumptions. The locality principle and equidistance are now built into the operation Attract (36), by means of the auxiliary concept of closeness in (37), which involves an attracting head H. Under the revised assumptions, specifiers do not exist before they have been created by movement. As a consequence, the two positions that enter into the computation of equidistance are the base positions of two potential moving targets (and not two potential landing positions, as before), i.e., locality is now target oriented (cf. footnote 5).

(36) *Attract:*

H attracts γ only if there is no β , β closer to H than γ , such that H attracts β .

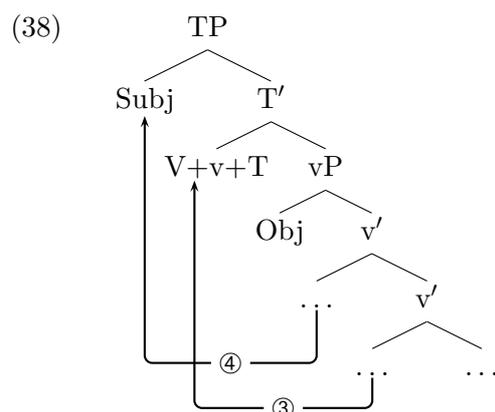
(37) *Closeness:*

β is closer to H than γ iff β c-commands γ and β is not in $\min(\text{dom}(\text{CH}))$, where $\text{CH} = \langle \alpha, t \rangle$ and α is adjoined to H.

In addition to this, Chomsky (1995: 351-352) also eliminates Agr-projections. Object shift is now assumed to land in an outer specifier of a shell projected by the functional head v , which at the same time introduces the subject into an inner Spec v and takes the lexical VP as its complement. I call this the second version of the theory of equidistance.

The theory of Attract together with the abolishment of Agr-Projections renders the first step of object shift (movement of the object to an outer Spec v across the subject) unproblematic: the attracting head v does not c-command the subject, which therefore cannot block attraction of the object for principled reasons. However, the second step, raising of the subject across the object to SpecT, remains an issue under the definitions

in (36) / (37) and thus requires head-movement to T, see (38). Concretely, subject and object both belong to $\min(\text{dom}(\text{CH}))$, where CH is the trivial chain merely consisting of the complex head $V+v$ (computed before v -to-T movement). $V+v$ is the result of the lexical verb moving to v , accounting for the SVO word order. If this were sufficient to render subject and object equidistant to T, verb movement to T would not be required, and Holmberg's (1986) generalization could not be derived. Therefore, the definition of closeness in (37) imposes an additional requirement on CH, namely that CH be non-trivial, involving adjunction to the attracting head. This requires v -to-T movement after all in order to derive equidistance of subject and object.



Finally, Chomsky (1995: 356) envisages a radical simplification of the notion of equidistance, defining multiple specifiers as inherently equidistant independently of head-movement. I call this the third version of the theory of equidistance. As Chomsky (1995) notes, this comes at the price of losing Holmberg's (1986) generalization (i.e., correlating object shift with verb movement). Despite this empirical drawback, this last version of equidistance (presumably due to its conceptual simplicity) has been put to use in quite a few analyses, see, for instance, Collins (1997: 22-24), McGinnis (1998: 36, 102), Ura (2000: 31), Chomsky (2000: 122), Anagnostopoulou (2003: 77, 143-161, 193).

To conclude, assuming that it is desirable to make equidistance dependent on head-movement (as suggested by Holmberg's generalization), the third version of equidistance should be discarded. Further assuming an Agr-less phrase structure and a movement theory that involves attracting functional heads, the second version should be favored over the first one (see also Kitahara 1997: 14-17; further compare Broekhuis 2001: 683, Broekhuis 2008: 124-127, and Chomsky 2004: 123, footnote 71).

2.4. Towards a solution

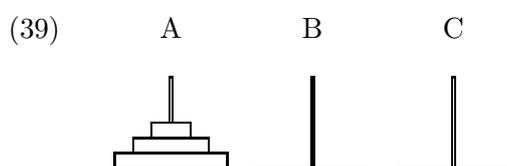
In section 2.4.4, I present the mechanics of a novel proposal that shares all the favorable characteristics of what has been assumed above to be the best version of the theory of equidistance in section 2.3.3. Crucially, I argue that in this proposal the dependence of equidistance-like effects on head-movement need not be stipulated but follows from the SCC. Before turning to the proposal proper, however, I would like to do three

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things, which pave the way leading there. First, I briefly illustrate the abstract idea standing behind the proposal by means of a non-linguistic example: the Tower of Hanoi (section 2.4.1). Second, I introduce the notion of “workspace” and motivate its necessity in syntactic theory (section 2.4.2). And third, in section 2.4.3, I introduce Bobaljik’s (1995*a*) theory of head-movement, which is going to play a central role in the novel solution to the problem (21-a).

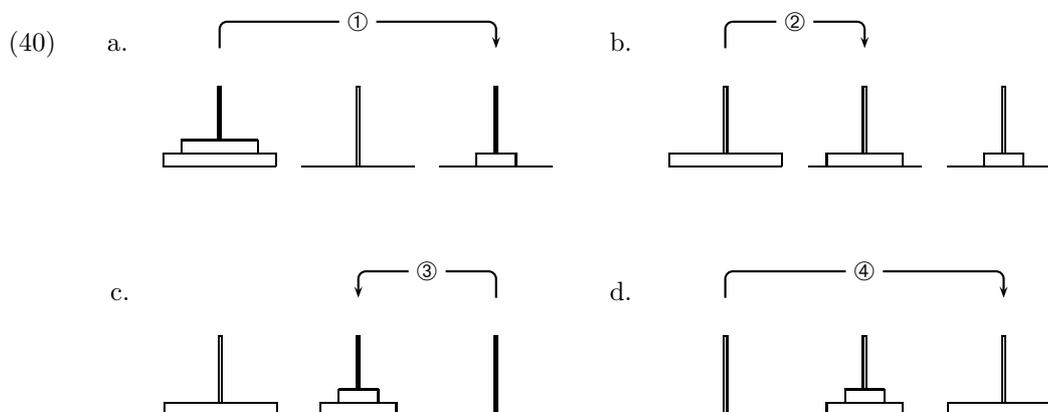
2.4.1. The Tower of Hanoi

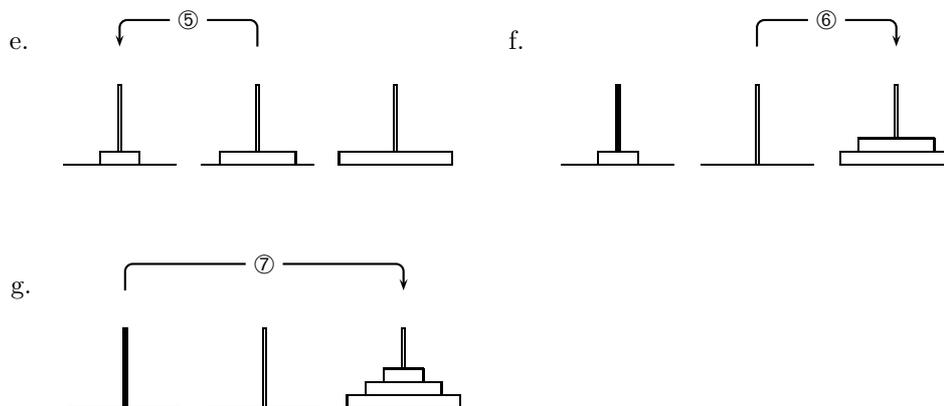
The Tower of Hanoi, ToH, was invented by the French mathematician Édouard Lucas in 1883. It is a puzzle that consists of finding a way to rearrange the tower of disks from pole A in (39) to pole C in an order preserving way, if necessary by using pole B as an auxiliary storage.



While performing the rearrangement, the following four constraints must be respected. First, only one disk can be moved at a time. Second, a disk can only be moved if it is the uppermost disk on a pole. Third, a disk can only be placed on top of some pole. And finally, a larger disk may not be placed on top of a smaller disk.

In principle, the puzzle can be solved (by a general recursive procedure) for an arbitrary number of disks being on pole A at the beginning. Instead of discussing the details of this procedure, I confine myself to illustrating it by means of an example. The derivation begins by shuffling the smallest disk from pole A onto pole C, see step ①. Next, the intermediate disk is shuffled onto the auxiliary pole B (step ②). The smallest disk is placed on top of the intermediate one on pole B (step ③), thereby freeing the space for the largest disk to move onto pole C (step ④). Now, the smallest disk goes from pole B to pole A, in order to make the intermediate disk accessible (step ⑤). Finally, the intermediate disk and the smallest disk can be placed on top of the largest disk on pole C, in this order (steps ⑥ and ⑦).





As one may notice, in order to ultimately reach the target configuration (all disks are on pole C and ordered according to size), the derivation sometimes has to destroy an intermediate representation that seemed to be a step towards the target configuration. For instance: step ③ removes the smallest disk from pole C although, ultimately, this disk must end up on pole C. Or: step ⑤ removes the smallest disk from top of the intermediate disk although, ultimately, this is where the former belongs. In this sense, the derivation that solves ToH is non-monotonic.

The relevance of the ToH-puzzle to the problem presented in section 2.3 above is that it serves as an analogy. In section 2.4.4, I suggest that syntactic derivations can also be non-monotonic, and that sometimes they in fact must be in order to be able to satisfy both the MLC and the SCC, just as the successful ToH-derivation in (40) is non-monotonic in order to obey the constraints of ToH. Indeed, it is possible to push the analogy between the ToH-puzzle and the problem posed by (21-a) even further by saying that the first constraint of ToH (only one disk can be affected per move) reflects the general assumption that rule application in syntactic derivations is sequential and not parallel; the second constraint (only disks at the top are accessible) is an analog to the MLC; and the third constraint (disks may only be added to the top of a pole) corresponds to the SCC.¹¹ In the next section, I illustrate the necessity of the notion of a “workspace” in derivational syntax. This notion then lends itself to a final analogy to the ToH: namely, I suggest that workspaces are to syntactic derivations what poles are to ToH-derivations.

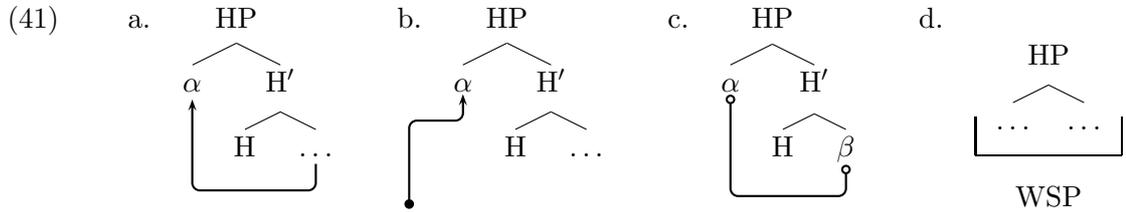
2.4.2. Multiple workspaces

It has been noted in the literature (see, e.g., Bobaljik 1995*a*; Bobaljik and Brown 1996, or Uriagereka 1999) that, given the SCC, the existence of complex specifiers necessitates the assumption that syntactic derivations must be able to hold several syntactic objects in parallel in some storage device. These storage devices are often called “workspaces” (henceforth WSP).

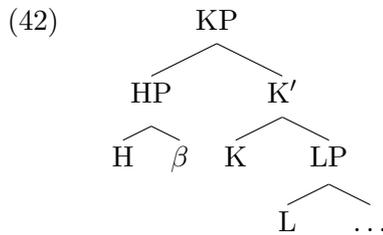
¹¹The fourth constraint (a larger disk may not be placed on some smaller disk) does not seem to have an analog in natural language syntax.

2. Setting the stage

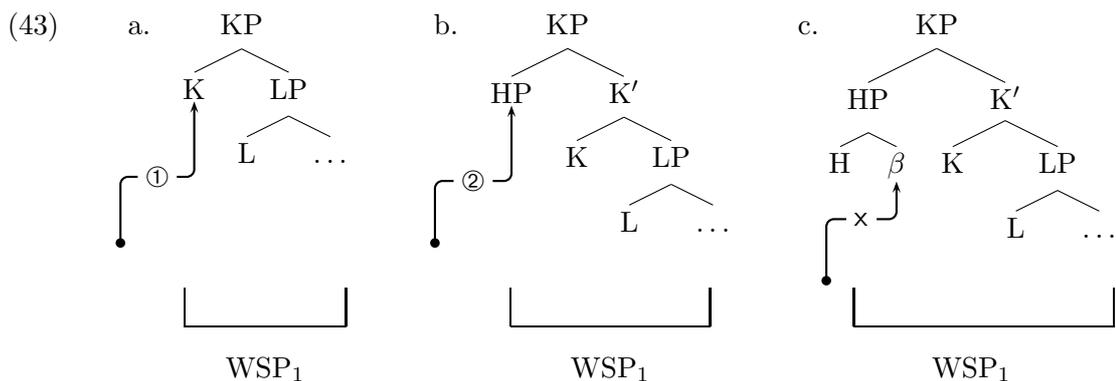
Before proceeding, let me introduce the following graphical conventions. (41-a) describes movement of α , as before. (41-b) stands for external Merge of α into SpecH. (41-c) depicts an Agree relation between α and β . And, finally, (41-d) symbolizes the situation where a phrase HP is placed in some WSP.



To see why multiple WSPs are needed to account for complex specifiers, suppose that the following syntactic object is to be constructed by repeated applications of Merge.

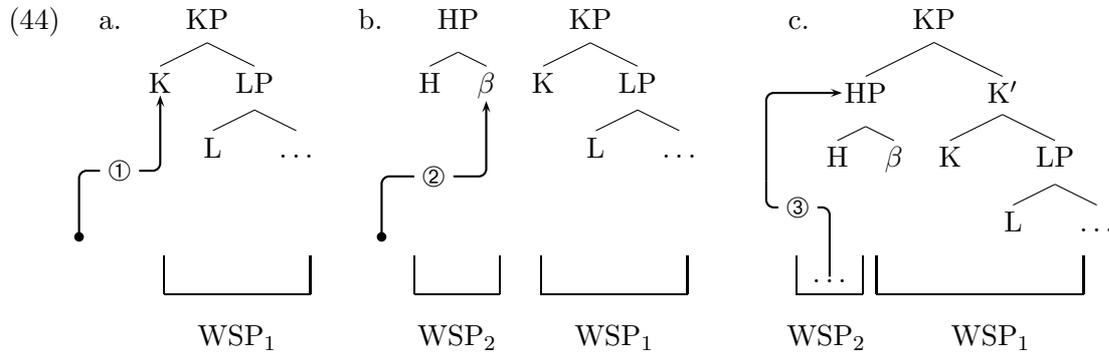


(42) consists of a head K that takes LP as its complement and the complex category HP as its specifier. HP, again, consists of the head H and its complement β . There are two ways to construct (42). Consider first the derivation in (43). It makes use of only one WSP. In step ①, K is merged with LP. Next, HP is merged as the specifier of K (step ②). Finally, β is introduced as the complement of H. The last step in (43-c) incurs a violation of the SCC: β is not merged at the root. Therefore, this last step is effectively blocked by the SCC, as indicated by crossing out the arrow.



In contrast, the derivation in (44), which makes use of two separate WSPs, obeys the SCC. Here, the complex specifier HP is constructed in a separate WSP₂ (see step ② in (44-b)). Thus, Merge of β applies cyclically, i.e., in accordance with the SCC. It is only after HP has been completed that it is taken from WSP₂ and merged at the root of the

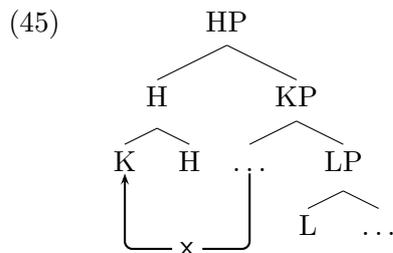
KP that is constructed in WSP₁ (step ③ in (44-c)).



Unless another way can be found to construct the object in (42), which conforms to the SCC and which does not make reference to multiple WSPs, it can be concluded that such WSPs are virtually unavoidable in a derivational theory, given the existence of complex specifiers.

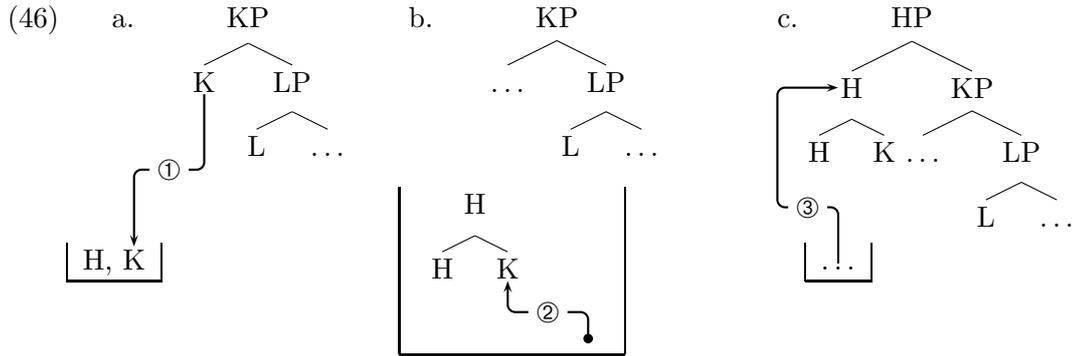
2.4.3. Head-movement and the SCC

It is a well-known problem that if head-movement involves adjunction, as standardly assumed, then it should violate the SCC. This is illustrated in (45). The point is that adjunction to a head exclusively affects a domain (the head that is the target of adjunction, H in (45)) that is properly dominated by the root of the current tree, HP in (45).



There are at least two ways to deal with this situation. Either one denies that head-movement exists. Or one comes up with a proposal as to why the violation of the SCC is only apparent. Bobaljik (1995*a*) makes an interesting proposal of the latter type (see also Bobaljik and Brown 1996). The idea is that head-movement of head K to head H involves “sideward” movement (see Nunes 2001). This means that before H is merged with the current tree β , = KP in the case of (45), β 's head K is removed from β and placed into the WSP that also contains the yet to be merged head H, see step ① in (46-a). Being in the same WSP as H, K is then adjoined to H in a cyclic fashion (step ② in (46-b)). Finally, in step ③, the complex head H+K is taken from the WSP and merged with β (46-c).

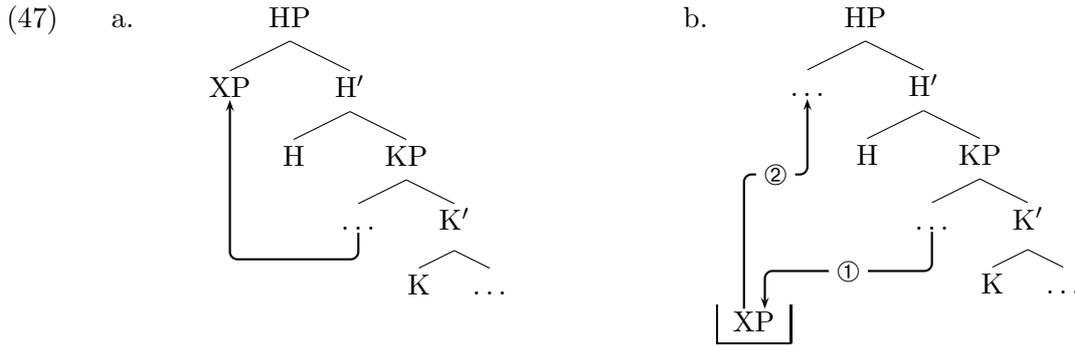
2. Setting the stage



There is perhaps only one reason why syntacticians would shy away from this analysis: the fact that it involves sideward movement. There are two aspects of sideward movement that distinguish it from “ordinary” movement. First, it is usually assumed that a head H that attracts a category α , thereby inducing ordinary movement of α , c -commands α . Second, if α undergoes ordinary movement, then it is assumed to be remerged to a position in the tree β that α was taken from to begin with. Both aspects are not part of sideward movement. In cases of sideward movement, there is no c -commanding attractor: it is assumed by Nunes (2001) that α can be removed from β whenever the derivation requires this to happen (for instance if selectional restrictions could not be satisfied otherwise). Also, if α undergoes sideward movement, then it remerges with some third category γ (the head H in (46)), which is not (part of) β (the category KP in (46)).

In what follows, I would like to suggest that these two aspects (the c -command requirement and the assumption that α is remerged with β) should be distinguished in the sense that only the first one really is a core property of movement and should thus be preserved. The idea that movement requires a c -commanding trigger is deeply anchored in syntactic theory. Most, if not all, syntactic processes are assumed to hold under c -command. And for a bulk of syntactic operations it is possible (and also plausible) to identify a morpho-syntactic feature as the trigger of the operation. In contrast, the second aspect, namely that a moved element α remerges directly to a position within β does not really seem to be required by anything. In fact, given that the concept of WSP is needed on independent grounds (see section 2.4.2), the possibility naturally arises that α remerges outside of β .

To motivate this latter point in more detail, consider an instance of ordinary movement of XP from $SpecK$ to $SpecH$, as in (47-a). In principle, nothing speaks against the idea that this movement is split into two operations: first XP is removed from the tree and placed into the WSP (step ① in (47-b)); second XP is taken from the WSP and remerged with the tree it was taken from in the first step (see step ②). The only thing that needs to be ensured for (47-b) to become possible is that H “remembers” that there is the category XP in the WSP, which H has attracted and which ultimately needs to be remerged in $SpecH$. To this end, suppose that the WSP that XP is stored in is associated with the trigger on H (a feature) via some pointing device (similar to a pointer in programming languages).



In many cases, the derivations in (47-a) and (47-b) are indistinguishable: in the end, XP always ends up in SpecH. However, as we have seen before, things can change if another operation is interspersed in between steps ① and ② in (47-b). In the head-movement theory of Bobaljik (1995*a*), the operation applying in between is head adjunction. I conclude that transferring the moved category to the WSP, as it happens in Bobaljik's (1995*a*) theory, need not necessarily be considered a characteristic property of sideward movement. Rather, it may as well be conceived of as a property of movement in general.

One may raise the objection that the derivation in (47-b) is unnatural and unmotivated (as opposed to the one in (47-a)). It seems to me that, from a purely conceptual point of view, one might turn around the objection by saying that given that WSPs must be part of the theory anyway, one actually should expect syntactic derivations to make use of them in various ways. In other words, restricting the use of WSPs to the construction of complex specifiers, it seems, would require additional stipulation. But apart from such considerations, I believe that there are also other reasons to assume that movement can “make an intermediate stop” in the WSP, as in the derivation in (47-b). In order to illustrate this, I now enter a brief digression.¹²

At the background of the following argument is the observation that a dative (“quirky”) subject in Icelandic that remains in Specv, as in expletive constructions, prohibits number agreement between T and the nominative object (see Taraldsen 1995, Jónsson 1996; Sigurðsson 1996), see (48-a). Moreover, it has been observed that movement of the dative subject to SpecT frees up the way for number agreement with the nominative object (see Schütze 1997, Holmberg and Hróarsdóttir 2003). This is shown in (48-b).

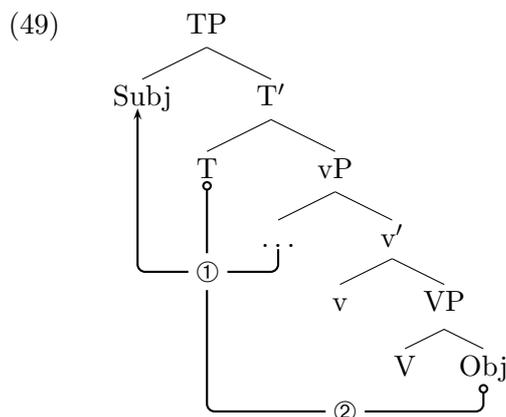
- (48) a. *það finnast einhverjum stúdent tölvarnar ljótar.
 there find.PL some student.DAT the.computers.NOM ugly.NOM
 “Some student finds the computers ugly.”
- b. Einhverjum stúdent finnast *t* tölvarnar ljótar.
 some student.DAT find.PL the.computers.NOM ugly.NOM

The standard interpretation of these facts is the following. In (48-a), the dative subject intervenes between the probe on T and the nominative object. Presupposing that the

¹²See Cecchetto and Donati (2015: 94-96) and Hein and Murphy (2016) for other suggestions to make further use of WSPs.

2. Setting the stage

dative subject is of the right type to act as a target for T, the MLC prevents Agree between T and the object. In (48-b), the subject has undergone raising to SpecT (step ① in (49)), triggered by an EPP-feature on T, and is therefore no longer c-commanded by T. Thus, there is no intervention, and Agree between T and the object can apply (step ② in (49)).

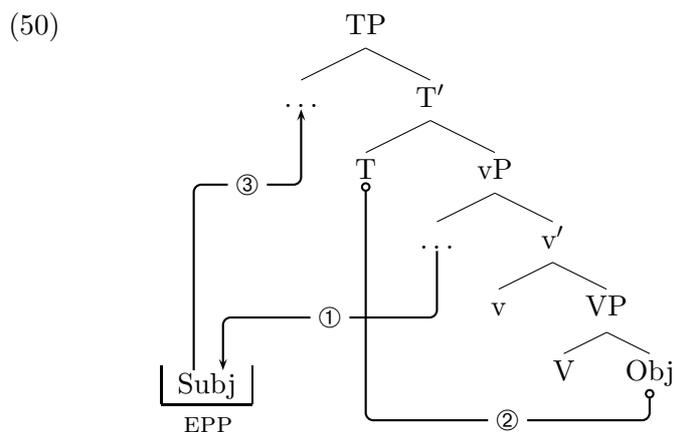


This analysis is plausible, but it faces the following problem once one assumes the strict version of the SCC given in (1). The dative subject must move before Agree between T and the object can apply. Movement of the dative to SpecT presupposes the creation of a SpecT-position. This means that SpecT has already been formed at the point where Agree between T and the object applies. But then the SCC is violated by Agree because T' is not the root. In other words, Agree exclusively affects a cyclic domain (T') that is properly dominated by the current root, the TP.

The obvious way out of this problem is by weakening the SCC: instead of assuming that any syntactic node counts as a cyclic domain, one may assume that only maximal projections form cyclic domains. This strategy certainly works. However, once one relativizes the SCC to arbitrary domains, Pandora's box has been opened. From there, it is only a quantitative difference to a theory where phases (in the sense of Chomsky 2001) or even clauses form the cyclic domains that are relevant for the SCC. One may object that the facts in (49) suggest that such a weakening of the SCC is empirically correct.

Instead of outrightly accepting this conclusion, however, I would like to put forward the following alternative proposal. Suppose that the dative subject is removed by the EPP-probe on T (and therefore ceases being an intervener), but it is not remerged immediately. Rather, it is placed in the WSP, where T's EPP-feature keeps tabs on it, awaiting further manipulation, see step ① in (50). In the meantime, Agree between T and the object can apply in a strictly cyclic fashion (see step ②). Only after Agree has applied is the subject taken from the WSP and remerged into SpecT (step ③). The partial derivation in (50) explains why agreement becomes possible once the dative subject undergoes raising and at the same time maintains the SCC in its strongest form.¹³

¹³One may wonder why step ① in (49) does not violate the SCC: at the point where the subject is removed vP is not the root. The answer is that T triggers removal of the subject, and T' is the root



Crucially, (50) is an instantiation of the derivation we saw in (47-b) above. I therefore conclude that derivations such as (47-b) can indeed be motivated on independent grounds.

At this point, one may remark that the idea to derive the NDC from the MLC presented in section 2.3.1 does not seem to be compatible with the strong interpretation of the SCC either. The reason is that the background assumption in section 2.3.1 was that the order in which *wh*-phrases are attracted by a C-head is determined by the MLC, and that this order is then directly reflected by the order in which the *wh*-phrases are remerged in SpecC. It may appear, then, that once the first *wh*-phrase is merged in SpecC, no other *wh*-phrase can be attracted by C without violating the SCC. On the other hand, if the derivation first stores all attracted *wh*-phrases in the WSP, then it does not follow necessarily that the order of attraction that is determined by the MLC is preserved. In order to avoid this conclusion, I stipulate that attraction of a category to some specifier counts as one operation in the sense of the SCC (at least if it happens in one fell swoop), in contrast to Agree and Move in (50). This does not seem implausible because Move and Agree in (50) involve two different categories, subject and object. Under this assumption, the SCC is not violated by the derivations discussed in section 2.3.1.

That said, let me add that I think that the question as to whether making general use of WSPs is justified or not should be answered against the background of the theory as a whole that will be presented in chapters 4–7. To the extent that this theory is successful in giving a unified account of what looks like a general pattern, it provides an argument for making use of WSPs.

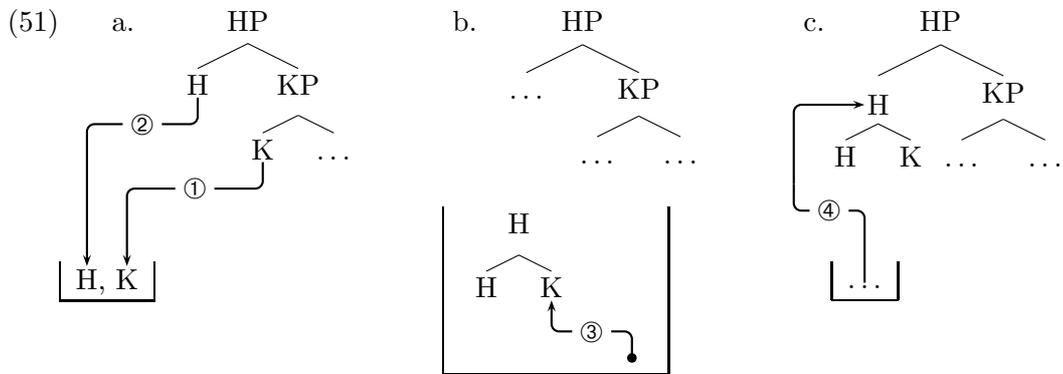
This closes the digression. Returning to the main plot, I conclude that there is only one aspect left that really distinguishes the derivation of head-movement proposed by Bobaljik (1995*a*) from ordinary movement: head-movement does not seem to have a c-commanding trigger. In what follows, I illustrate that it is possible to conceive of a variant of Bobaljik's (1995*a*) theory where the attracting head *does* c-command the attracted head at the point of the derivation where attraction takes place. As a consequence, head-movement is not to be analyzed as an instance of sideward movement proper in the sense

(at this point of the derivation).

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of Nunes (2001) but rather can be subsumed under ordinary, well-behaved movement.

The minimally modified proposal for the derivation of head-movement then looks as follows. Suppose that the attracting head H first merges with the category containing the head K, which is to be attracted. Once H is in a position where it c-commands K, the former attracts the latter. As a consequence, K is removed and stored in a separate WSP. This is step ① in (51-a). In the next step, H is removed itself and stored in the same WSP as K (see step ②). To be a bit more explicit, I assume that H bears a probe feature. Once H is merged and c-commands K, this probe enters into a relation with K. By assumption, this initiates removal of K, removal of H, and triggers head adjunction of K to H (see section 3 for more technical details). As before, head-adjunction (step ③ in (51-b)) obeys the SCC. Finally, the complex head H+K is remerged with KP (see step ④ in (51-c)).



The derivation in (51-a-c) presupposes that Merge of a head H can apply more than once. The intuition here is that the first time H merges with its complement KP, this applies in order to satisfy some selectional feature. When H is removed, this selectional relation points to the WSP where H is located. Later in the derivation, H is remerged with KP again, following the pointer. From this, it also follows that a head can be merged multiple times only with one and the same complement token (see section 7.2.3, where this is ensured by the Head Promiscuity Condition).

The upshot of the preceding discussion is that head movement both satisfies the SCC and has a c-commanding trigger. From this perspective, the derivation in (51) is perfectly well-behaved. What is more important, with this modified theory of head-movement at hand I am now in the position to derive the effects of equidistance from the SCC.

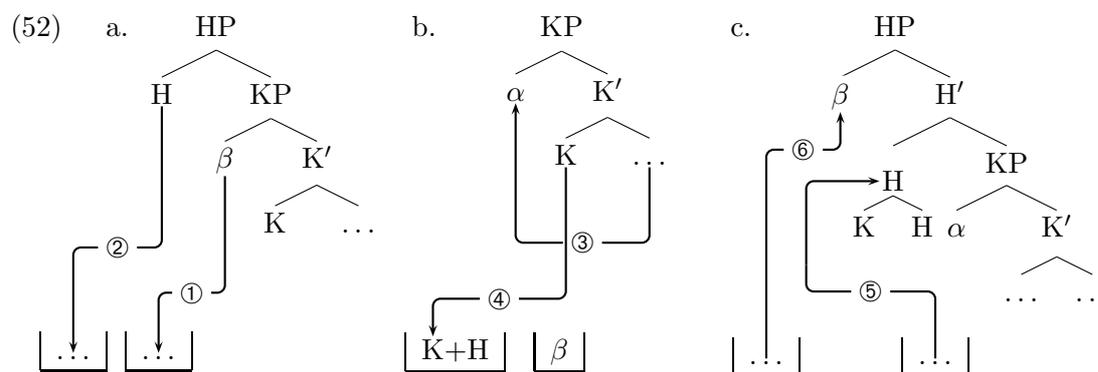
2.4.4. Deriving equidistance from the SCC

In what follows, I present an abstract solution to the problem posed by (21-a). This solution allows for raising β across α without compromising MLC or SCC. It turns out that due to the SCC the derivation realizing this solution requires that head-movement of K to H applies in (21-a). Thus, the equidistance configuration in (31) is derived from the SCC.

The crucial idea is to dispense with the assumption (implicitly assumed in most syntactic theorizing) that the objects generated by syntactic derivations grow monotonically

(or at least preserve the structure already generated). Recall that the derivation in (51) involves removal of the head H. I now assume that removal of a head H may render HP non-existent if there are no specifier positions to H that have already been created (cf. Stepanov 2012). Effectively then, the relevant part of the derivation proceeds from a representation with an HP-shell that forms the root of the tree to a representation without this HP-shell: the tree thus shrinks, and in this sense the derivation is non-monotonic.

This said, consider the derivation in (52). As one can see, it obeys both the SCC and the MLC while at the same time allowing movement of β across a position that ends up containing α . For the sake of concreteness, assume that before undergoing movement, α is embedded within the complement of K.



The derivation runs as follows. At step ①, the head H attracts β and places it in the WSP. This attraction obeys the MLC because no α intervenes. Next, (step ②) H is removed to the WSP itself assuming that there is head movement from K to H. Once H has been removed, the HP ceases to exist. The root of the current tree is now KP. Since KP is the root node, α can be attracted in step ③ by K and be merged in SpecK in agreement with the SCC. In step ④, K is removed and placed in the same WSP as H. Once there, it forms a complex head with H. Next (step ⑤), the K+H complex is taken from the WSP and remerged with KP. Finally, in step ⑥, β is taken from the WSP and remerged as a specifier of HP.

Let me emphasize once more that for the non-monotonic derivation in (52) to be possible it is crucial that HP be temporarily removed. If HP is not removed, movement of α cannot apply without violating the SCC. Removal of HP comes about by removing its head H. And removal of H, in turn, is the result of the head-movement theory presented in section 2.4.3, which ultimately was motivated by the need to make head-movement compatible with the SCC.

As one can observe, (52-c) is exactly the configuration in (31), the result under Chomsky's (1993) theory of equidistance. Notably, however, (52-c) is derived without any appeal to the auxiliary notion of equidistance (or minimal domain, for that matter). Rather, provided Bobaljik's (1995a) theory of head-movement presented in section 2.4.3, the existence of equidistance effects and their correlation with head-movement follow automatically from the SCC and the MLC.

Before closing this chapter, there remains a complication that needs to be addressed.

2. *Setting the stage*

Namely, the idea that head-movement eliminates projections is in fact more complicated. Although H in (52-a) must, and can, be completely removed (see step ②), thereby inducing the elimination of HP, the situation is less clear for removal of K (see step ④ in (52-b)). If movement is split off into two separate operations, first removing some category α from a tree β and placing it into the WSP, second removing α from the WSP and remerging it with β , then literal removal of K in (52-b) appears to violate the SCC. The point is that KP in (52-b) contains a specifier. Since the presence of this specifier presupposes the presence of KP itself, this means that removal of K in (52-b) exclusively affects a domain (namely K') that is dominated by the root of the current tree (which is KP). To avoid this conclusion, I will assume that removing a head H *can* lead to the elimination of HP. This means that there is always the alternative that a head that is removed from the structure leaves behind enough material (in terms of a trace or a copy) to prevent a violation of the SCC. The idea is that creating a trace/copy does not substantially alter the category affected by this operation, and that such structure preserving operations do not violate the SCC (in contrast to Merge or Agree). In contrast to this, phrasal movement affecting β in step ① in (52-a) must not leave a trace/copy, at least not one that could prevent α from raising.¹⁴

¹⁴Reconstruction effects with respect to β must then be either the result of computing the effects of β before movement of β takes place (i.e., derivationally) or they follow from literal lowering of β at LF. See sections 6.2, 6.4, and 6.6 for some discussion.

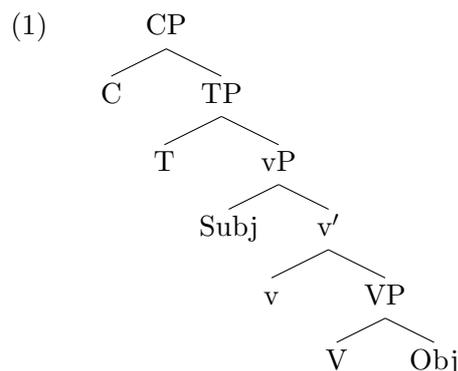
3. Theoretical assumptions

In this chapter, some theoretical assumptions are introduced that will become useful in the following chapters when detailed analyses in terms of non-monotonic derivations are discussed. These comprise assumptions about the positioning of adverbs (section 3.1), about defective intervention (section 3.2), feature inheritance (section 3.3), the inner workings of head-movement (section 3.4), the target position of intermediate movement (section 3.5), and about the derivation of order preservation effects (section 3.6).

Further assumptions will be introduced when they become necessary.

3.1. Adverbs as specifiers

In the present study, I assume the basic sentence structure in (1). The direct object is generated in VP, typically as the complement of the lexical verb. The subject is introduced by the functional head *v*. On top of *v*P, a TP-layer and a CP-layer follow.



Consider now the notorious contrast between English and French (Emonds 1976, Pollock 1989) exemplified by (2-a,b) and (3-a,b).

- (2) a. John often kisses Mary.
b. *John kisses often Mary.
- (3) a. *Jean souvent embrasse Marie.
Jean often kisses Marie
“John often kisses Mary.”
b. Jean embrasse souvent Marie.
Jean kisses often Marie

Before the introduction of a *v*P-shell in between VP and TP (Bowers 1993, Chomsky 1995, Holmberg and Platzack 1995, Kratzer 1996), this difference between English and French was often assumed to be due to a difference in verb movement between the two languages. Namely, provided that adverbs such as *often* and *souvent* uniformly adjoin to

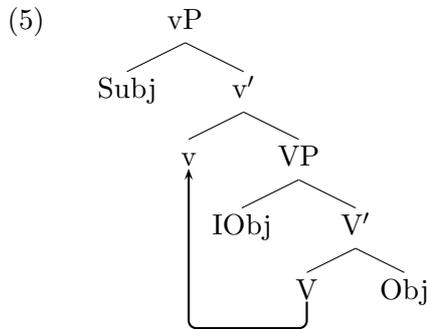
3. Theoretical assumptions

VP, (3-a) can be interpreted as showing that the lexical verb in English remains within VP whereas (3-b) suggests that the lexical verb in French raises out of VP to T.

Now, one of the merits of postulating a vP-shell is that it provides a natural account for why the lexical verb in a double object construction shows up to the left of its objects (in an SVO language as English) even if one assumes strictly binary branching:

- (4) a. John gave Mary a book.
 b. *John Mary gave a book.

The word order in (4-a), as opposed to the one in (4-b), follows if one assumes that V moves to v. This is illustrated in (5).¹ Clearly, for V-to-v movement to be possible, v must exist in the first place.



This is one of the reasons that V-to-v movement is generally assumed to apply. Here, I follow this practice.² However, this means that it is no longer possible to assume that adverbs are adjoined to VP if the contrast between English and French shown in (2) and (3) is to be explained in terms of the absence or presence of verb movement to T: as far as double object constructions are concerned, both English and French show evidence for V-to-v movement. But this already places the verb to the left of VP in both languages.

The obvious alternative is to assume that adverbs are adjoined to vP. There are, however, reasons to doubt that this is an appropriate account. For instance, as Bobaljik and Jonas (1996: 212) observe, the subject in an Icelandic expletive construction can appear in between the sentential adverb *sennilega* “probably” and a manner adverb *alveg* “completely” but not below the manner adverb:

- (6) a. það luku sennilega einhverjir stúdentar alveg verkefni.
 there finished probably some students completely the.assignment
 “Some students probably completely finished the assignment.”
 b. *það luku sennilega alveg einhverjir stúdentar verkefni.
 there finished probably completely some students the.assignment

¹In section 4.2.2 and section 6.5, I adopt a slightly more elaborate structure for double object constructions. The present point, however, remains the same.

²Note in passing that I often speak of V-to-T or V-to-C movement when, technically, what is really meant is V-to-v-to-T/C movement. Also, I often ignore V-to-v movement in tree representations for reasons of simplicity where it is irrelevant for the discussion.

Assuming that the subject in an expletive construction in Icelandic remains in Specv (see section 2.4.2 and section 4.2.2), the inverse distribution of grammaticality would be expected for (6-a,b) if the manner adverb were adjoined to vP.³ Similarly, Collins (1997: 36) notes that the subject in quotative inversion in English cannot follow an adverb like *happily*:

- (7) a. “I finally quit this job,” murmured John happily.
 b. *“I finally quit this job,” murmured happily John.

According to the analysis of quotative inversion proposed by Collins (1997) (see section 5.1 for details), the main verb in (7) is in T while the subject remains in Specv. Against this background, again, the contrast in (7-a,b) is unexpected under the assumption that manner adverbs are adjoined to vP (see Alexiadou and Anagnostopoulou 2001: 204-209 for related discussion, albeit with a different conclusion).

In order to account for these facts, I assume that low adverbs and negation are introduced as the innermost specifiers of vP (i.e., below the subject). See Collins (1997: 17, 37), McGinnis (1998: 35, footnote 10), and Anagnostopoulou (2003: 145) for similar suggestions. Exceptions to this rule will be floating quantifiers and the adverb *always* in Belfast English, see chapters 4 and 5.

3.2. Defective intervention

Defective intervention is a notion that was coined in Chomsky (2000: 123). In a nutshell, the idea is that a category α prevents some lower category β from satisfying some feature γ (via agreement or movement) although α cannot satisfy γ itself. Thus, α acts as an intervener in terms of the MLC, but it is defective because it cannot enter into a proper relation with the probe feature itself (see Richards 2008 and Preminger 2014: 130-174 for discussion of this concept).

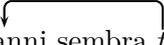
Defective intervention is sometimes considered a dubious concept. However, empirically, it is well motivated. For instance, as noted in Rizzi (1986), raising of the subject *Gianni* of the embedded infinitive in (8-b) across the dative experiencer *a Piero* is ungrammatical in Italian (see chapter 6 for discussion). Arguably, the matrix T-head that is supposed to initiate raising to SpecT in (8-b) (as it does in (8-a)) c-commands the experiencer, which in turn c-commands the embedded subject. Thus, the ungrammaticality of (8-b), where raising applied to the embedded subject *Gianni*, violates the MLC. Crucially, although the experiencer appears to block raising of the embedded subject, it cannot undergo raising itself (see McGinnis 1998: 92). This is illustrated in (8-c). In this sense, the experiencer is a “defective” intervener.⁴

³Of course, one may assume that the subject in an Icelandic expletive construction does *not* remain in Specv but occupies a higher position, e.g., SpecT, cf. Bobaljik and Jonas (1996).

⁴The example (i), where the embedded clause is finite, seems to involve raising of the experiencer:

- (i) A Piero sembra *t* [_{CP} che Gianni faccia il suo dovere].
 to Piero seems that Gianni does the his duty
 “To Piero, Gianni seems to do his duty.”

3. Theoretical assumptions

- (8) a.  Gianni sembra *t* fare il suo dovere.
Gianni seems to.do the his duty
“Gianni seems to do his duty.”
- b. *?Gianni sembra a Piero *t* fare il suo dovere.
Gianni seems to Piero to.do the his duty
“Gianni seems to Piero to do his duty.”
- c. *A Piero sembra *t* Gianni fare il suo dovere.
to Piero seems Gianni to.do the his duty

The impossibility to establish agreement with a nominative object across a dative subject in Icelandic (see example (48), chapter 2, here repeated in (9-a)) provides another standard example of defective intervention.

- (9) a. *það finnast einhverjum stúdent tölvurnar ljótar.
there find.PL some student.DAT the.computers.NOM ugly.NOM
“Some student finds the computers ugly.”
- b. Einhverjum stúdent finnast *t* tölvurnar ljótar.
some student.DAT find.PL the.computers.NOM ugly.NOM

The dative subject in (9-a) cannot determine the agreement features on T (ultimately realized on the verb). Nevertheless, it blocks agreement between T and the nominative object if it remains in Spec_v, a position where it intervenes between T and the object. No intervention occurs if the dative subject has undergone raising (see (9-b)). In this sense, again, the dative subject is a defective intervener. The difference to the case in (8-b) is that intervention in (9-a) does not involve movement but Agree.

Cases where defective intervention is expected but does not show up are problematic. For instance, Broekhuis (2008: 141-144) notes that in Dutch and German, examples that involve agreement across a dative experiencer are grammatical, see (10-a,b), respectively:

- (10) a. Soms lijken mij die jongens te veel te drinken.
sometimes seem.PL me.DAT those boys too much to drink
“Sometimes, those boys seem to me to drink too much.”
- b. Manchmal scheinen mir die Jungs zu viel zu trinken.
sometimes seem.PL me.DAT the boys too much to drink

From this, Broekhuis (2008) concludes that dative experiencers in Dutch and German are different from dative subjects in Icelandic in that the latter have an additional case feature while the former have not (see Jónsson 1996: 122, Chomsky 2000: 127, Richards 2008: 192). The assumption is that arguments can only act as interveners if they have an unchecked case feature. In this case, they are called “active” (Chomsky 2000; 2001). But this leaves unaccounted for the ungrammaticality of (8-b): assuming that the notion of activity is real, the fact that the experiencer in Italian cannot move to subject position

However, as McGinnis (1998: 92) points out, (i) possibly does not involve raising but rather topicalization of the experiencer plus Merge of an empty expletive in the matrix SpecT-position.

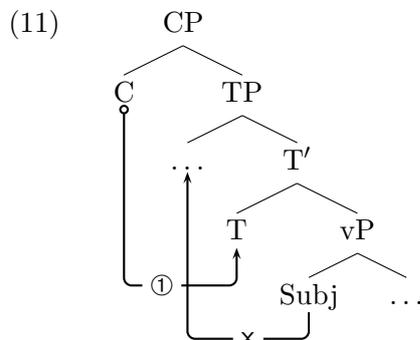
suggests that it is not active (does not bear an unchecked case feature), yet, it acts as an intervener.⁵

In this study, I assume that defective intervention is real and pervasive. There is no activity condition. In other words, no argument can become “invisible” by having its case feature checked. The main bulk of the present work is then dedicated to come up with an explanation for those cases where it seems as if intervention can be avoided (as for instance the case of Dutch and German in (10-a,b)).

3.3. Feature inheritance

It is usually assumed that the ϕ -features for subject-verb agreement are located on T. Moreover, in languages where the subject raises from Spec_vT to SpecT, this is taken to be the reflex of an EPP-feature on T attracting the subject. Chomsky (2008) proposes that T does not bear these features as a lexical property but rather inherits them from C (see Richards 2007 for discussion why this should be the case).

Here, it is not my intention to provide a detailed motivation for the assumption of feature inheritance. What I would like to point out, though, is that it brings along with it a problem for the SCC. Obviously, C must be merged in order to assign ϕ /EPP to T. But once C has been merged, CP is the root. It would then appear that T cannot make use of the features it inherited without violating the SCC. This is shown in (11) for inheritance of the EPP-feature by T and subsequent subject raising. The arrow labeled ① in (11) symbolizes feature inheritance.



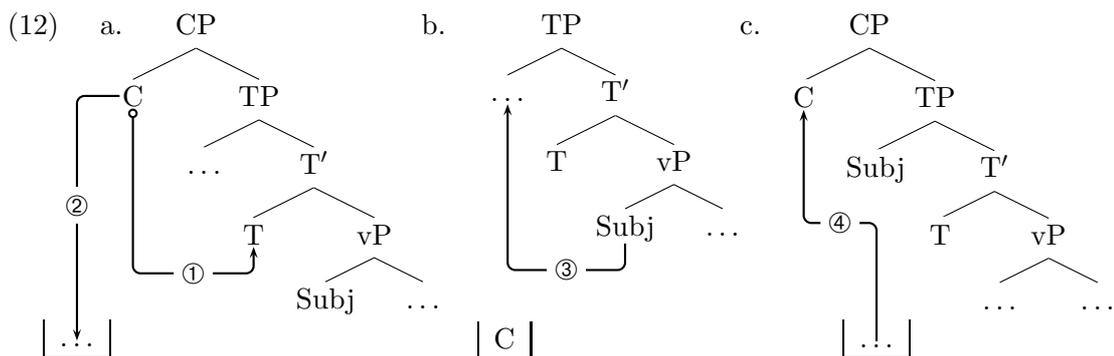
The point of interest here is that there is a solution for this problem in terms of a non-monotonic derivation once one accepts the assumption that the relation between C and T that is established via feature inheritance may trigger removal of C to the WSP, thereby temporarily eliminating the CP-projection.⁶ The derivation is shown in (12-a-c).⁷

⁵It does not help to say that the experiencer in Italian is a PP and therefore not of the appropriate type to undergo raising to subject position. If this were the case, then it would be mysterious why such a PP should act as an intervener for raising in the first place.

⁶Richards (2007: 564) proposes a solution in terms of a weaker interpretation of the SCC.

⁷To ensure that feature inheritance in (11) targets T (and not, for instance, v) the process must somehow make reference to the node that is supposed to inherit the feature. I leave the details of how this works open. Note also that, by assumption, an inherited EPP-feature is not active before inheritance has applied. In other words, as long as EPP is on C, it cannot attract any category.

3. Theoretical assumptions



Step ① in (12-a) represents feature inheritance. Once C has assigned its EPP to T, it is removed to the WSP (step ②). With C removed, its projection ceases to exist, too. Thus, the current tree shrinks down to the size of a TP. Accordingly, T can now satisfy the EPP it inherited from C by subject raising (see step ③ in (12-b)). Finally, C is remerged from the WSP, restoring the CP-layer (step ④ in (12-c)).

In some of the following chapters, feature inheritance by T will be ignored. Where it is, this happens for expository reasons only. That is, even if feature inheritance is not mentioned, it is implicitly assumed that it applies, and that (12-a-c) is the derivation that brings it about. However, there are also parts of the present study where feature inheritance by T will become relevant, see chapters 6 and 7. Another possible application of feature inheritance that is not concerned with the T-domain is discussed in the next section.

3.4. The fine mechanics of head-movement

In section 2.4.2, I presented a slightly modified version of the theory of head-movement proposed in Bobaljik (1995*a*). The modification consisted in assuming that the head H that a moving head K adjoins to must c-command K in order to trigger head-movement of K. I will now briefly sketch the technical details of this triggering process. In the remains of the study, these details will mostly be glossed over.⁸

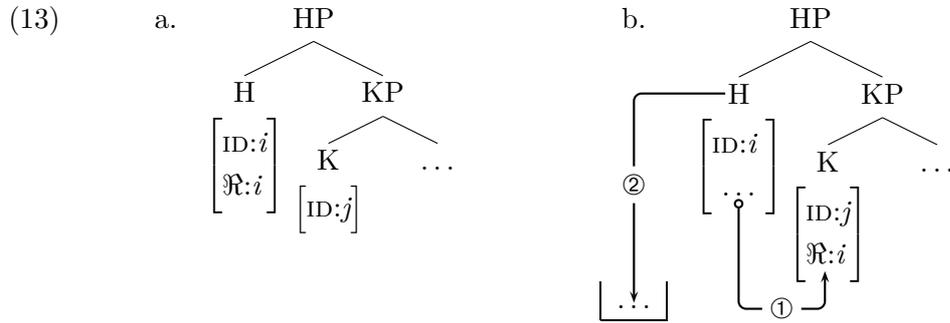
The question that needs to be answered is what triggers the removal of the heads involved in head movement. Assume, then, the configuration in (13-a), where K is supposed to move to H. As will become clear later, a technical problem that must be overcome is that removal of K sometimes is triggered only after H has already left the structure.

To begin with, suppose that every head participating in a derivation bears a unique index i as a lexical property in form of a valued feature $[ID:i]$. In order to trigger head-movement, the two heads that are involved must enter into some grammatical relation. This can happen via feature inheritance (see section 3.3 above). Since H c-commands K in (12-a), K must inherit some feature from H. Call this feature $[\mathfrak{R}]$ (mnemonic for “remove”; see Müller 2015). $[\mathfrak{R}]$ bears as value an index that is identical to the index of

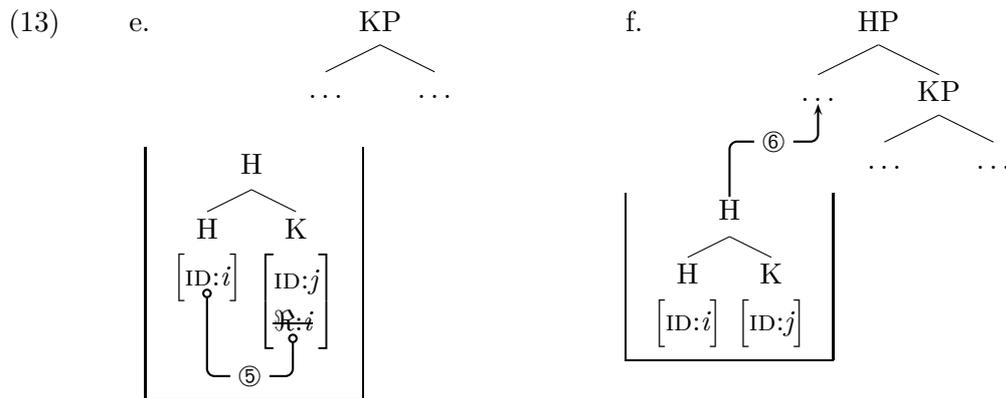
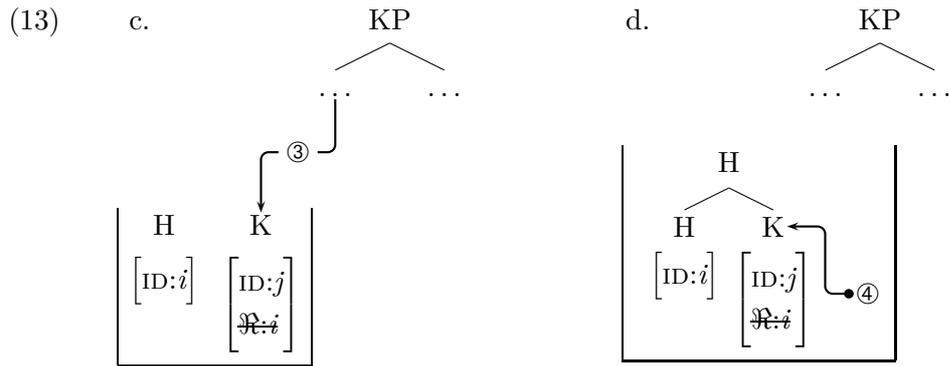
⁸The main purpose of what follows is to illustrate that there is *some* way to describe the internals of head movement by means of common syntactic operations. Other ways of doing this are, certainly, conceivable.

3.4. The fine mechanics of head-movement

H. This is illustrated in (13-a).



Inheritance of $[\mathfrak{R}:i]$ by K (step ① in (13-b)) triggers removal of H as a reflex (step ②). Suppose now that the presence of $[\mathfrak{R}:i]$ on K, which bears an index different from $[\text{ID}:i]$, instructs the derivation to remove K to the WSP, see step ③ in (13-c). Suppose, moreover, that K must get rid of $[\mathfrak{R}:i]$ by entering into Agree with an $[\text{ID}]$ whose index value is identical to the value of $[\mathfrak{R}]$. Since Agree requires c-command, this triggers Merge of K with a category bearing $[\text{ID}:i]$, namely H, see step ④ in (13-d).



With K and H merged, Agree can be established between $[\mathfrak{R}:i]$ on K and $[\text{ID}:i]$ on H, thereby eliminating $[\mathfrak{R}:i]$. This is step ⑤ in (13-e). Finally, step ⑥ in (13-f) remerges the complex H+K head with KP, restoring the HP.

3. Theoretical assumptions

3.5. Phase impenetrability and cyclic specifiers

The overarching theory into which the present study is embedded is the probe-goal framework (Chomsky 2000; 2001; 2007). In this framework, the central operations that form syntactic dependencies are Agree, Merge, and Move. I adopt the tenet that triggering Agree or Move requires that two features, the probe and the goal, are involved such that the probe c-commands the goal.

Syntactic operations are not only constrained by the MLC and the SCC but also by the Phase Impenetrability Condition (PIC, Chomsky 2000), a version of which is given in (14).

(14) *Phase Impenetrability Condition:*

A goal in the complement domain of a phase Φ is not accessible to a probe outside of Φ . Only Φ 's edge domain is accessible.

The edge domain of Φ comprises at least its head H and Spec Φ . Chomsky (2000; 2001) assumes that only CP and vP are phases. This is also the view taken here.⁹ However, departing from Chomsky (2000; 2001), I follow Legate (2003) and assume that passive, unaccusative, and raising vPs constitute phases as well.

Standardly, the probe-goal theory has it that all movement is feature-driven. Since a category α can only move out of a phase Φ if it occupies Φ 's edge domain, the PIC implies that there must be some feature that drives movement to the edge of Φ . To this end, Chomsky (2007; 2008) proposes that phase heads can have edge features (EFs) inserted on them that trigger movement to the phase edge (cf. also Chomsky 2001: 34).

A question is whether the assignment of EFs is regulated, and if so how. Müller (2010a; 2011) proposes that an EF can be inserted on a head H only if H still bears at least one other feature that needs to be discharged by Merge or Agree. Müller (2010a; 2011) calls this the Edge Feature Condition (EFC) and suggests that it leads to what he dubs the Intermediate Step Corollary (ISC) in (15).

(15) *Intermediate Step Corollary:*

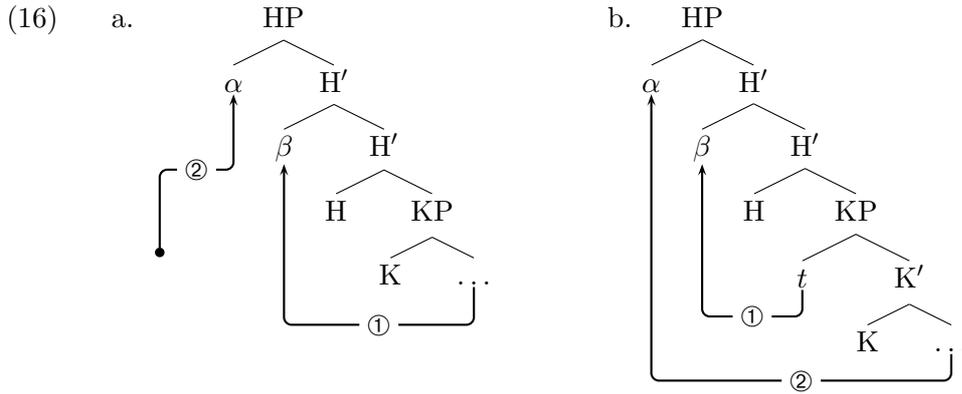
Intermediate movement steps to specifiers of X (triggered by EFs) must take place before the final specifier is merged within XP.

In other words, if a head ends up with multiple specifiers, where one is created by external Merge (α in (16-a)) or by a final movement step (α in (16-b)) while the other specifier is created by an intermediate movement step triggered by an EF (β in (16-a,b)), then the specifier associated with the EF is created first (step ① in (16-a,b)). Due to the SCC, β in (16-a,b) thus ends up as the *inner* specifier of HP.¹⁰ The notion of “final specifier” in (15) is defined negatively: it comprises all specifiers that are not created by EFs. Thus, final positions are equivalent to “criterial” positions in the sense of Rizzi (2006).

⁹Strictly speaking, the PIC in (14) is incompatible with the analysis of object agreement in Icelandic mentioned in section 2.4.3 since the object is not at the vP-edge. This analysis either requires a weaker version of the PIC (as proposed in Chomsky 2001) or the assumption that Agree is not subject to the PIC (in contrast to movement), see Bošković (2007). I will not go into this matter further here.

¹⁰Thus, there is no “tucking-in” (in the sense of Mulders 1997 and Richards 1997; 2001) in (16).

3.5. Phase impenetrability and cyclic specifiers



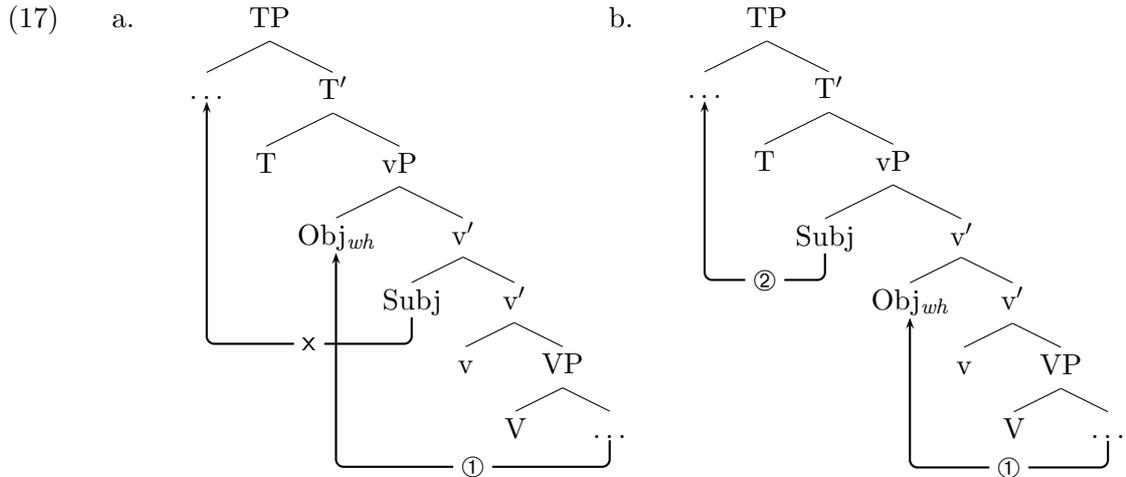
To put it briefly, the idea of Müller (2010*a*; 2011) as to why the ISC in (15) should hold is as follows. Suppose that some derivation has constructed a phase Φ , and some category β is supposed to ultimately end up outside Φ . Then β must reach $\text{Spec}\Phi$ by EF-driven movement in order to remain PIC-accessible for the movement operation that will attract β to a position outside Φ . According to the EFC, an EF can only be inserted on the head H of Φ if H has still unsaturated features. Suppose that Φ still bears a feature triggering external merge of some category α in $\text{Spec}\Phi$ (describing the case in (16-a)). Then H is open for EF-insertion. It also follows that if an EF is to be inserted on H, then this must happen before α is merged. In addition, Müller (2010*a*; 2011) assumes that once an EF has been inserted on a head H, then it must be saturated before all the other unsaturated features of H can be accessed. Thus, β in the present scenario must discharge the EF inserted on H before α can be merged (thereby discharging a criterial feature on H). Given the SCC, this means that Move of β creates an inner specifier of Φ while α is merged to the outer $\text{Spec}\Phi$, as shown in (16-a).

As far as the exact timing of intermediate movement is addressed in the literature at all, the hypothesis expressed in (15) that it targets inner specifiers is not the prevailing view. For instance, Chomsky (1995) proposes that Merge must apply before Move, which excludes (16-a) (see also Chomsky 2001:26). Or, to give another example, Fox and Pesetsky (2005) suggest that intermediate movement cannot target an inner specifier as this would generate conflicting PF-instructions unless material in outer specifiers is removed as well; see Rackowski and Richards (2005) and Bošković (2016) for (different) analyses in terms of PIC-accessibility with the same effect. This excludes both (16-a,b).¹¹

Nevertheless, there are reasons for adopting the ISC (see Müller 2010*a*; 2011, Heck and Himmelreich 2015 for further arguments; not all of them are compatible with the assumptions underlying the present study, though). A rather straightforward one is that if intermediate *wh*-movement of an object were to target the outer $\text{Spec}v$, then this would be expected to block subject raising because of the MLC (see Chomsky 2001: 26-27), see (17-a). In contrast, if intermediate movement lands in an inner $\text{Spec}v$, as in (17-b), then the subject remains the closest target for the T-head to be attracted.

¹¹Georgi (2014) makes a proposal according to which the timing of intermediate movement relative to other operations is parameterized.

3. Theoretical assumptions



Actually, (17-a) is an instance of the problem (21-a) sketched in section 2.3. It would appear then that subject raising in (17-a) may as well be derived by a non-monotonic derivation. If this were the case, the ISC would not be needed for the purpose of (17-a). In fact, there are two such derivations that allow for subject raising in (17-a). I briefly mention them now, and I give reasons for not adopting them. The first one is identical with the derivation that I am going to propose in section 4 in order to derive object shift constructions. As will become clear then, this derivation requires V-to-T movement. Since English lacks such movement (for main verbs), another solution is needed to derive (17-a) in English, assuming that English has intermediate movement to Spec_{vP} and subject raising. The problem with the other non-monotonic derivation is that it not only allows to derive (17-a) but, at the same time, generates anti-superiority configurations in English (if the subject is also a *wh*-phrase). This is briefly discussed at the end of section 7.1.3. Since English does not allow for anti-superiority, I conclude that the ISC is motivated even in a theory that employs non-monotonic derivations.

As will become clear later, the facts and analyses presented in this study are not always compatible with the *derivation* of the ISC in terms of the EFC, at least not straightforwardly so (see, for instance, section 5.1 on quotative inversion in English, or the end of section 7.1.3). In view of this, I simply assume the effects of the ISC, that is, I take it that intermediate movement to the edge of a vP-phase targets a specifier position below the specifiers that are created by criterial movement or by external Merge.¹² I hasten to add, though, that embedded CP-phases will be analyzed as being exempt from the ISC. This will be motivated and discussed in section 7.3.

Note finally that I assume that there exist two types of EFs: those associated with intermediate movement that ultimately ends up in an A position (written as EF_A), and those that trigger intermediate movement steps of a category ending up in an \bar{A} -position (EF _{\bar{A}}). I will not give an in-depth justification for this assumption here. Suffice it to say that this move is one way to ensure that the MLC is also relevant for intermediate

¹²Since the ISC is not derivable from the EFC under present assumptions, I treat it as an axiom rather than a corollary (see also Klein 2015). There is one notable exception to the ISC: by assumption, vP-adverbs occupy the innermost Spec_{vP}-positions, even below the specifiers created by intermediate movement (see section 3.1). Thus, they do not count as “criterial” specifiers in the sense of (15).

movement steps. It is clear that intermediate movement that is ultimately supposed to end up in an \bar{A} -position must ignore intervening elements that do not bear \bar{A} -relevant features. Something similar holds for A-movement. If, however, EF-driven movement were not subject to the MLC at all, then intermediate movement would undermine the MLC in many cases. For instance, the lower of two vP-internal \bar{A} -categories could then move to the edge of vP first, thereby crossing the higher category. From Specv, it could then be attracted by a genuine \bar{A} -probe, without violating the MLC. The above assumption prevents this.

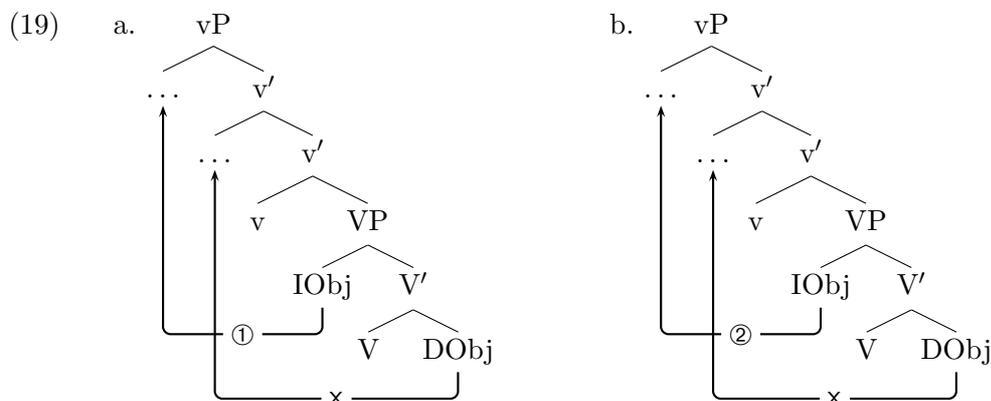
3.6. Order preservation effects

It has been observed for various movement types that attraction of multiple categories by the same type of feature on the same head preserves the asymmetric c-command relation between those categories as they hold before movement (Müller 1997; 2001, Richards 1997; 2001, McGinnis 1998, Bruening 2001, Sells 2002, Anagnostopoulou 2003, Williams 2003, among others).

To illustrate, consider multiple object shift in Danish (examples are taken from Vikner 1989), see (18-a,b). The indirect object precedes the direct object within VP in Danish. If both objects move out of the VP, this order has to be preserved ((18-a) vs. (18-b)).

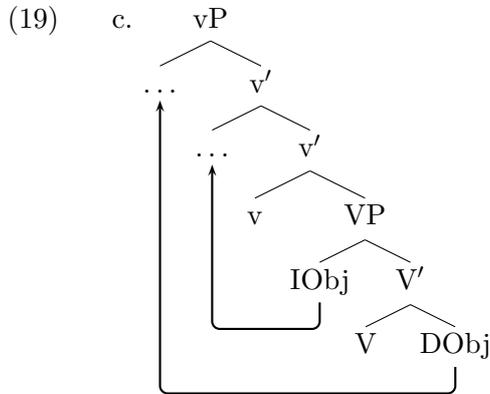
- (18) a. *Peter viste den hende jo t t.
 Peter showed it her indeed
 “Peter indeed showed it to her.”
 b. Peter viste hende den jo t t.
 Peter showed her it indeed

(18-b) illustrates that the grammatical output involves crossing paths (instead of nested ones, cf. (18-a)). This is surprising in view of the fact that, in other contexts, crossing paths are dispreferred. As discussed in section 2.3.1, nested paths usually follow from an interaction of MLC and SCC. Hence, the grammaticality of (18-b), as opposed to (18-a), raises a theoretical problem. To illustrate the problem, suppose that multiple object shift is triggered by a feature [OS] on v that is able to attract multiple categories. Consider then the following two order preserving derivations:



3. Theoretical assumptions

While (19-a) violates the SCC, (19-b) violates the MLC. In contrast, the one derivation that straightforwardly fulfills both principles, which is given in (19-c), does not preserve the relative order of the two objects.



In Heck and Himmelreich (2015), it is suggested that the problem can be solved by making use of an additional WSP. The idea is that categories that are affected by multiple movements of the same type to the same specifier domain are first stored in the WSP before they are remerged (see Stroik 2009 and Unger 2010 for the same underlying idea). The resulting derivation respects both the MLC and the SCC.^{13,14}

In a nutshell, the analysis is as follows. Since order preservation effects show up when the same type of movement to one specifier domain is triggered multiple times, it is plausible to assume that a single probe is responsible for all instances of this movement. When this OS-probe scans down the tree in search for some goal, this search is subject to the MLC. Thus, the first goal that [OS] encounters is the indirect object. [OS] removes

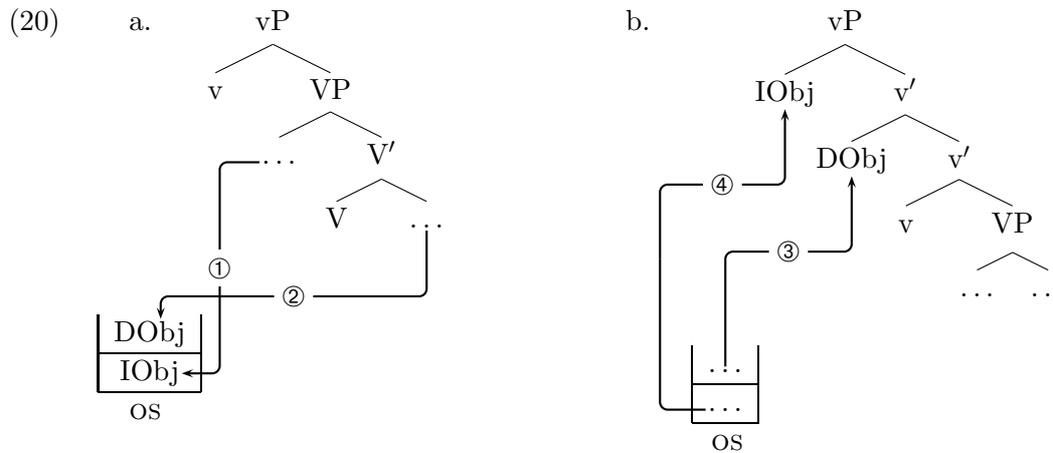
¹³The theory of tucking-in proposed by Mulders (1997) and Richards (1997; 2001), which also accounts for order preservation effects, preserves minimality but gives up strict cyclicity.

¹⁴The assumption that OS in Scandinavian is feature-driven may seem problematic in view of the fact that it is obligatory with pronouns in contexts where the main verb moves but blocked in contexts where it does not, cf. the difference between (i) and (ii) from Danish (see also section 4.3). Note that in (ii), the main verb shows up to the right of the adverb *aldrig* “never,” suggesting that it has not moved (cf. (i)).

- (i) a. *Hvorfor læste Peter aldrig den?
 why read Peter never it
 “Why didn’t Peter ever read it?”
 b. Hvorfor læste Peter den aldrig *t*?
 why read Peter it never
- (ii) a. Jeg spurgte hvorfor Peter aldrig læste den.
 I asked why Peter never read it
 “I asked why Peter never read it.”
 b. *Jeg spurgte hvorfor Peter den aldrig læste *t*.
 I asked why Peter it never read

However, the impression that OS is obligatory in (i) may be misleading. As noted in Vikner (2005: 423-425), pronouns may remain in-situ in Danish even if the main verb moves; they just need to be stressed then. Thus, one may assume that [OS] on *v* is optional, the lack of it leading to stress on the pronoun.

the indirect object from the tree and places it on top of a stack *S* in the WSP associated with [OS] (see step ① in (20-a)). Then [OS] proceeds scanning. When the direct object is found, it is placed on top of *S*, above the indirect object (see step ②). The search continues until the search space of [OS] is exhausted. Once all goals have been attracted to the WSP, the derivation starts to remove them one after the other from *S*, and to remerge them in the same order as multiple specifiers of *vP* (see steps ③ and ④ in (20-b)). By assumption, only the topmost element of *S* is accessible at each derivational step. From this, it follows that the direct object is remerged first, forming the inner specifier while the indirect object is remerged second into the outer Specv. This restores the underlying relative order of the objects in the specifier domain of *vP*.¹⁵



I assume that multiple successive cyclic movement is also triggered by only one EF that attracts multiple goals (see also Chomsky 2007: 11). As a consequence, such movement also exhibits order preservation effects.

With the necessary theoretical assumptions in place, I now turn to the empirical phenomena that instantiate the abstract problem (21-a) presented in section 2.3. For each of them, I illustrate how it can be dealt with in terms of a non-monotonic derivation.

¹⁵Note that the theory that collects multiply moved elements in the WSP potentially makes predictions that differ from those made by the tucking-in theory. The former approach has it that an inner specifier is created before an outer specifier while the latter approach derives the opposite. See Heck and Himmelreich (2015) for arguments supporting the WSP-based account.

4. Object shift

This chapter is concerned with object shift (henceforth OS) as it arises in different languages. I argue that OS instantiates the problem (21-a) introduced in section 2.3 because it places the object in between the base position of another argument and a functional head F (often the subject and T, respectively), threatening to block any relation between the latter two via the MLC. I propose to solve the problem by employing non-monotonic derivations, and I illustrate how such a solution explains why OS must go hand in hand with head-movement, and why it is banned in contexts with compound tenses (ultimately deriving Holmberg’s 1986 generalization).

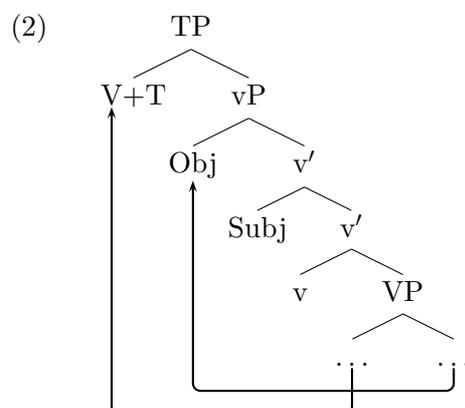
4.1. Object shift in Western Romance

4.1.1. Agreement and VOS in Spanish

Romance languages are typically assumed to exhibit underlying SVO word order. In some Western Romance languages (among them Spanish, European Portuguese, Galician) VOS word order is also a possibility. (1-a,b), which are taken from Gallego (2013: 413, 418), illustrate this for Spanish.

- (1) a. Compraron un libro todos los estudiantes.
 buy.PST.3.PL a book all the students
 “All the students bought a book.”
 b. Leyó la carta María.
 read.PST.3.SG the letter María
 “María read the letter.”

The derivation of VOS from the underlying SVO-order that is assumed by Gallego (2013) goes back to Ordóñez (1997; 1998). The idea is that the verb moves to T, as is generally assumed for Spanish anyway. Moreover, the subject remains in the inner Specv, and the object undergoes OS. By assumption, OS involves movement of the object into an outer Specv. This is shown in (2).

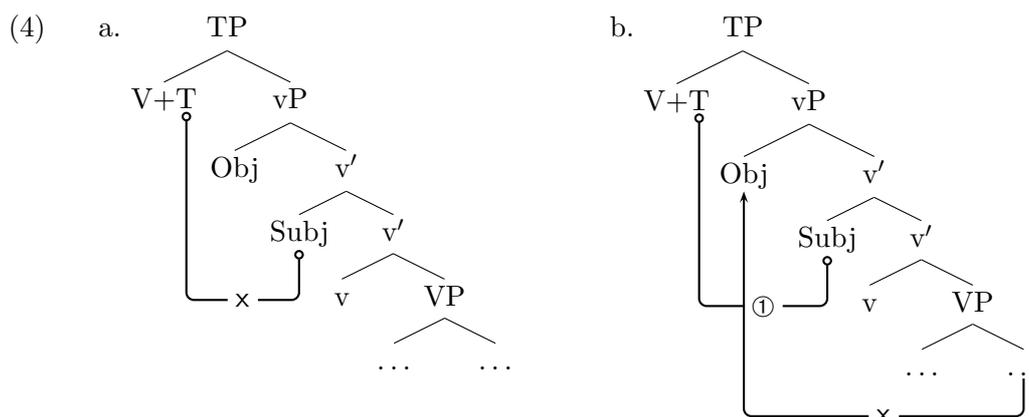


4. Object shift

OS in the Scandinavian languages is mostly considered an instance of A-movement (see, for instance, Holmberg 1986: 175, Vikner 1989: 142, Vikner 1994: 490). Variable binding suggests that this is also the case for OS in Spanish (see Ordóñez 1998: 319, Gallego 2013: 416):¹

- (3) a. Recogió cada coche su propietario.
 pick-up.PST.3.SG each car_i its_i owner
 “Its owner picked up each car.”
 b. No regañó a ningún niño su madre.
 not scold.PST.3.SG to no child_i his_i mother
 “His mother did not scold any child.”

The problem that the analysis in (2) poses is that it is unclear how T can agree with the subject if the object intervenes. In other words, establishing an Agree relation between T and the subject across the object should be blocked by the MLC (Zubizarreta 1998; Belletti 2004; Gallego 2013). This is shown in (4-a). On the other hand, OS cannot apply after Agree between T and the subject has applied because of the SCC, see (4-b).



Thus, VOS in Spanish shows the problem introduced in section 2.3, the only difference being that the relation that is expected to be blocked by the MLC is not movement but Agree. Recall in this context the background assumption from section 3.2 that the shifted object may act as an intervener although it cannot trigger Agree itself, an instance of defective intervention. The question may arise as to why the object cannot establish Agree with T after OS has applied. This would result in object-agreement (or, at least, the lack of subject agreement), contrary to fact. In order to prevent this, an additional assumption is needed. To this end, suppose that agreement with T (in Spanish) must always involve the nominative argument, for whatever reason (see Sigurðsson 1996: 2, Bobaljik 2008, Preminger 2014: 144-151 for relevant discussion).

¹Variable binding in (3) presupposes that the object occupies a position from where it c-commands the subject. This suggests that an alternative analysis of the examples in (3) in terms of VP-fronting (see Belletti 2004 on VOS in Italian) is not correct (see Ordóñez 1998, Gallego 2013).

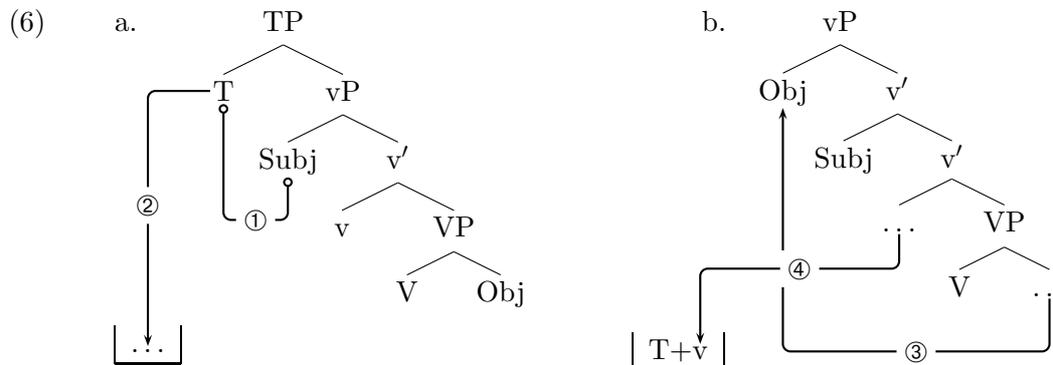
As Gallego (2013: 435) notes, independent evidence for defective intervention comes from cases where T is occupied by an auxiliary. In such contexts, the main verb remains in situ, and OS leads to ungrammaticality, see (5). Against the background of the present discussion, the ungrammaticality of (5) can be interpreted as either a violation of the MLC or the SCC, or as a crash of the derivation due to unvalued agreement features on T.

- (5) *Estaba los libros Juan leyendo, cuando, de pronto, llegó María.
 be.PST.3.SG the books Juan reading when of soon arrived María
 “Juan was reading the books when suddenly María showed up.”

If the ungrammaticality of (5) is due to an intervention effect triggered by the shifted object (technically: a violation of the MLC or the SCC), then why does this intervention effect disappear when OS is accompanied by verb movement to T, as in (1)? In the next section, I show that an analysis of (1) in terms of a non-monotonic derivation not only explains the absence of an intervention effect in VOS but also derives the correlation of the lack of intervention with verb movement.

4.1.2. Procrastinating OS in Spanish

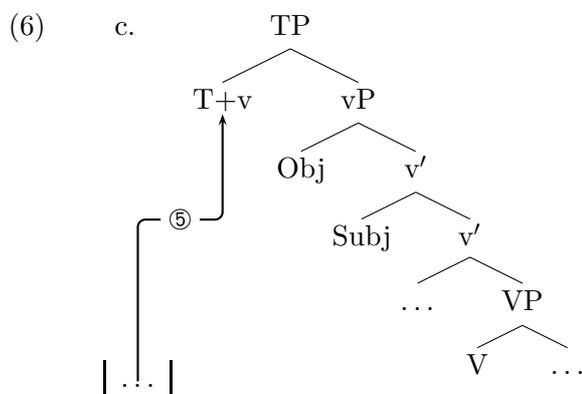
By assumption, OS is triggered by a feature [OS] on *v* that probes for nominals. As is obvious from the surface, OS targets an outer Spec_v in Spanish while the subject is merged to an inner Spec_v.² Suppose now that in Spanish application of OS can be procrastinated in favor of merging the T-head with *v*P. Then Agree can apply between T and the subject without violating the MLC because the object does not intervene at this stage of the derivation (step ① in (6-a)). It is generally assumed that Spanish, like French, has V-to-T movement. As discussed in section 3.4, this involves removal of T to the WSP (see step ② in (6-a)). Once T is removed, the TP-projection vanishes as well. As a consequence, the current tree is now reduced to a *v*P, and therefore, the object may undergo OS to Spec_v, respecting the SCC (step ③ in (6-b)). Having attracted the object to Spec_v, next the *v*-head can be removed as part of the V-to-T movement process (step ④).



²In this respect, OS, being an instance of criterial movement, differs from intermediate movement to Spec_v, which targets an inner specifier of *v*P (see section 3.5). As will become clear, the same holds for OS in French, Belfast English, and Scandinavian (see sections 4.1.3, 4.2, and 4.4, respectively).

4. Object shift

Finally, the T+v complex is remerged with vP, and the TP-projection is restored. This is shown by step ⑤ in (6-c).



The derivation in (6-a-c) thus derives subject-verb agreement in the context of OS without weakening either MLC or SCC.

An issue arises, though, concerning the assumption that OS can be procrastinated. Namely, there is a tenet in derivational theories of syntax that features that are introduced into the derivation should be satisfied as soon as possible (see, for instance, Pesetsky 1989, Chomsky 1995: 233, Lasnik 1999, Řezáč 2003). This tenet is often incorporated into the theory as a grammatical principle:

- (7) *Earliness Requirement for Feature Checking:*
 Unsaturated features are saturated as early as possible.

It would appear that procrastinating OS in (6) violates the requirement in (7). On the one hand, this may be the price one has to pay if one wants to allow for non-monotonic derivations. On the other hand, one may argue that the derivation in (6) does not violate (7) after all because although [OS] is not saturated as soon as possible T's selectional feature is saturated by merging T with vP instead. Assuming that Earliness may be satisfied in this sense, I now return to the main plot.

It is important to note that a derivation that involves procrastination of OS as the one in (6) is only possible if there is a way to remove T shortly after its introduction. Otherwise, OS will never be able to apply without violating the SCC. Removal of T, in turn, is motivated by the need to merge v with T. Thus, procrastination of OS is contingent on V-to-T movement. It follows that in contexts without V-to-T movement, OS should be blocked. As already illustrated by (5), this prediction is borne out for Spanish. The pair in (8-a,b) illustrates the same point (Gallego 2013: 411, 425).

- (8) a. Ayer estaba Juan leyendo un libro.
 yesterday be.PAST.3.SG Juan reading a book
 "Juan was reading a book yesterday."
 b. *Ayer estaba un libro Juan leyendo t.
 yesterday be.PAST.3.SG a book Juan reading

According to Gallego (2013), there is no verb movement in (5) or (8-a,b) because T is occupied by an auxiliary. Against the background of the derivation in (6) this seems to require that auxiliaries are generated in T. Namely, were the auxiliary an instance of *v* that moves to T, then (5) and (8-b) would involve head-movement after all, and therefore (5) and (8-b) should be derivable by means of a non-monotonic derivation along the lines of the one presented in (6), resulting in grammaticality, contrary to fact. In this context, it is relevant that in Mainland Scandinavian languages, auxiliaries and main verbs in embedded sentences always show up to the right of certain adverbs (such as negation), which has been interpreted to show that these languages lack V-to-T movement in embedded contexts. This is illustrated by means of the contrast from Swedish in (9-a,b) (from Holmberg 1999: 6):

- (9) a. Det är möjligt att Per inte har kysst henne.
 it is possible that Per not has kissed her
 ‘‘It is possible that Per has not kissed her.’’
 b. *Det är möjligt att Per har inte kysst henne.
 it is possible that Per has not kissed her

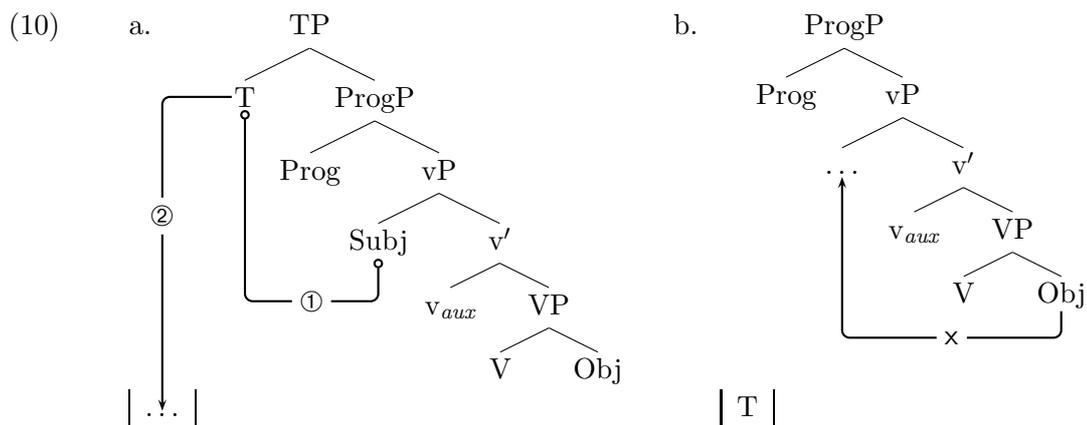
If this is correct, and if auxiliaries in Swedish and Spanish behave alike, then it follows that auxiliaries are actually base generated within *v*P. From there they undergo movement to T in Spanish. But if so, then the explanation for the ungrammaticality of (5) and (8-b) must be somewhat different.

To reconcile the observations about the base generation of auxiliaries with the necessity to prevent a non-monotonic derivation of (5) and (8-b), suppose that auxiliaries are actually instances of *v*. This reaches back to Chomsky’s (1965) proposal that auxiliaries are generated in PredP, which one may consider to be equivalent to *v*P (see Bowers 1993).³ Moreover, suppose that in constructions with auxiliary, there is another functional head in between TP and *v*P that determines the properties of the main verb (cf. Bobaljik 1995*b*; 2002). For instance, the form of the main verb as a present participle in (5) and (8-a,b) is determined by some (aspectual) head, call it Prog, in between T and *v*P (see (10-a)). Now, while *v* (the auxiliary) ultimately moves to T, the main verb obviously does not move to Prog in (5) and (8-b) because it shows up to the right of the subject, which, by assumption occupies Spec*v*. But if there is no V-to-Prog, this means that Prog will not be removed and therefore OS will violate the SCC, see (10-b).⁴

³There is a complication arising from this idea together with the assumption that the lexical verb generally moves to *v* (see section 3.1). If the auxiliary *is v*, then V-to-*v* movement generates a complex verb consisting of auxiliary and main verb. However, in a language like Spanish, the auxiliary undergoes subsequent movement to T without the lexical verb. I assume here that in such a case excorporation of the auxiliary is possible (see Roberts 1991) when movement to T applies, stranding the lexical verb within *v*P.

⁴As observed by Gallego (2013), the correlation of OS with V-to-T-movement in Spanish recalls Holmberg’s (1986) generalization (see section 4.3). Accordingly, Gallego (2013: 424-428) proposes an analysis of the restriction on VSO in Spanish to contexts with V-to-T movement in terms of equidistance (see section 2.3.3).

4. Object shift



To summarize, the analysis of VOS constructions in Spanish in terms of a non-monotonic derivation not only derives why such structures do not violate the MLC or the SCC, but it also explains why the construction is ungrammatical with periphrastic tenses, which involve an auxiliary verb.

4.1.3. Dative in French causatives

The present section deals with an instance of OS as it occurs in French causative constructions. To begin with, the “logical” structure of a French causative construction with *faire* as in (11-a) looks as in (11-b).

- (11) a. Marie fera lire le livre à Jean.
 Marie make.FUT.3.SG read the book to Jean
 “Marie will make Jean read the book.”
 b. Marie faire [Jean lire le livre]
 Marie to.make Jean read the book

As a surface configuration, (11-b) is ungrammatical, see (12). Assuming that (11-a) is related to (11-b), the derivation of (11-a) requires that the verb of the embedded infinitive move to the causative head *faire* and that the object move to a position above the subject, which shows up in the dative, see Kayne (1975), Rouveret and Vergnaud (1980: 131-132).

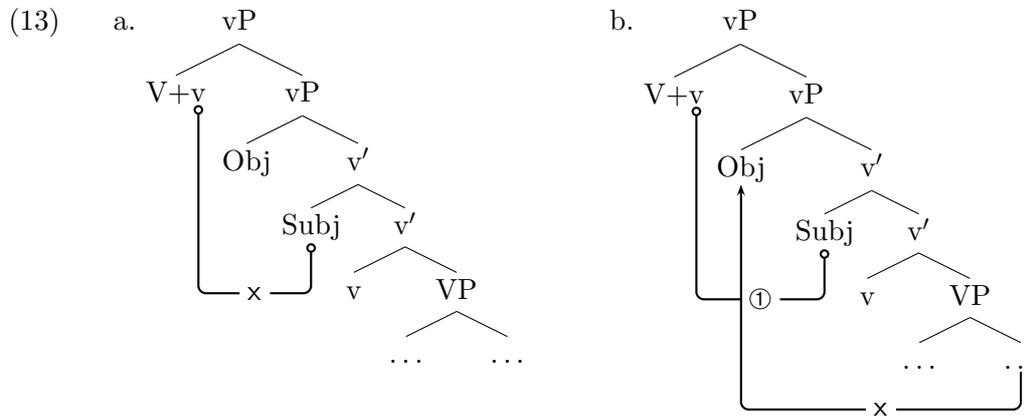
- (12) *Marie fera Jean lire le livre.
 Marie make.FUT.3.SG Jean read the book
 “Marie will make Jean read the book.”

Considering the distribution of case within the infinitive, it seems plausible that the accusative case of the embedded object is assigned by the causative verb *faire*.⁵ A possible

⁵If the embedded infinitive is intransitive, accusative case is assigned to the embedded subject, see (i):

- (i) Marie faisait travailler Jean.
 Marie made work Jean.ACC
 “Marie made Jean work.”

interpretation of this is that the infinitival verb (or the functional projection above it) that is embedded by causative *faire* is defective in that it cannot assign case to its object (see, for instance, Valois and Dupuis 1992, Bobaljik and Branigan 2006). As noted in Bobaljik and Branigan (2006), a challenge of the construction is raised by the fact that the subject surfaces with dative case. Some theories assume that the subject receives dative case by a special rule (Kayne 1975, Rouveret and Vergnaud 1980, Burzio 1986, Baker 1988), but usually they leave open why this rule targets the subject and not the object (see Baker 1988: 461, footnote 25). Another option is to assume that dative case is also assigned by the causative head (see Rochette 1988, Guasti 1993). But if this is correct, then the question arises as to how the subject can be assigned dative if the object intervenes in its shifted position. Provided that there is no activity condition to the effect that elements that have already checked their case become “invisible”, the MLC should prevent this. This is illustrated in (13-a). Of course, applying OS after dative case was assigned to the subject violates the SCC, see (13-b).⁶



The solution to the problem posed by (13) put forward by Bobaljik and Branigan (2006) is based on the notion of activity. They propose that the embedded object undergoes \bar{A} -movement into an outer Spec \bar{v} . Since, by assumption, \bar{A} -positions are invisible for A-operations (e.g. Řezáč 2003), the shifted object does not intervene for case assignment to the subject. According to Bobaljik and Branigan (2006), the accusative case of the object is assigned by the causative verb to a copy of the object in situ. This presupposes that the subject does not count as an intervener for accusative case assignment. Presumably, another type of inactivity is required here, the subject being in an A-position.

It remains somewhat unclear under these assumptions why the object has to undergo obligatory \bar{A} -movement in causative constructions.⁷ Also, Bobaljik and Branigan’s (2006) idea to explain away object intervention by assuming that OS targets an \bar{A} -position is not

⁶The embedded infinitive in (13) is given as a bare vP, but nothing hinges on this.

⁷Bobaljik and Branigan (2006) provide the following independent evidence for the \bar{A} -status of OS in French causatives. They observe that an object that undergoes subsequent \bar{A} -movement after OS has applied does not induce participial agreement (i-a). If relativization in (i-a) starts from an \bar{A} -position (i.e., the position reached by OS), then (i-a) patterns with the non-agreeing object movement in (i-b), which also starts from an \bar{A} -position (the most embedded SpecC), and not with the agreeing object movement in (i-c), which starts from an A-position (the base position of the object).

4. Object shift

straightforwardly applicable to VOS in Spanish (section 4.1.1): OS in Spanish arguably targets an A-position (recall that variable binding is possible in (3)). In what follows, an alternative proposal is made that unifies the two instances of OS in Spanish and French. Note that the problem with (13) is almost identical to the one illustrated with (6) in section 4.1.1 in the context of VOS in Spanish. Not surprisingly, then, the solution will be very similar, too.

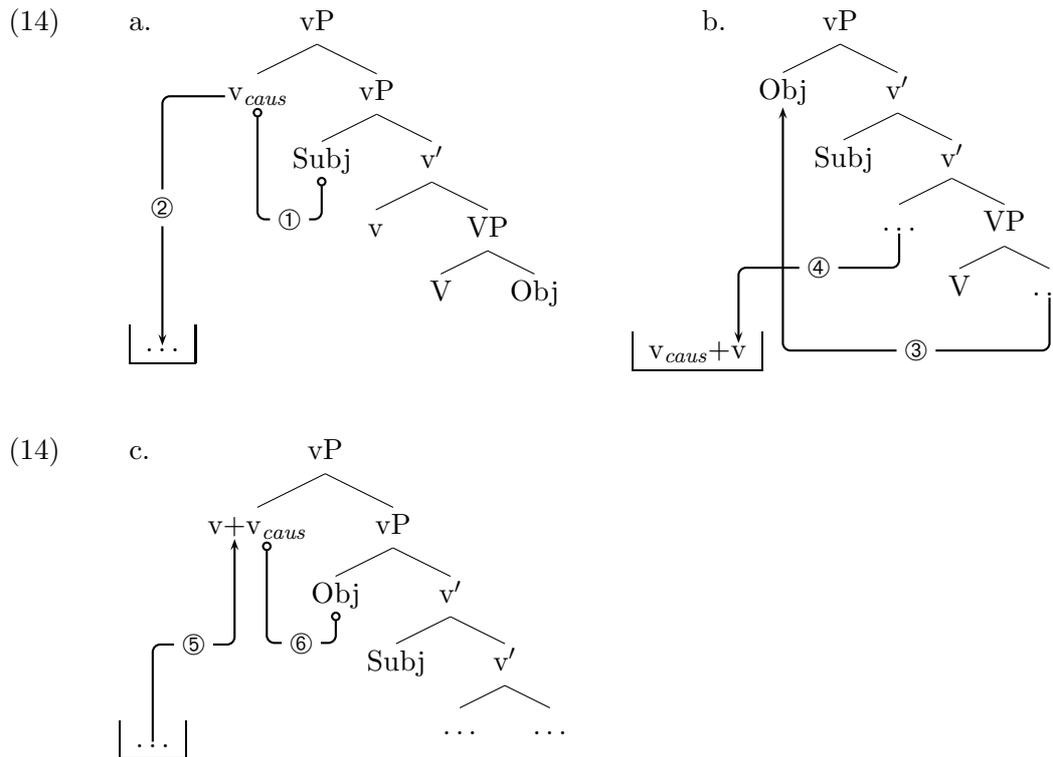
4.1.4. Procrastinating OS in French

To begin with, I follow Guasti (1993) and Bobaljik and Branigan (2006) in assuming that the embedded verb *lire* “read” in (11-a) incorporates into *faire* “make” (but cf. Kayne 1975: 217-220 for counter-evidence). As in the proposal of Bobaljik and Branigan (2006), I take it that the causative head can assign two cases, a marked dative case and an unmarked accusative case. This implies that OS of the object to an outer Specv must apply in order to render the object PIC-accessible for case assignment. For this to be possible, the defective v of an infinitive embedded under causative *faire* exceptionally provides a feature that triggers OS, which is not present on non-defective v in French. Finally, I assume that OS to the outer Specv in French infinitives embedded under causative *faire* can be procrastinated in favor of merging the causative matrix verb, similar to what was the case with OS in Spanish VOS configurations (section 4.1.2).

Not surprisingly, the derivation in (14) proceeds in a way that is almost completely parallel to the derivation of VOS in Spanish ((6) above). There are three minor changes involved in the analysis in (14) as compared to (6). First, T in (6) is replaced by the causative head *faire* in (14); second, step ① in (14-a) involves assignment of dative case to the subject (instead of agreement with the subject); and third, the object in (14) receives its structural accusative case from *faire* (plus incorporated verb), see step ⑥ in (14-c), a step that is absent in (6). But the core idea of the analysis is the same: OS is procrastinated in favor of Merge of a higher head (the causative verb). Therefore, assignment of dative to the subject obeys the MLC. Due to incorporation, the causative verb is removed, and OS can apply cyclically. Finally, the $v+v_{caus}$ complex is remerged, and the object gets assigned case in accordance with the MLC.

-
- (i) a. la table qu’il a *faite repeindre à Marc
the.FEM table that=he has made.FEM paint to Marc
“the table that he made Marc paint”
- b. la lettre qu’il a *dite que Claire lui a envoyée
the.FEM letter that=he has said.FEM that Claire him has sent.FEM
“the letter that he said that Claire had sent to him”
- c. la lettre que Claire lui a envoyée
the.FEM letter that Claire him has sent.FEM
“the letter that Claire sent to him”

I have to leave open what an explanation of the pattern in (i) could look like under the present assumption that OS in French causatives is A-movement.



The analysis presupposes that the dative case is only assigned by causative *faire* in case the embedded infinitive is transitive. This can be ensured by assuming that the causative head's ability to assign case correlates with its selectional properties (cf. Bobaljik and Branigan 2006 for a different proposal).

Note that the causative head must bear a feature that triggers incorporation (i.e., head-movement). Under the present analysis, the necessity of incorporation is explained by the need to procrastinate OS.⁸ If OS is procrastinated, but no incorporation applies, then the vP projected by the causative head cannot be removed, and, consequently, late movement of the object is blocked by the SCC. Alternatively, if OS applies early, then case assignment to the subject is blocked by the MLC due to the intervening object. Thus, obligatory incorporation into the causative v-head here parallels obligatory head-movement of the verb to T in the context of VOS-structures in Spanish.

4.1.5. Clitic-climbing

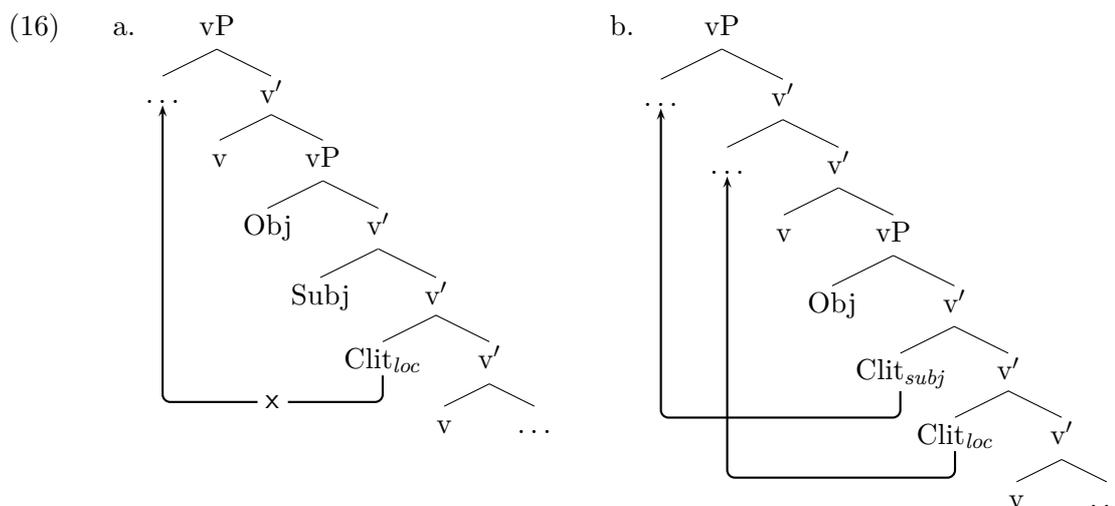
Rouveret and Vergnaud (1980) observe that clitic climbing (of, e.g., the locative clitic *y* “there”) out of the causative complement in French is blocked by an embedded non-clitic subject (*à Pierre*), see (15-b). If the subject raises as a clitic itself (see the dative subject clitic *lui* in (15-c)), the intervention effect is lifted (see also Bobaljik and Branigan 2006).

⁸Bobaljik and Branigan (2006) attribute the necessity of head movement to a locality condition on case assignment (see the GTC in Baker 1988): for the causative head to be able to assign accusative to the base position of the embedded object, the infinitival verb must move to the causative head.

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- (15) a. Jean a fait mettre ce livre à Pierre sur l'étagère.
 Jean has made put this book to Pierre on the shelf
 "Jean made Pierre put this book on the shelf."
 b. *Jean y fera mettre ce livre à Pierre *t*.
 Jean there make.FUT.3.SG put this book to Pierre
 "Jean will make Pierre put this book there."
 c. Jean lui y fera mettre ce livre *t t*.
 Jean to.him there make.FUT.3.SG put this book
 "Jean will make him put this book there."

These facts pose the following puzzle. Since a full embedded subject intervenes in clitic climbing (witness (15-b)), it follows that the clitic should be merged in a position below the subject. Presumably, the clitic undergoes cyclic movement in a first step to a specifier of vP, where it becomes PIC-accessible to undergo cliticization onto T at a later step. Recall from section 3.5 that such intermediate movement lands in an inner Specv, also a position below the subject. As (15-c) illustrates, an embedded direct object (*ce livre* in (15-c)) does not interfere with clitic-climbing. This is surprising if the object, due to application of OS, occupies the outermost Specv. In fact, one would expect the object to block clitic climbing in this configuration just as the subject does in (15-b). This is illustrated in (16-a) vs. (16-b).

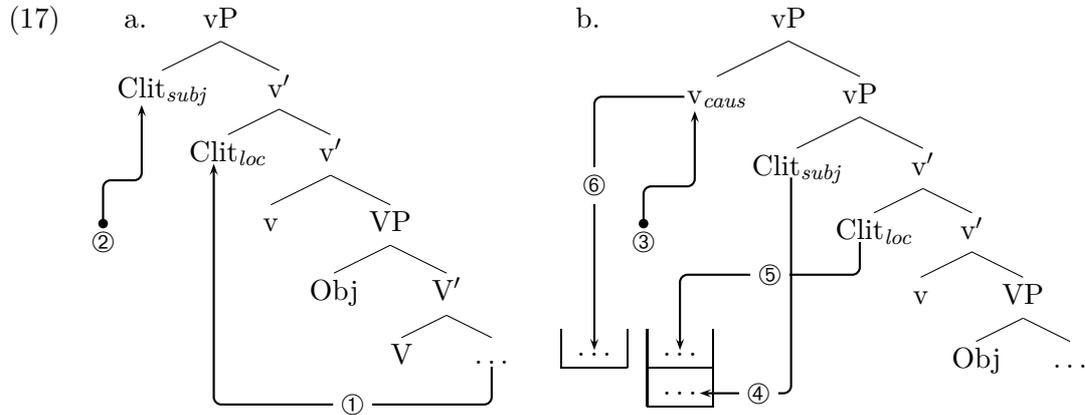


In what follows, I illustrate that the non-monotonic derivation proposed for French causatives in section 4.1.4 also provides an explanation for the lack of intervention of the object for clitic climbing.⁹ The idea is that since OS in the embedded vP in French causative constructions is procrastinated in any event, it can also be procrastinated until the clitic(s) have moved out of vP.

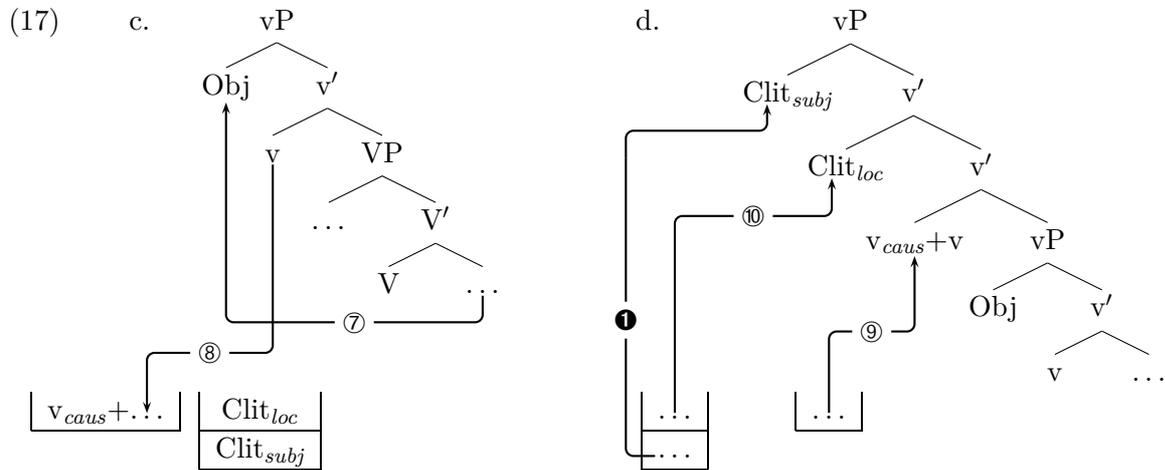
The derivation proceeds as follows. The locative clitic first moves (triggered by an EF) to the innermost specifier of the lower vP to remain PIC-accessible (step ① in

⁹For Bobaljik and Branigan (2006), the shifted object does not act as an intervener for clitic climbing because it occupies an \bar{A} -position, see section 4.1.3.

(17-a)).¹⁰ The subject clitic is merged to an outer Specv (step ②). When the causative v-head is merged (step ③), it attracts both clitics by means of an EF. Since both clitics are attracted by the same EF, movement proceeds via a stack in a separate WSP (see section 3.6). Steps ④ and ⑤ in (17-b) show how the clitics are transferred onto the stack. Next, the causative head is removed due to incorporation (step ⑥).



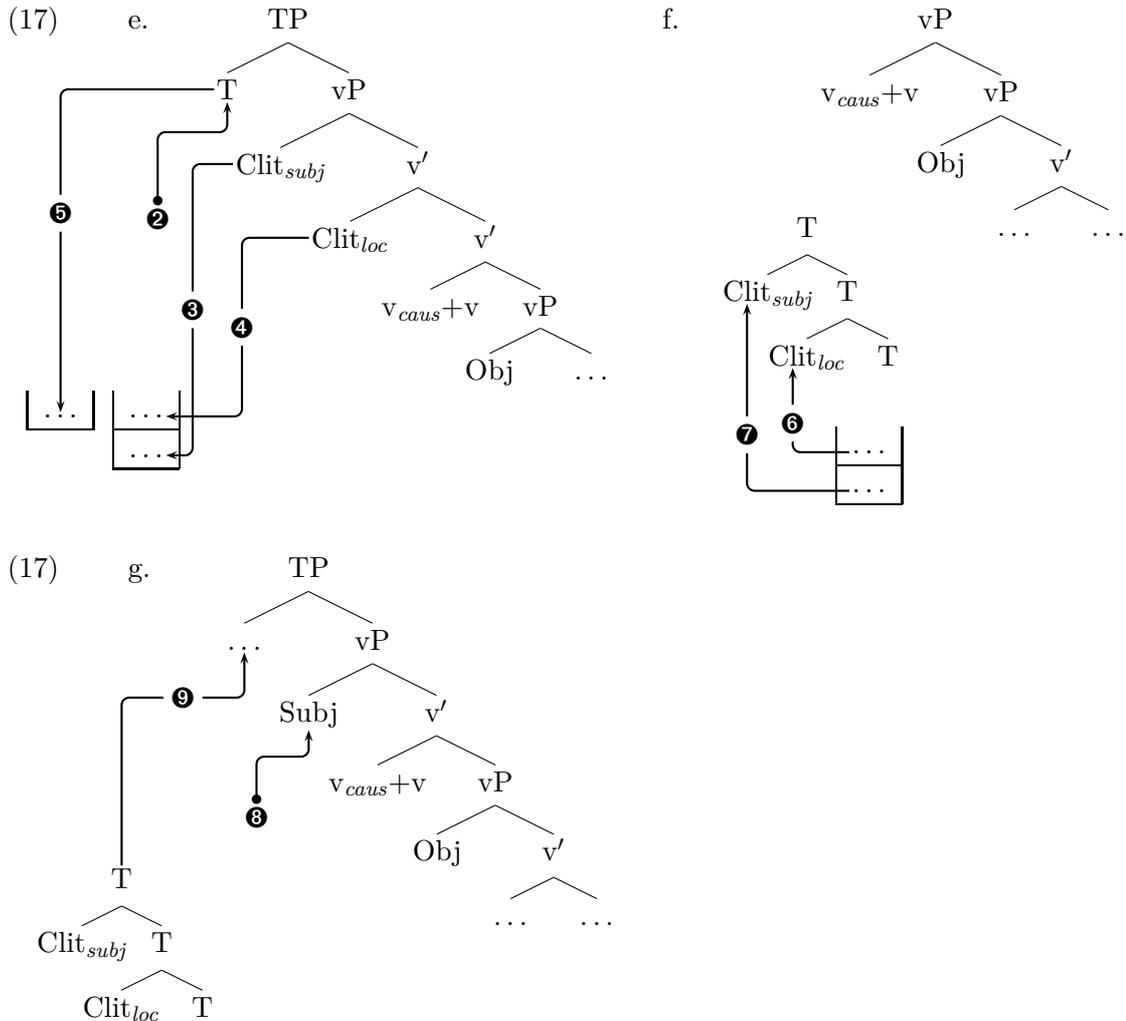
With the causative head gone, its projection vanishes, too. Therefore, OS can now apply cyclically, see step ⑦ in (17-c). In step ⑧, v is removed to the WSP in the course of incorporation into the causative head. Once the verbal complex with the causative head has been remerged (step ⑨ in (18-d)), the clitics are remerged under preservation of their relative order to multiple specifiers of the causative head, see steps ⑩ and ① in (17-d).



¹⁰One may wonder why this first step is not blocked by the in-situ object. There are two possible answers. First, the object is, in fact, merged lower than the locative clitic (and other clitic arguments), contrary to what was assumed in (17). Alternatively, this intermediate movement applies non-monotonically, as follows. Merge of the object is procrastinated in favor of merge of the embedded v-head. The clitics are attracted by v to the WSP, V-to-v movement removes v, and the object is merged cyclically. Finally, v+V is remerged, and the clitics are placed in Specv of the infinitive.

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The derivation continues by merging the T-head (step ②). T attracts both clitics. I take it that cliticization is a kind of head-movement. Accordingly, the clitics are, again, removed to a separate WSP (see steps ③ and ④ in (17-e)).¹¹ Finally, T is removed (step ⑤) in the process of cliticization. In steps ⑥ and ⑦, the clitics are remerged with the T-head (see (17-f)). Finally, the subject of the causative head is introduced into Spec_{vP}_{caus}, and the T-head containing the clitics is remerged (steps ⑧ and ⑨, respectively).



The upshot of the derivation in (17) is that the embedded object does not block clitic-climbing because at the point where the clitics leave the embedded vP, OS has not applied yet. To conclude the non-monotonic analysis of French causatives proposed in section 4.1.4 for case reasons can also explain why the shifted object does not act as an intervener for clitic climbing.

¹¹Presumably, if cliticization were to be derived by the same mechanism assumed for head-movement in section 2.4.3, then this would require that the number of instances of $[\mathfrak{R}]$ on T matches the number of clitics to be attracted. I will not discuss this complication in detail here but simply assume that some mechanism is available to derive cliticization.

4.2. Vikner's (1989) puzzle

This section discusses OS in Scandinavian. In Scandinavian, in contrast to what was the case with OS in Romance as discussed in section 4.1, it is not transparent, in most contexts, whether OS targets a position above or below the subject because there is also subject raising to SpecT. I argue that OS indeed targets a position above the subject, thus instantiating the problem (21-a) introduced in section 2.3.

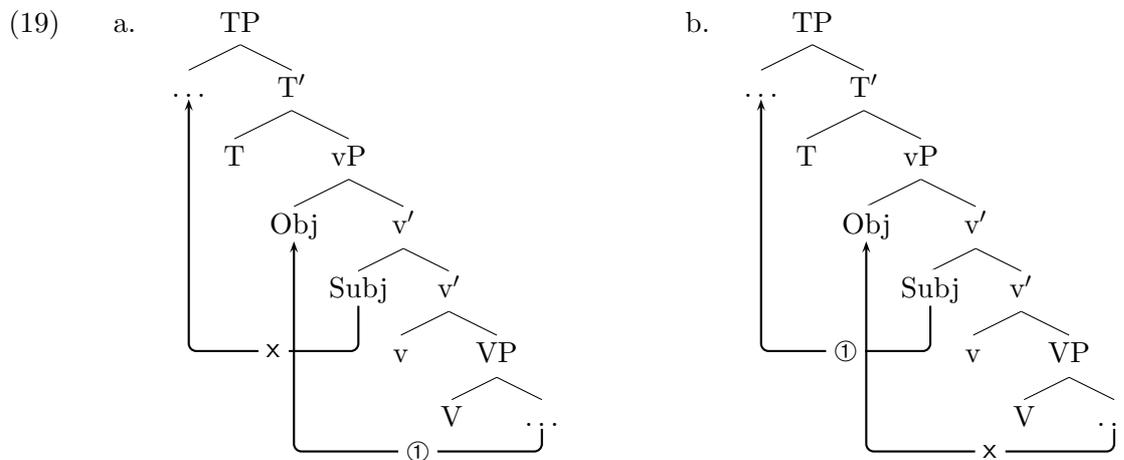
Note in passing that I will not, at least not in detail, address the process of scrambling, as it shows up in some of the West-Germanic languages. One reason for this is that evidence for verbal head-movement (which plays an important role in the present study) in languages with head-final VPs such as Dutch and German is hard to come by. Another reason is that the A vs. \bar{A} -status of scrambling in German is unclear, as opposed to the status of OS, which is usually taken to be A-movement (see Holmberg 1986: 175, Vikner 1989: 142, Vikner 1994: 490). If scrambling can be \bar{A} -movement, then it may cross non- \bar{A} co-arguments without implicating the MLC. In principle, however, it should be possible to account for apparent MLC-violations incurred by scrambling crossing co-arguments by means of a non-monotonic derivation.

4.2.1. What the puzzle is about

It is often assumed that OS in Scandinavian, as instantiated in the Danish example (18) (from Vikner 1989), targets an outer SpecvP (see Chomsky 1993, Holmberg and Platzack 1995, Bobaljik and Jonas 1996, Anagnostopoulou 2003, among others). This may be motivated by the assumption that tucking-in below the subject would violate the SCC.

- (18) I går læste Ole den uden tvivl ikke *t*.
 yesterday read Ole it without doubt not
 "Yesterday, Ole doubtlessly didn't read it."

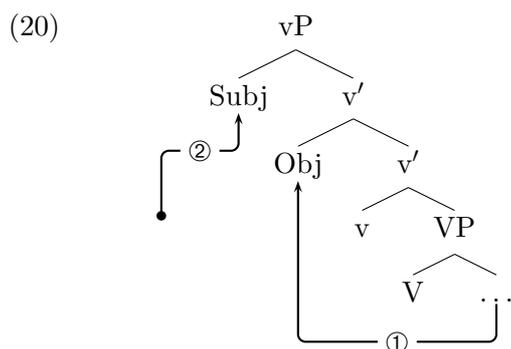
To my knowledge, Vikner (1989: 149, footnote 8) was the first to note that if this is the case, then the object should prohibit subject raising due to the MLC (or, for Vikner 1989, due to Rizzi's 1990 Relativized Minimality, RM). This is illustrated in (19-a).



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Since then, the problem has been noted and discussed repeatedly in the literature, see Branigan (1992), Chomsky (1993; 2000; 2001), Koizumi (1993), Kitahara (1997: chapter 3), Hiraiwa (2001), and Dikken (2007). The common background assumptions have always been that OS targets an outer Specv, and that the shifted object acts as an intervener even though it cannot raise to SpecT itself.¹² Thus, we are, again, dealing with a case of defective intervention. As usual, an alternative derivation where subject raising is followed by OS *does* satisfy the MLC, but it violates the SCC, see (20-b). It thus appears that Vikner’s puzzle instantiates the problem (21-a) introduced in section 2.3.

Now, in contrast to what was the case with OS in Spanish and French in sections 4.1.1 and 4.1.3, where it is obvious that OS targets an outer Specv because the object appears on the surface to the left of (hence above) the subject, this is not directly observable in cases such as (18), where subject raising to SpecT masks the landing position of OS. Thus, suppose that the type of derivation that I assumed to be relevant for successive cyclic movement (see (16), section 3.5), and which is repeated in (20) with $\alpha =$ subject, $\beta =$ shifted object, and $H = v$, were generally possible for constructions involving OS, too. Then Vikner’s (1989) puzzle would be solved (see also Chomsky 1995: 358 for discussion): in (20), the way for the subject to be attracted by T to SpecT is free because the object has been shifted to an inner Specv below the subject.



This raises the question as to whether it is licit to assume that Scandinavian OS targets an outer Specv.

In what follows, I present evidence that suggests that OS actually *does* target an outer Specv, above the subject.¹³ Since, despite this evidence, the subject on its way to SpecT is able to “by-pass” the object, I conclude that Vikner’s puzzle is real.

4.2.2. Why the puzzle is real

Transitive expletive constructions (TECs) in Icelandic provide a first piece of evidence that OS in this language must at least be able to target an outer Specv (see Thráinsson

¹²But cf. Ura (2000: 25-28), who argues that the landing position of OS (inner vs. outer specifier) is subject to parametrization.

¹³There is another argument for OS landing in an outer Specv in the literature (Bobaljik and Jonas 1996, Collins and Thráinsson 1996) that builds on Sportiche’s (1988) theory of floating quantifiers. Since in the present study I follow Bobaljik (1995*b*) in assuming that FQs are adverbs, this argument is not available (see also Bobaljik 1995*b*: 149-162 for an attempt to empirically undermine the argument).

1986*a*: 245, Jonas 1996: 35-36, Collins 1997: 18-19, Chomsky 2001: 29): in this construction, the subject remains in-situ while the EPP on T is checked by the expletive (21-a,b). This renders the position of the object relative to the subject transparent.¹⁴

- (21) a. það luðu semilega husið vandlega margir studentar.
 there painted probably the.house carefully many students
 “Many students probably painted the house carefully.”
 b. það stingur smjörinu einhver í vasann.
 there put the.butter someone in pocket
 “Someone put the butter into his pocket.”

There has been some debate in the literature as to whether the subject really is in-situ in (21-a,b). See Ottósson (1989), Vikner (1990; 1995), Sigurðsson (1991), and Bures (1992) for the claim that it is; Bobaljik and Jonas (1996) argue against this view. To some extent, their arguments rest on the assumption that certain adverbs are adjoined to VP. I will not discuss this in any detail here, but my hunch is that once it is assumed that these adverbs are specifiers of vP (as I have done here, see section 3.1) these arguments may lose their force.

Another argument for OS landing in an outer Specv is based on observations about the relative ordering of adverbs and shifted objects. As Vikner (1989: 146) observes (see also Vikner 1994: 494), an object that has undergone OS cannot show up in between two adverbs. This is illustrated for pronominal OS in Danish in (22-a,b) and full noun phrase OS in Icelandic in (23-a,b).

- (22) a. I går læste Peter den uden tvivl ikke *t*.
 yesterday read Peter it without doubt not
 “Yesterday, Peter doubtlessly didn’t read it.”
 b. *I går læste Peter uden tvivl den ikke *t*.
 yesterday read Peter without doubt it not

- (23) a. Í gær las Pétur bókina eflaust ekki *t*.
 yesterday read Peter the.book doubtlessly not
 “Yesterday, Peter doubtlessly didn’t read it.”
 b. *Í gær las Pétur eflaust bókina ekki *t*.
 yesterday read Peter doubtlessly the.book not

Assuming that adverbs are merged in Specv, this observation receives a straightforward explanation if OS targets the outermost Specv-position.

The last argument involves intervention effects with floating quantifiers (FQs, henceforth). I assume here that FQs are adverbs (see Bobaljik 1995*b*: 148-162 and chapter 4,

¹⁴It is unclear under what circumstances exactly the subject can remain below a shifted object in Icelandic. Thráinsson (2007: 69) claims that this is only possible if the object is an unstressed pronoun and the subject is quantificational. Bobaljik (1995*b*: 182, footnote 44) merely notes the quantificational nature of the subject. See also Ura (2000: 52), Alexiadou and Anagnostopoulou (2001: 199, footnote 3), Thráinsson (2001: 198, footnote 12), and, in particular, Jonas (1996: 35-36) for discussion.

4. Object shift

Bobaljik 2003, and references therein).¹⁵ As such, they are merged in Specv like other adverbs are. Furthermore, I assume that a category α can function as the antecedent of a FQ only if it c-commands the FQ (see Bobaljik 1995*b*: 245-248).

This said, I now turn to the argument. To begin with, it can be observed that an indirect object in Swedish that linearly (and structurally) intervenes between a subject and an instance of the FQ *alla* “all” that is supposed to associate with the subject blocks the association relation between subject and FQ (Charlotta Elmgreen, p.c.), see (24-a). In contrast, if the FQ associates with the indirect object itself, the result is fine (24-b).

- (24) a. *Igår gav barnen deras vänner alla ett brev.
yesterday gave the.children_i their friends all_i a letter
“Yesterday, all the children gave a letter to their friends.”
b. Igår gav barnen deras vänner alla ett brev.
Yesterday gave the.children their friends_j all_j a letter.
“Yesterday, the children gave a letter to all their friends.”

There is evidence that the indirect object in (24-b) does not form a constituent together with the FQ: (25), which involves fronting of the string *deras vänner alla* “their friends all”, is ungrammatical (Anders Holmberg, p.c.). This follows without further ado if the FQ *alla* in (24-a,b) is an adverb, which is merged separately from its antecedent.

- (25) *Deras vänner alla har fått presenter.
their friends all have got presents
“All their friends have got presents.”

Note that the indirect object in (24-a,b) cannot have undergone OS to the left of the FQ: it cannot appear to the left of negation and other adverbs that typically mark the landing site of OS (Anders Holmberg, p.c.). This fits with the general assumption that in Mainland Scandinavian (MSc, henceforth) only pronominal objects can undergo OS.¹⁶

A possible interpretation of these observations is the following. The indirect object in (24-a) intervenes between the subject and the FQ, thereby breaking the syntactic agreement chain that is necessary to establish semantic association between the subject and the FQ. The background assumption here is that semantic association between an antecedent and a FQ presupposes that antecedent and FQ have entered into a previous

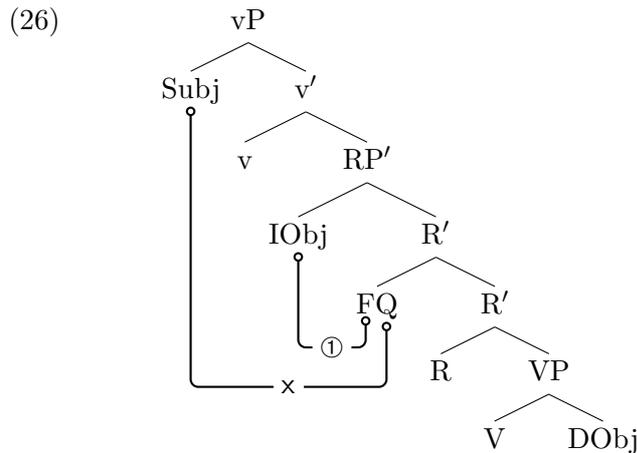
¹⁵This assumption holds for Scandinavian, but also for English and French, see chapter 5.

¹⁶It is sometimes claimed that a full lexical indirect object in double object constructions in Mainland Scandinavian *can* undergo OS, which was presupposed to be impossible in the argument above. The claim is based on examples like the Swedish one in (i-b), taken from Bobaljik (1995*b*: 188):

- (i) a. Han gav inte Sara boken.
he gave not Sara the.book
“He didn’t give the book to Sara.”
b. ?Han gav Sara inte *t* boken.
he gave Sara not the.book

An alternative analysis of (i-b), which I will assume here, involves optional placement of the negation within SpecR, similar to the proposal made in Bobaljik (1995*b*: 189).

Agree-relation in the syntax. Technically, this may be ensured by assuming that syntactic FQ-association saturates a feature on the FQ. Once this feature has been saturated by an antecedent α (as is the case with the indirect object in (24)), the FQ cannot associate syntactically with another antecedent α' (the subject in (24)), making semantic association between α' and the FQ impossible as well (see Heck and Himmelreich 2015 for details of such an analysis). Similar intervention effects with FQs have been observed for German (Beck 1996; see also Heck and Himmelreich 2015) and for Korean and Japanese (see Ko 2007). To this end, suppose that the indirect object is generated in the specifier of a verbal projection of its own (see Marantz 1993; Ura 1996; McGinnis 1998; Pyllkänen 2002; Anagnostopoulou 2003). Here, I follow McGinnis (1998) in calling this projection RP (R presumably being a mnemonic for “recipient”). RP is located in between vP and VP. Since the full lexical indirect object in (24) cannot have undergone OS, assuming that in MSc only pronouns undergo OS, it follows that the configuration in (24), where the indirect object shows up in between the subject and the FQ, cannot be one where the FQ is merged in Specv (because then the FQ should show up to the left of the indirect object). From this, I conclude that the FQ in (24-a,b) is merged to an inner specifier of RP. Once the indirect object is introduced as an outer specifier of RP, a position from where it c-commands the FQ, the former enters into Agree with the latter, thereby bleeding potential FQ-association of the subject with the FQ, see (26).



Now, the crucial observation is that (some) speakers of Swedish who reject (24-a) accept configurations where an object that has undergone OS shows up in between the subject and a FQ that is associated with the subject, as in (27). Other relevant examples from Swedish are given in Holmberg (1986) (cited in Déprez 1989: 190, 192, Holmberg and Platzack 1995: 141).¹⁷

¹⁷Déprez (1989: 194) (citing Holmberg 1986) also mentions the contrast from Swedish in (i-a,b), attributing the ungrammaticality of (i-a) to the idea that the full noun phrase *Erick* in (i-a) must have undergone OS (because it shows up to the left of the FQ *alla*), which is impossible in MSc. In contrast, OS of the pronoun *honom* “him” in (i-b) is unproblematic.

- (i) a. *Hundarna var Erick alla tillgivna.
 the.dogs were Erick all devoted
 “All the dogs were devoted to Erick.”

4. Object shift

- (27) Igår ság barnen dem alla t.
 yesterday saw the.children_i them all_i
 “Yesterday, all the children saw them.”

Relevant facts have also been reported for Icelandic (see Thráinsson 1986a: 245). (28-a) illustrates that an indirect object triggers an intervention effect if it shows up in between a subject and a FQ associated with the subject.

- (28) a. *Stúdentarnir hafa sagt Sveini allir sögu.
 the.students_i have told Sveini all_i story
 “All the students told Sveini a story.”
 b. Stúdentarnir sögðu Sveini allir sögu.
 the.students_i told Sveini all_i story

In contrast to what is the case with OS in MSc, OS in Icelandic can, in principle, affect full noun phrases. However, (28-a) involves a compound tense, a context where OS is impossible even in Icelandic (see section 4.3 for more discussion). (28-b) is identical to (28-a) except that there is no compound tense, and thus an analysis in terms of OS of the indirect object is possible. Again, association of FQ and subject is possible in (28-b) despite an intervening indirect object, arguably because the latter may be interpreted to have undergone OS. See also Vikner (1989: 149, footnote 8), who gives the grammatical Danish example in (29-a), involving intervention of a shifted direct object between a subject and a FQ associated with the latter. (29-b) is an example involving OS of a full direct object in Icelandic (taken from Thráinsson 1986b: 245; see also Holmberg 1985: 181, Thráinsson 2013: 156).

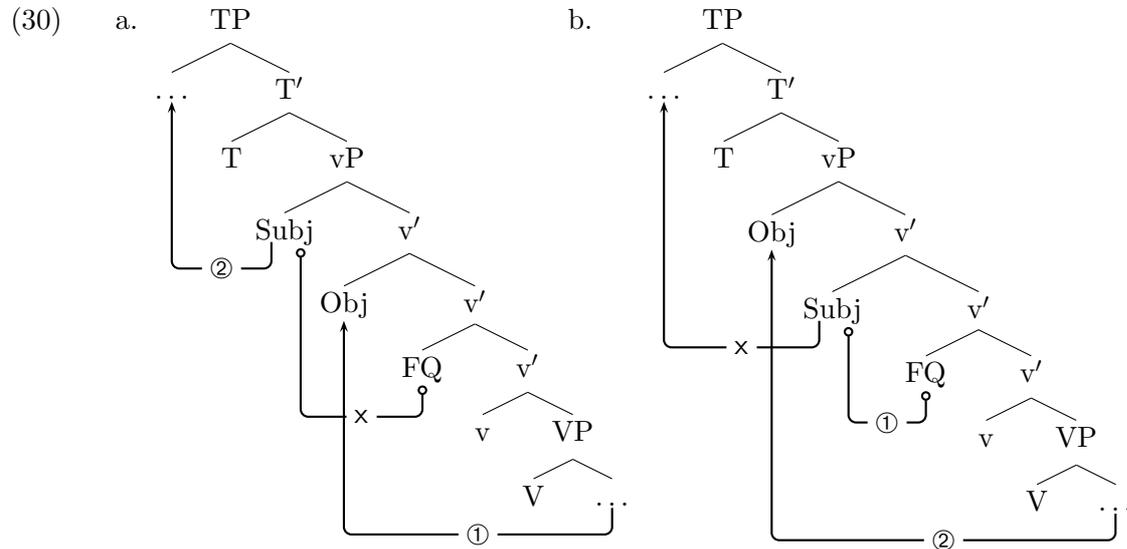
- (29) a. De sáw den formentlig alle i TV i går aftes.
 they_i saw it presumably all_i on TV last night
 “They all presumably saw it on TV last night.”
 b. Stúdentarnir stungu smjörinu allir í vasann.
 students_i put the.butter all_i in pocket
 “All the students put the butter in their pockets.”

From these observations, the following dilemma arises. If OS in (27), (28-b) and (29-a,b) lands in an *inner* Specv (below the subject), then the subject can freely raise to SpecT, but one would expect association of the subject with the FQ to be blocked by the shifted object, just as the indirect object in (24-a) and (28-a) blocks association between the FQ and the subject. This is illustrated in (30-a). If the object moves to an *outer* Specv (above the subject), then the subject can associate with a FQ; but then, one would

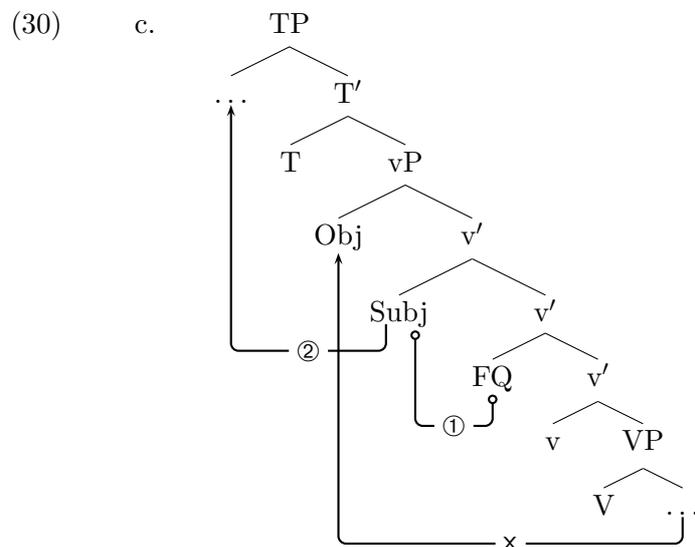
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- b. Hundarna var homom alla tillgívna.
 the.dogs were him all devoted
 “All the dogs were devoted to him.”

Under the present assumptions, the FQ in (i-a) might as well have been merged in SpecR, which leads to an intervention effect. (i-b) then illustrates that the intervention effect is lifted in a construction with OS.

expect the MLC to block raising of the subject across the object (30-b).



Of course, applying subject raising to SpecT followed by OS is blocked by the SCC, as illustrated in (30-c).

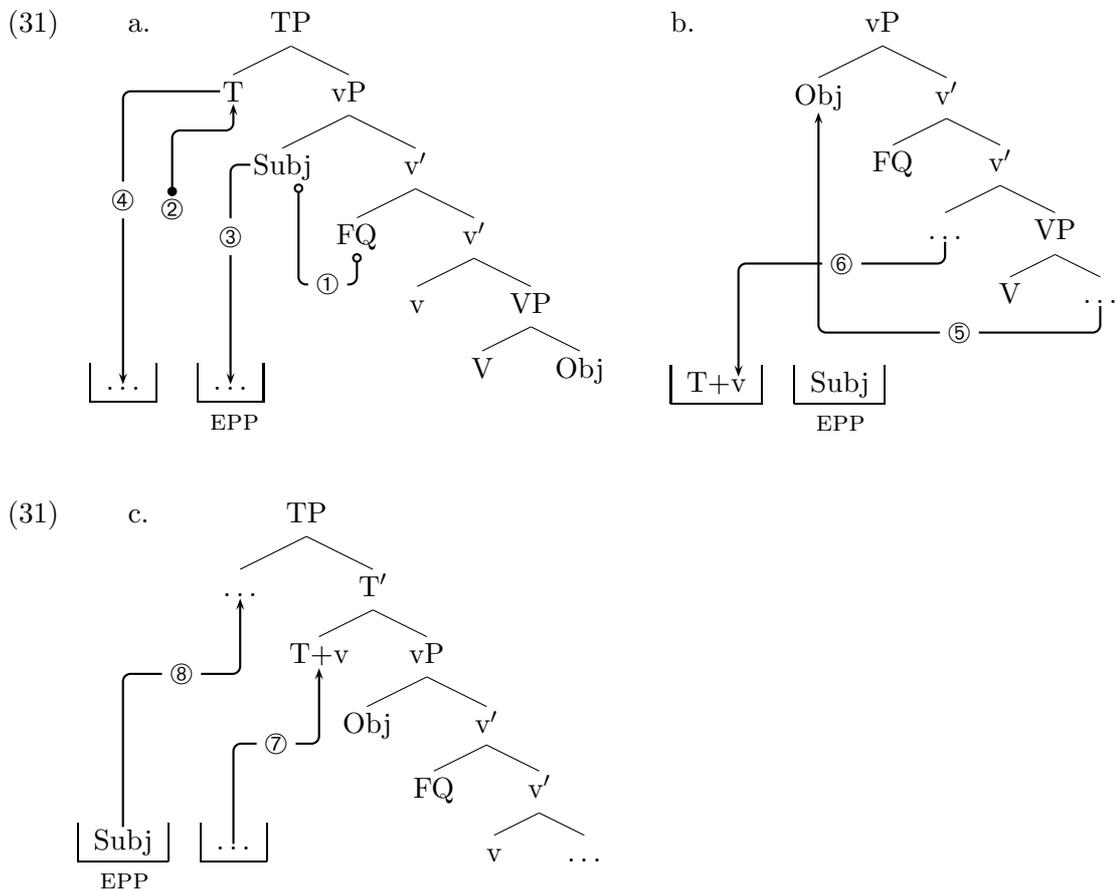


The fact that association of subject and FQ is possible despite surface intervention of a shifted object suggests that OS targets an outer Specv, above the subject, at least in the contexts where the subject associates with a FQ. This means that Vikner's puzzle is real. That is, there should be an MLC-violation resulting from raising the subject across the object to SpecT, or a violation of the SCC, if OS applies after subject raising. In the next section, I show that the lack of such an MLC-violation can be explained by making use of a non-monotonic derivation.

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4.2.3. The non-monotonic derivation of OS

The non-monotonic derivation that solves the dilemma sketched in section 4.2.2 runs along the same lines as the derivations proposed in sections 4.1.1 and 4.1.3 for Spanish VOS and French causatives, respectively. It proceeds as follows. If a FQ is present in an inner Specv, the subject in an outer Specv associates with it (see step ① in (31-a)). OS is procrastinated. Instead, T is merged and attracts the subject. Since the object has not been shifted yet, it does not intervene. The subject is not directly remerged but placed in the WSP (step ③ in (31-a)). Suppose that V-to-T movement applies next. This assumption is discussed in more detail below. For now, just note that if it does, then there is a trigger to remove T (see step ④ in (31-a)). Removal of T implies removal of TP. The tree thus shrinks down to the size of a vP. This enables OS to apply in accordance with the SCC (step ⑤ in (31-b)). The rest of the derivation involves completing V-to-T movement (steps ⑥ and ⑦), followed by remerging the subject (step ⑧).



The derivation in (31) solves Vikner's (1989) puzzle. At the same time, it provides an explanation for why a shifted object does not cause intervention effects with respect to subject-oriented FQs. And it does so without weakening either MLC or SCC.¹⁸ In

¹⁸Hiraiwa (2001) suggests another solution to Vikner's puzzle. He proposes that object and subject both move to SpecT. Since the object moves to an inner SpecT first, it opens up the way for raising of the

section 4.3, I illustrate that this solution to Vikner's (1989) puzzle also paves the way for the first part of an explanation of Holmberg's (1986) generalization. Before I come to this, I briefly want to mention some speaker variation that apparently arises with respect to FQ-intervention effects, and make a proposal as to how it can be accounted for (see section 4.2.4).

Finally, note that one needs to block a derivation where OS is *not* procrastinated (i.e., the object undergoes OS to an outer Specv above the subject, blocking raising of the latter), and the EPP on T is satisfied by raising the object. To this end, I assume that an argument with structural accusative case (as opposed to one with structural nominative case) cannot satisfy the EPP in Scandinavian.¹⁹

4.2.4. Object-associated FQs and variation

This section deals with two observations. The first observation is that a shifted object in Scandinavian is generally able to associate with a FQ to its right. This is shown for OS involving a full direct object in Icelandic in (32) (Halldór Sigurðsson, p.c.).

- (32) Lásu stúdentarnir greinarnar ekki allar *t*?
 read the.students the.articles_{*i*} not all_{*i*}
 "Didn't the students read all the articles?"

The examples in (33) and (34) illustrate FQ-association with shifted pronominal objects in Swedish (Charlotta Elmgren, p.c.) and Norwegian (Siri Gjersøe, p.c.), respectively. The Norwegian examples involve FQ-association with a pronominal indirect object that has undergone OS.

- (33) a. Igår såg barnen dem alla *t*.
 yesterday saw the.children them_{*i*} all_{*i*}
 "Yesterday, the children saw them all."
 b. Igår visade Bengt dem dem alla *t*.
 yesterday showed Bengt them them_{*i*} all_{*i*}.
 "Yesterday, Bengt showed all of them to them."
- (34) a. I går sendte barna dem alle *t* et brev.
 yesterday sent the.children them_{*i*} all_{*i*} a letter
 "Yesterday, the children sent a letter to all of them."
 b. I går viste barna dem alle *t* en bok.
 yesterday showed the.children them_{*i*} all_{*i*} a book
 "Yesterday, the children showed a book to all of them."

subject to an outer SpecT. This is not unproblematic. Embedded questions in Icelandic lack V-to-C movement (Thráinsson 1986b: 174, Sigurðsson 1989: 12). Thus, Hiraiwa's (2001) proposal predicts the word order Subj > Obj > V in embedded questions with OS (masked by V-to-C movement in other contexts). Dikken (2007) also addresses the locality of OS, but the problem that he focuses on is not the one under discussion here.

¹⁹Things may be different with inherent accusative in Icelandic, see Sigurðsson (1989), Zaenen et al. (1985); cf. also Preminger (2014: 165).

4. Object shift

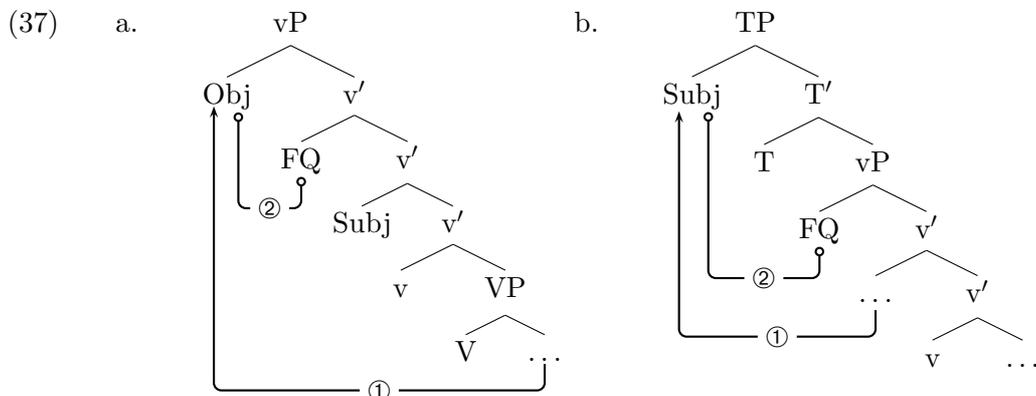
According to the analysis given in section 4.2.3, a FQ in Specv associates with the subject in constructions with OS because the subject is merged early in Specv. The object, in contrast, reaches Specv late (in order for subject raising to be possible). When it does, the association potential of the FQ has already been consumed by the subject. It would seem then that association of the FQ with a shifted object is predicted to be impossible.

The second observation is that there appears to be some variation among speakers of Scandinavian languages as to whether a subject can associate across a shifted object or not. At least some speakers of Swedish and Norwegian do not accept examples similar to (27) (from section 4.2.3). (35-a,b) are examples from Norwegian that reflect these judgments. (36-a,b) illustrate the same for Swedish.

- (35) a. *I går leste barna dem ikke alle *t*.
 yesterday read the.children_i them not all_i
 “Yesterday, all the children read them.”
- b. *I går sendte barna dem alle *t* et brev.
 yesterday sent the.children_i them all_i a letter
 “Yesterday, all the children sent them a letter.”
- (36) a. *Igår såg barnen dem alla *t*.
 yesterday saw the.children_i them all_i
 “Yesterday, all the children saw them.”
- b. *Igår gav barnen dem alla *t* ett brev.
 yesterday gave the.children_i them_j all_i a letter
 “Yesterday, all the children gave a letter to them.”

Up to now, I assumed that adverbs (including negation and FQs) invariably occupy the innermost specifier(s) of vP. The subject is merged in an intermediate Specv above the adverbs, and OS lands in the outermost Specv. In order to account for the observations above, I now assume that there is some variability as to the positioning of the FQ.

Thus, suppose that subject and FQ can be merged in any relative order within the specifier domain of vP. If the subject precedes the FQ, it associates with the latter as soon as it is merged in Specv, recall step ① in (31). If the FQ precedes the subject, then an object that undergoes OS to the outermost Specv will associate with the FQ. This derives association of a FQ with a shifted object, see (37-a). (Recall that the FQ needs to be c-commanded by its antecedent in order for association to be possible.)



If there is no OS, a FQ that c-commands the subject within vP will associate with the latter after subject raising to SpecT has taken place, see (37-b). Thus, strings without OS and association of subject and FQ are structurally ambiguous, if only minimally so.

As for an analysis of (35)–(36), it suffices to assume that the grammar of speakers who do not accept FQ-association of a subject across a shifted object does not allow to merge the FQ below the subject (in the innermost Specv), i.e., as in (31). For these speakers, the FQ will always precede the subject in Specv. FQ-association of the subject (in contexts without OS) only applies after the subject has raised to SpecT.

4.3. Holmberg's (1986) generalization

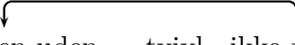
Towards the end of section 4.2.3, I mentioned that the solution to Vikner's (1989) puzzle also provides an explanation of the first part of what has become known as Holmberg's (1986) generalization (HG). It is the purpose of the present section to illustrate this, and to explain how the remaining parts of the generalization can be derived, as well.

4.3.1. The core of the generalization

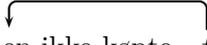
The generalization in (38), which ties Scandinavian OS to movement of the lexical verb, was brought into the discussion by Holmberg (1986: 165-240). It holds for OS in all Scandinavian languages.^{20,21}

- (38) *Holmberg's generalization:*
Object shift is possible only if the main verb raises out of the vP.

The dependence of OS on movement of the main verb is illustrated by the Danish examples in (40)–(41) (taken from Bobaljik 1995*b*: 121-122, citing Vikner 1990). To begin with, (39) illustrates grammatical pronominal OS accompanied by movement of the main verb *læste* “read” to C.

- (39) I går læste Peter den uden tvivl ikke *t*.
yesterday read Peter it without doubt not
“Yesterday, Peter without doubt didn't read it.”
- 

In contrast, the examples in (40-a) and (41-a), which lack movement of the lexical verb to C either because there is a finite auxiliary present that moves to C instead, or because of an embedded context, are not compatible with OS. In these contexts, only the variant without OS is grammatical (see (40-b) and (41-b)).

- (40) a. *Hvorfor har Peter den ikke køpte *t*?
why has Peter it not bought
“Why didn't Peter buy it?”
- 

²⁰ And, as illustrated in sections 4.1.1 and 4.1.3 above, it also holds for OS in Spanish and French.

²¹ In fact, (38) is a variation of Holmberg's (1986) original, adapted by Bobaljik (1995*b*: 121). Those parts of the original generalization that are not covered by (38) are discussed in section 4.3.3.

4. Object shift

- b. Hvorfor har Peter ikke køpte den?
 why has Peter not bought it

- (41) a. *Det var godt at Peter den ikke køpte t.
 it was good that Peter it not bought
 “It was good that Peter didn’t buy it.”
 b. Det var godt at Peter ikke køpte den.
 it was good that Peter not bought it

In section 4.2.3, I argued that the co-occurrence of OS and subject raising requires a non-monotonic derivation. Recall that this derivation requires that T be temporarily removed in order for OS to be able to apply cyclically. Removal of T, in turn, is ensured by V-to-T movement, which raises the verb out of vP, thus accounting for HG in (38).

In this context, it should be noted that while Icelandic exhibits V-to-T movement throughout, MSc does not (see Vikner 1995: 136-151). OS is, however, possible in V2-contexts in MSc. This fits HG because V-to-C movement, which is assumed to underlie the V2 property of Scandinavian, raises the verb out of vP, too. Technically, however, the present approach requires V-to-T movement in order for OS to be possible (recall that T must be removed). I therefore assume here, as is often done, that V-to-C movement necessarily involves V-to-T movement.²²

This covers “two thirds” of HG, i.e., it derives why OS is fine in contexts with V-to-T/C movement of the main verb (39), and why in those embedded contexts in MSc where no V-to-T/C applies, as in (41-a), OS is ungrammatical. In order to derive HG as a whole, the task is now to account for its “remaining third:” that is, to explain why OS is ungrammatical if it is not the main verb that moves to T but the auxiliary (40-a). A relevant contrast is repeated in (42-a,b), Swedish examples taken from Holmberg (1999).

- (42) a. Jag kysste henne inte t.
 I kissed her not
 “I didn’t kiss her.”
 b. *Jag har henne inte kysst.
 I have her not kissed

For the purpose of enabling a non-monotonic derivation it does not matter whether removal of T is triggered by movement of the auxiliary to T or by movement of the main verb to T. The only thing that is important is that T is removed. Thus, if movement to T were all that matters, then (40-a) and (42-b) should be grammatical.

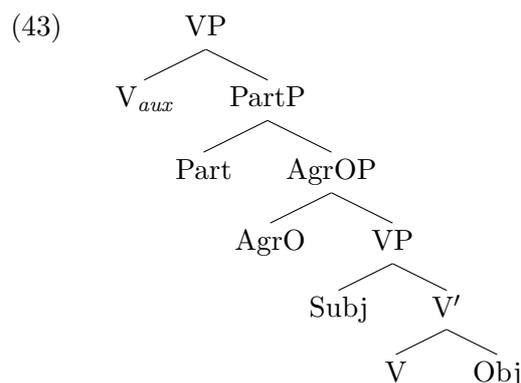
In section 4.1.2, I proposed an account of the impossibility of VOS in Spanish in the context of compound tenses, where an auxiliary moves to T. This account can also be put to use to explain the impossibility of Scandinavian OS in compound tenses. The assumption in section 4.1.2 was that in compound tenses there is another functional projection, PartP or ProgP, in between TP and vP. The head of this projection determines the morphological shape of the main verb (which may show up as a past participle, a present

²²I leave open here why this should be the case; see, for instance, Vikner (1995: 28-33) for some discussion.

participle, etc.). The upshot is that since there is no participle movement in Scandinavian, i.e., no movement of the lexical verb to Part or Prog, PartP/ProgP can never be removed; as a result, it blocks the non-monotonic derivation that resolves Vikner's puzzle in non-compound tenses, thereby deriving the remaining third of HG.

Before I illustrate the details of this analysis, I briefly compare its underlying assumptions to those made in Bobaljik (1995*b*; 2002). The theory proposed there also faces a challenge (albeit for different reasons) when it comes to the question as to how to account for the remaining third of HG.²³ In fact, the answer to this question given here is inspired by the proposal made in Bobaljik (1995*b*: 86-88) (see also Bobaljik 2002: 224-225). However, there are some points where the present approach diverges from Bobaljik (1995*b*; 2002), which I would like to mention here.

To begin with, Bobaljik (1995*b*; 2002) also suggests that the features determining participial morphology are located on a separate functional head Part, and that there is no V-to-Part movement in Scandinavian. In contrast to the assumptions made here, Bobaljik (1995*b*; 2002) proposes that the auxiliary verb takes PartP as its complement, and that Part takes vP (AgrO in Bobaljik 1995*b*; 2002) as its complement. In other words, the auxiliary is in a higher position than assumed here, see (43).



²³Bobaljik (1995*b*; 2002) proposes that HG is the consequence of the fact that shifted objects interrupt PF-adjacency between the verb and the functional head that hosts the verb's inflectional features (T or Part) unless the verb also moves out of VP. By assumption, adjacency is required by the morphology. Notwithstanding its many virtues, this approach may face a problem when the phenomenon of Scandinavian negative shift is considered (see Jónsson 1996, Svenonius 2000, Christensen 2005, or Engels 2009 for details of this construction). Assuming that the FQ in (i-a,b) occupies a Specv-position, it follows that the negatively quantified object in (i-a), which has shifted across the participial verb, interrupts adjacency between this verb and the Part-head ((i-a,b) are Danish examples from Broekhuis 2008: 247, who cites Christensen 2005). Nevertheless, (i-a) is grammatical.

- (i)
- a. Har de alle ingenting fået *t*?
have they all nothing gotten
"Did they all get nothing?"
 - b. *De har ingenting alle fået *t*.
they have nothing all gotten
"They all got nothing."

(i-a) is unproblematic under the present assumptions if negative shift lands in a position somewhere below the base position of the subject (in contrast to OS).

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It turns out that the structure in (43) requires that negation may occupy varying positions, depending on the context. First of all, in non-compound tenses, negation is adjoined to VP according to Bobaljik (1995*b*; 2002). This derives that the verb shows up to the right of negation in contexts without verb movement and to its left if there is verb movement. However, in compound tenses with auxiliary and without verb movement, negation shows up to the *left* of the auxiliary in MSc, compare the Swedish examples in (44) (Holmberg 1999: 6, Sells 2002).

- (44) a. Det är möjligt att Per inte har kysst henne.
it is possible that Per not has kissed her
“It is possible that Per has not kissed her.”
b. *Det är möjligt att Per har inte kysst henne.
it is possible that Per has not kissed her

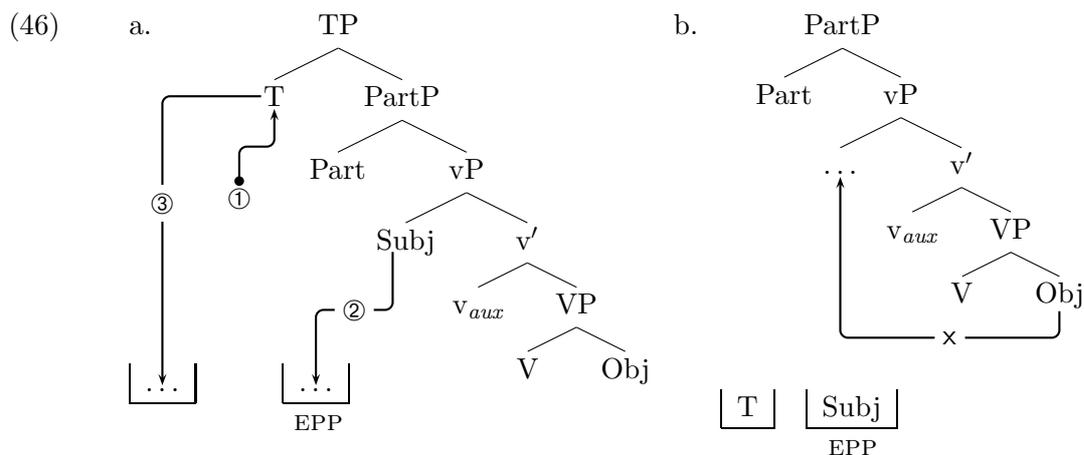
The contrast in (44-a,b) shows that negation cannot be adjoined to VP if the auxiliary occupies a high position, as in (43). Consequently, Bobaljik (1995*b*; 2002) proposes that in compound tenses negation is not adjoined to the lower VP but to the VP headed by the auxiliary. In other words, negation is adjoined to the highest verbal projection that is present (see Bobaljik 2002: 225, footnote 25). In contrast, within the present proposal, where the auxiliary is an instance of *v*, a uniform analysis is possible: negation is always merged as an (inner) Specv (but cf. footnote 16).

The present assumption also helps to avoid a problem that Holmberg (1999: 14-15) identifies for the proposal of Bobaljik (1995*b*), and which seems to me to remain in Bobaljik (2002), namely that in cases such as (45) one would expect the pronoun *henne* “her” to appear to the *right* of negation, irrespective of whether it undergoes OS or not (see section 4.3.2 for more discussion of examples such as (45)). The reason is that in (45), which involves an auxiliary, negation must be generated in the projection of the auxiliary (i.e., in a high position, see above) while OS targets a lower position (SpecAgrO).

- (45) Kysst har jag henne inte *t*.
kissed have I her not
“Kissed her, I haven’t.”

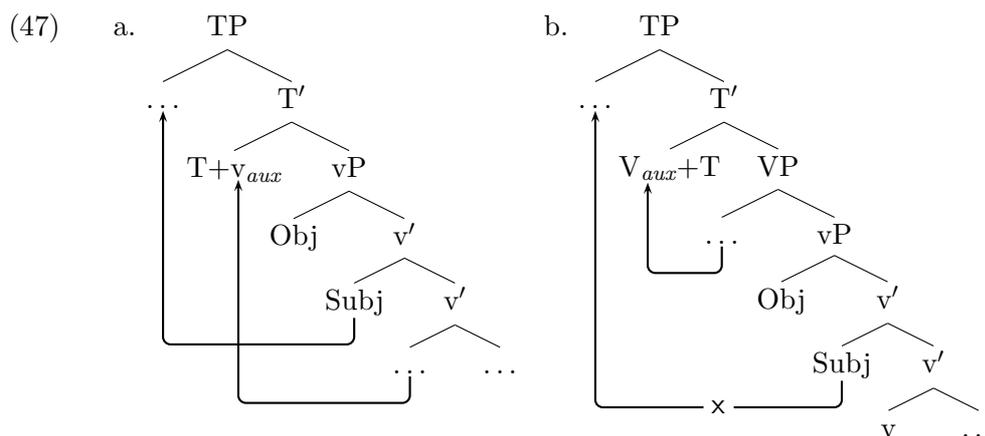
The problem vanishes if negation is merged as an adverb in the inner Specv, and OS uniformly lands in the outermost Specv, i.e., in a position above it, as assumed here.

This said, let me return to the main plot, addressing the question as to why Scandinavian OS is impossible in compound tenses. As mentioned above, the crucial assumption is that compound tenses involve a functional head Part/Prog in between TP and vP. In a non-monotonic derivation that derives OS, the subject is attracted to the WSP before OS applies. If the structure contains a PartP (as in (40-a) and (42-b)), then it must have been generated before the subject is attracted by T (see (46-a)). Since there is no V-to-Part movement in Scandinavian, the Part-projection is not removed at any point of the derivation, independent of whether TP is removed by Aux-to-T movement or not. But if the PartP is not removed, then late OS will not be able to apply because of the SCC, see (46-b).



Of course, if OS applies early, before T and Part are merged, then the MLC blocks subject raising. This derives the impossibility of OS with compound tenses, and thus the remaining third of HG. The expectation then is that OS should become possible again in a context where PartP *is* removed. In section 4.3.2, I suggest that there is a construction in Scandinavian where this expectation is borne out.

At the end of this section, I would like to point out that deriving the remaining third of HG is far from straightforward under the theory of equidistance. (In what follows, I refer to the “second” variant of this theory, see section 2.3.3.) To see this, suppose the auxiliary that is present in compound tenses is an instance of *v* (as I have assumed here). Then equidistance would actually predict that OS should be possible with compound tenses. The reason is that in V2 contexts the head that hosts the shifted object and the subject, namely *v*, undergoes movement to T, thereby rendering object and subject equidistant to T (see (47-a); note that it is irrelevant whether one assumes there to be a PartP or not).



The problem can, in principle, be avoided by assuming instead that the auxiliary forms its own projection above vP (see (47-b)). But by making this assumption, one brings back the problem of the relative placement of negation and the shifted object in (45)

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mentioned above, which was pointed out in Holmberg (1999: 14-15).²⁴

I conclude that the proposed derivation of HG not only has the conceptual advantage that it does away with the concept of equidistance as such, but also offers an attractive solution to the puzzle as to why OS is impossible in compound tenses.

4.3.2. Verb topicalization

Holmberg (1999) observes that in the Swedish example (45), here repeated in (48-b), OS is possible although the construction involves an auxiliary plus a past participle, as (48-a) does. The difference between (48-a) and (48-b) is that in (48-b) the participial verb appears clause initially while in (48-a) it remains within vP. (Constructions such as (48-b) are also possible in other Scandinavian languages, see Heck 2008: 135-136.)

- (48) a. *Jag har henne inte kysst *t*.
I have her not kissed
“I didn’t kiss her.”
- b. Kysst har jag henne inte *t*.
kissed have I her not
“Kissed her, I haven’t.”

On the basis of (48-b), Holmberg (1999) argues that OS should be analyzed as a PF-operation. In a nutshell, the reasoning is as follows. (48-b) can only obey HG (i.e., OS must not cross the main verb, cf. (48-a)) if the main verb in (48-b) has already been moved to the front of the clause at the point where OS applies. Since, under these conditions, and under the assumption that HG is the result of some derivational constraint, not an output filter, OS would be acyclic (as it lands in a lower position than verb fronting does), it follows that OS actually cannot be part of the syntax but rather must apply post-syntactically, that is at PF. Note that Holmberg (1999) argues that topicalization of the participial verb in (48-b) exclusively affects the verb, that is, (48-b) does not involve remnant VP-movement. This is a necessary assumption for the analysis: a remnant topicalization analysis of (48-b) would require OS to be syntactic after all because it would have to apply before fronting of the VP in order to create a remnant in the first place.

According to Holmberg (1999), HG is thus to be stated in such a way that any phonologically visible category inside VP (including verbs, particles and other objects, but excluding adjuncts by stipulation) blocks OS at PF.

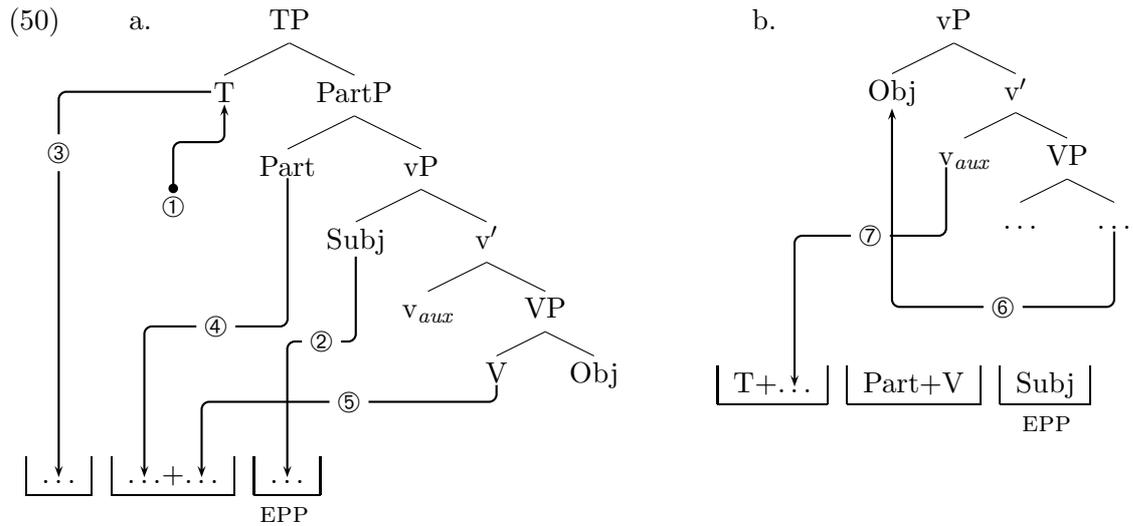
The question I want to address now is how (48-b) can be accounted for under the present assumptions. To this end, I adapt Holmberg’s (1999) assumption that topical-

²⁴Assuming that the auxiliary verb forms its own projection in between vP and VP is also problematic. Either the lexical verb moves to v (as is usually assumed). Then one falsely expects the participle to precede the auxiliary in embedded clauses in MSc (which lack v-to-T movement). Or the auxiliary moves to v. In this case, it may be assumed to excorporate when moving to T (stranding v), thereby avoiding an equidistance effect. However, then a fourth verbal head in between the projection of the auxiliary and the lexical VP is needed in order to provide a landing site for V to move to (necessary to derive the right word order in double object constructions, see section 3.1, chapter 3).

ization in (48-b) affects the bare verb. Holmberg (1999) motivates this by pointing out that topicalization of a participle that unambiguously is a phrasal remnant leads to ungrammaticality in Swedish (49-b) (but see Engels and Vikner 2014 for an explanation of (49-b) within a remnant movement analysis).

- (49) a. [Hört henne hålla föredrag] har jag inte *t*.
 heard her give talk have I not
 "I didn't hear her give a talk."
 b. *[Hört *t* hålla föredrag] har jag henne inte *t*.
 heard give talk have I her not

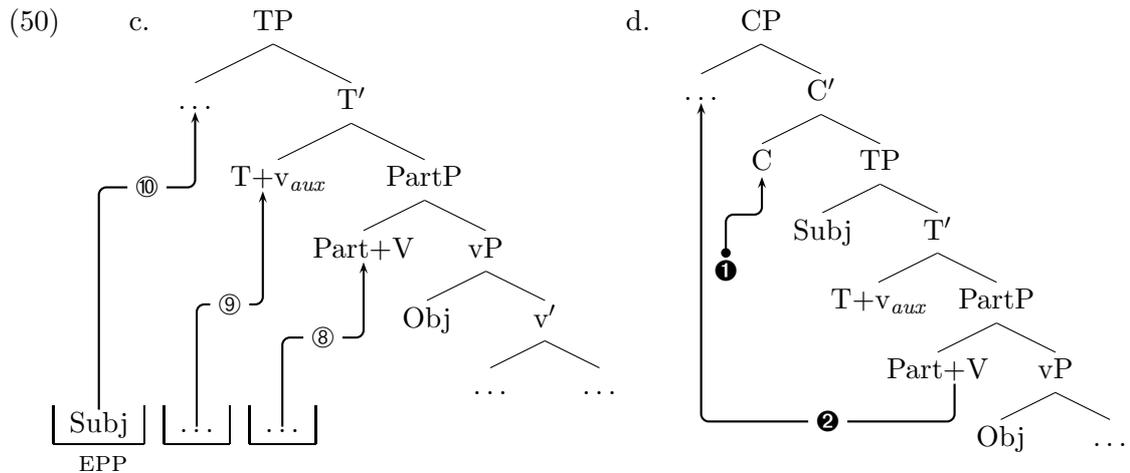
Provided that V-fronting in (48-b) involves movement of the bare verb, it suffices to make the additional stipulation that such V-fronting may proceed via the Part-head, just as verb movement to C was assumed to pass via T. Then, the grammaticality of (48-b) follows. The reason, of course, is that under such a derivation, T and Part are both temporarily removed due to head movement (steps ③ and ④ in (50-a)). The consequence is that both TP and PartP vanish, and therefore OS can apply cyclically (and, in effect, after the subject has been attracted), see step ⑥ in (50-b).²⁵



Later, PartP and TP are restored by remerging the complex heads T+V_{aux} and Part+V, see steps ⑧ and ⑨, and subject raising is completed (step ⑩). Finally, C is merged and attracts the participle to SpecC (steps ① and ② in (51-d)). T-to-C movement of the auxiliary is ignored in (51) for expository reasons.

²⁵V-to-v movement and subsequent excorporation (see footnote 3, section 4.1.2) are ignored in (50) for reasons of perspicuity.

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To summarize, OS in the context of verb fronting may follow in the present theory if such fronting involves movement of the bare verb, first to Part and from there to SpecC.

4.3.3. Loose ends

Holmberg (1986; 1999) identifies three other contexts that he assumes to also fall under HG: verb-particle constructions, P-stranding constructions, and double object constructions. Relevant examples for OS in these contexts are given in (51-a-c), respectively (taken from Holmberg 1999). In all constructions, the shifted object must cross overt material, the particle, the preposition, and the indirect object, respectively. This is incompatible with Holmberg's (1999) PF-account of HG and is therefore expected to lead to ungrammaticality (see section 4.3.2).

- (51) a. *Dom kastade mej inte ut *t*.
 they threw me not out
 "They didn't throw me out."
 b. *Jag talade henne inte med *t*.
 I spoke her not with
 "I did not speak with her."
 c. *Jag gav den inte Elsa *t*.
 I gave it not Elsa
 "I didn't give it to Elsa."

Since none of (51-a-c) falls under the account of HG presented in here, some comments are in order. (51-c) is addressed in section 6.5.1. There, I suggest that it is blocked by the MLC (following Vikner 1989, Collins and Thráinsson 1996, and Collins 1997).

I will not offer a detailed explanation of (51-b). It seems plausible, though, that the impossibility to subject the complement of a preposition to OS is tied to the fact that the object receives case from the preposition. For some reason then, OS (and A-movement in general) is only possible if the moving element has not been assigned case (cf. Bobaljik 2002: 233, footnote 32).

Finally, as for (51-a), I follow Bobaljik (2002: 233-244) in assuming that its ungrammaticality should be treated in terms of an independent locality constraint on A-movement. The argument put forward by Bobaljik (2002) is that subject raising of complements of passivized particle verbs in Swedish, where the object obligatorily follows the particle, is blocked in exactly the same way as OS of the complement of (non-passivized) particle verbs (see Svenonius 1996). This is illustrated in (53-a). In contrast, in Norwegian and Danish, where the object may or must precede the particle, both OS and passivization are possible (the Danish example (52-b) is taken from Svenonius 1996: 19). Since the ungrammaticality of (52-a) is not covered by Holmberg's (1999) account of HG, Bobaljik (2002) concludes that some other principle must be invoked anyway.²⁶

- (52) a.  *Skräpet måste bli kastat ut *t*.
 the.scrap must be thrown out
 “The scrap had to be thrown out.”
 b. Hunden blev smedet *t* ud.
 the.dog was thrown out
 “The dog was thrown out.”

To summarize, an non-monotonic account of HG is possible, but it requires that certain cases of illicit object movement that were originally subsumed under HG by Holmberg (1986; 1999) receive independent explanations. Following Bobaljik (2002), I assume that such explanations are indeed available.

4.4. Object shift in Belfast English

I now turn to OS as it shows up in imperatives in Belfast English. I claim that one can make a point that Vikner's (1989) puzzle shows up in this language, too. The solution that I propose is, of course, one in terms of a non-monotonic derivation. Similar to OS in Scandinavian languages, the landing position of OS relative to the subject is often masked by subsequent subject raising. But this is not always the case, which allows one to make an argument that OS lands in a position above the subject, creating the configuration characteristic for Vikner's (1989) puzzle.

Let me begin with reporting on some observations by Henry (1995) on imperatives in Belfast English. Imperatives in Belfast English involve movement of the verb to the clause initial position, presumably C. Interestingly, in exactly this verb movement context Belfast English exhibits OS of weak pronouns to the left of the subject. Such OS, at first sight, appears to be optional, see (53-a,b), taken from Henry (1995: 57).

- (53) a. Hand you me that parcel.
 b. Hand me you *t* that parcel.

²⁶But see Engels and Vikner (2014) for a uniform explanation of (51-a) and (52-a). Like Fox and Pesetsky (2005) and Broekhuis (2008: 190-199), Engels and Vikner (2014) offer an analysis of HG that relies on some principle of order preservation (cf. also Holmberg 1999). The assumptions these approaches make differ too much from the present ones to allow for a detailed comparison.

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When one considers the relative ordering of weak pronouns and adverbs in imperatives, the picture changes somewhat. The contrast between (54-a,b) (from Henry 1995: 58) not only suggests that a weak pronoun in imperatives can precede an adverb, suggesting that it has undergone OS to an outer Specv, but also that OS of weak pronouns to this position is actually obligatory in Belfast English (as it is in Scandinavian languages). Moreover, as the comparison between (54-b,c) shows, the subject can precede or follow the adverb.

- (54) a. *Make you always them a cup of tea.
b. Make you them always *t* a cup of tea.
c. Make them always you *t* a cup of tea.

Variability of the positioning of adverbs and the subject also shows up in contexts without OS, see the examples in (55-a-d) (Henry 1995: 57).

- (55) a. Remember you always your homework.
b. Remember always you your homework.
c. Write you carefully that letter.
d. Write carefully you that letter.

While, in principle, this could be interpreted as allowing for free ordering of subject and adverbs within the specifier domain of vP, there is an alternative, which is motivated by the fact that adverbs and shifted objects must show parallel relative order with respect to the subject. As the contrast between (56-a) and (56-b) suggests, if the subject precedes the adverb, then it must also precede the shifted object (see Henry 1995: 74).

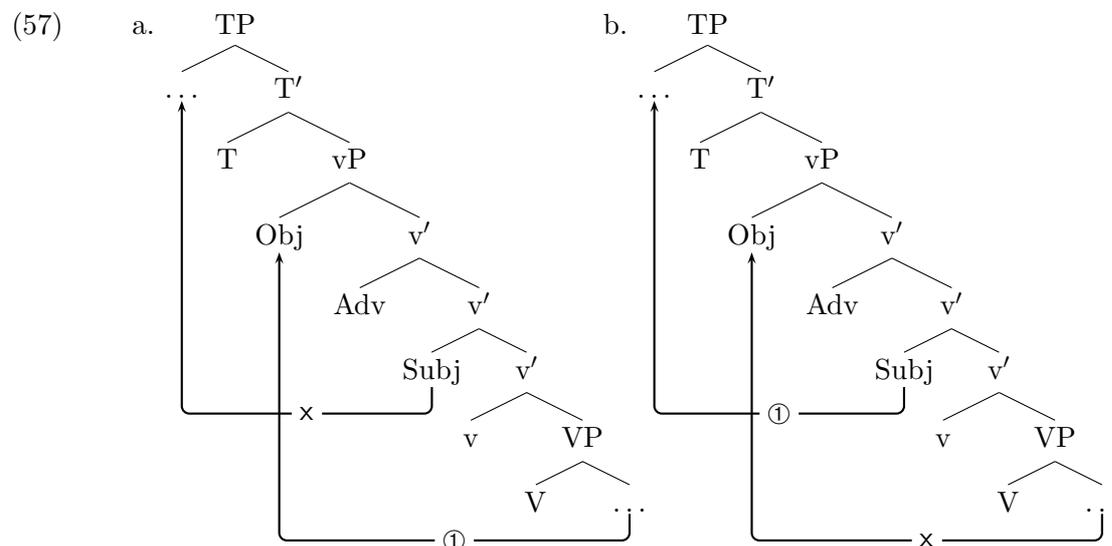
- (56) a. *Tell them you always *t* the truth.
b. Tell you them always *t* the truth.
c. Tell them always you *t* the truth.

The alternative interpretation that automatically accounts for the parallel relative order of adverbs and shifted objects with respect to the subject is the following. First, OS of weak pronouns in imperatives in Belfast English targets the outermost Specv position (above adverb and subject), just as was assumed to be the case in Spanish, French, and Scandinavian in sections 4.1, 4.2, and 4.3. Second, the subject, for some reason, must be merged in a specifier below the vP-adverb *always*. And finally, subject raising to SpecT applies optionally in imperatives (this is also the interpretation in Henry 1995: 75).

The above assumptions allow to derive the pattern in (53)–(56). In particular (54-a) is ungrammatical because obligatory OS of the weak pronoun has not applied. And (56-a) is ungrammatical because there is no way the subject could possibly show up in between a shifted pronoun and the adverb *always*: either the subject follows *always* (it remains in-situ as in (56-c)), or it precedes the adverb (it undergoes raising to SpecT), but then it must also precede the object, as in (56-b).

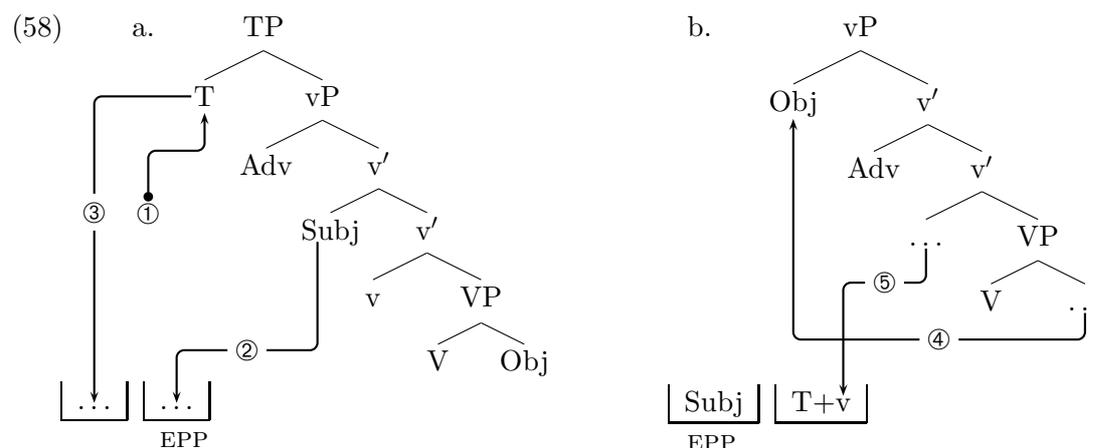
Now, if OS in Belfast English obligatorily targets a position above the base position of the subject as suggested particularly by the facts in (54-c) and (56-c), then Vikner's (1989) problem also emerges for OS in Belfast English: either the MLC should block

raising of the subject to SpecT due to intervention of the shifted object (57-a), or the SCC should block OS from applying after subject raising (57-b).²⁷



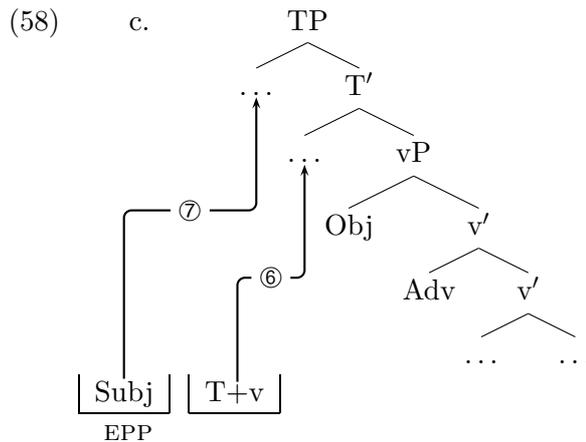
As in Scandinavian (section 4.2.3), the solution to the problem is a non-monotonic derivation, presupposing that OS can be procrastinated in favor of Merge of the T-head. And just as what was the case for MSc, I assume that V-to-C in imperatives in Belfast English proceeds via T. This assumption is necessary: there must be head movement to T to trigger temporary removal of the T-head (and thus, indirectly, removal of the TP).

The derivation in (58-a-c) proceeds exactly as the one for OS in Scandinavian given in (31) (see section 4.2.3 above). T is merged and attracts the subject to the WSP before it is removed itself (steps ①–③ in (58-a)). After this, removal of T cuts the tree down to the size of a vP. As a consequence, OS can apply cyclically in step ④, that is, in accordance with the SCC. Next, v-to-T movement applies, which restores the TP-level (see steps ⑤, ⑥). And finally, the subject is remerged in SpecT (step ⑦ in (58-c)).



²⁷That the shifted object does not undergo cliticization, thereby paving the way for subject raising (cf. section 6.1.3), is argued for in Henry (1995: 71-72).

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To briefly summarize, it appears plausible that OS in Belfast English lands in an outer Specv, above the subject. This creates another instance of Vikner’s (1989) puzzle. Since OS only shows up in imperatives in Belfast English, which involve V-to-C movement, the familiar non-monotonic account of the puzzle becomes possible.

4.5. Object shift in linker constructions

I close this chapter with a discussion of OS in linker constructions, as it has been argued by Baker and Collins (2006) to arise in some African languages.

4.5.1. Linkers in Kinande

Baker and Collins (2006) report that Kinande (Bantu) has a functional head in double object constructions that shows up in between vP and VP (or RP). They call this head Lk (mnemonic for “linker”). According to Baker and Collins (2006), one of the purposes of the Lk-head is to assign case to the lower of two objects, the higher object being case marked by v. Lk bears an EPP-feature that attracts an object to SpecLk. The object that undergoes raising also agrees with the Lk-head in noun-class. This is shown for a direct object and a nominal locative object in (59-a), and for a double object construction with beneficiary object in (59-b). In both (59-a,b), it is the higher of two object that raises.

- (59) a. Mo-n-a-hir-ire okugulu k'- t omo-kihuna.
 AFF-1SS-T-put-EXT leg.15 LK.15- LOC.18-hole.7
 “I put the leg in the hole.”
- b. Kambale a-seng-er-a omwami y'- t ehilanga.
 Kambale 1S/T-pack-APPL-FV chief.1 LK.1- peanuts.19.
 “Kambale packed peanuts for the chief.”

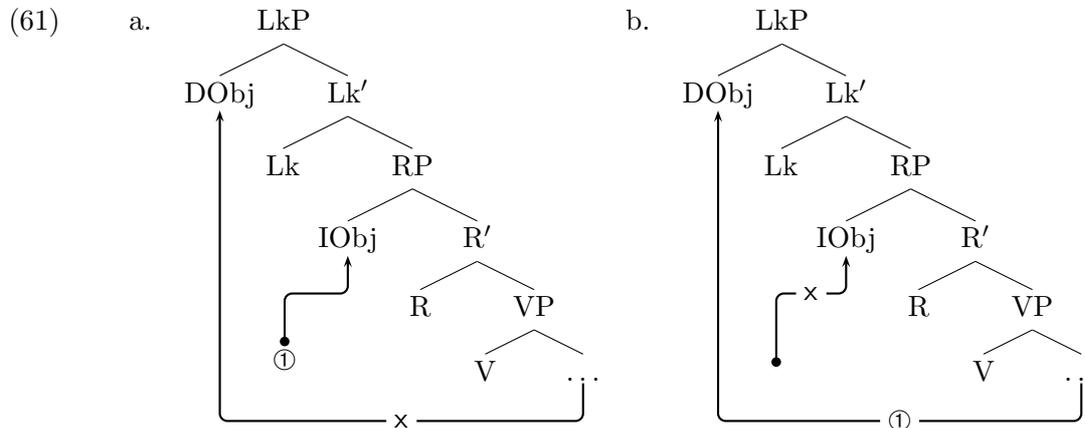
The present point of interest is that, despite the fact that the internal structure of vP is strictly hierarchical in Kinande (as Baker and Collins 2006 illustrate), the lower object may shift to SpecLk, as well. (60-a,b) are completely parallel to (59-a,b), the only difference being that in (60-a,b) the lower of the two objects undergoes raising to the specifier of Lk.

4.5. Object shift in linker constructions

- (60) a. Mo-n-a-hir-ire omo-kihuna m'- okugulu *t*.
 AFF-1SS-T-put-EXT LOC.18-hole.7 LK.18- leg.15
 “I put the leg in the hole.”
- b. Kambale a-sen-er-a ehilanga hy'- omwami *t*.
 Kambale 1S/T-pack-APPL-FV peanuts.19 LK.19- chief.1
 “Kambale packed peanuts for the chief.”

As can be seen in (59) and (60), exactly one of the objects precedes the Lk-head. Placing both objects before or after the Lk-head leads to ungrammaticality.

As Baker and Collins (2006) note, the freedom to shift either object is surprising given the MLC. In other words, examples (60-a,b) should be blocked because OS crosses the higher object. This is shown in (61-a) for (60-b). Merging the higher object after application of OS violates the SCC, (61-b). The intervener in (61-a) is not even defective since the higher object may also move to SpecLk, witness (60-a).



Similarly, if Agree (and case assignment) does not operate in Spec-head configurations but only under c-command, then the MLC should block agreement between Lk and the direct object in (60-a,b).

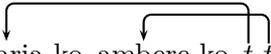
That the possibility to raise the lower of two objects is unexpected is also motivated on empirical grounds. There are some languages with a linker system that is very similar to the one active in Kinande. However, in contrast to Kinande, these languages behave as expected (given the MLC) insofar as they do not allow to shift the lower object. One of these is the Khoisan language \neq Hoan. The linker in \neq Hoan is realized by the invariant element *ki*. To illustrate, consider the contrast in (62-a,b) (taken from Baker and Collins 2006: 331).

- (62) a. Ma 'a cu Jefe ki *t* setinkane.
 1SG PROG give Jeff LK hand-harp
 “I am giving Jeff the hand-harp.”
- b. *Ma 'a cu setinkane ki Jefe *t*.
 1SG PROG give hand-harp LK Jeff

4. Object shift

(62-b), which involves OS of the lower object to SpecLk, across the higher object, is ungrammatical. This is expected if OS in linker-constructions is A-movement, as assumed by Baker and Collins (2006), and if both objects are appropriate targets for the probe triggering this kind of movement.

In order to explain why, against expectation, OS in Kinande can affect the lower of two objects, Baker and Collins (2006: 333-334) suggest that the MLC can be parameterized, assuming that the MLC is not active (“switched off”) in Kinande.²⁸ There is, however, at least one reason to believe that this might not be the correct conclusion. As discussed in Baker and Collins (2006: 342), the languages ≠Hoan and Ju|’hoansi (also Khoisan), which involve invariant, non-agreeing linkers, exhibit two Lk-heads if there are three objects present. Baker and Collins (2006) analyze this as parallel movement of the higher two objects to specifiers of adjacent linker projections above VP. This is illustrated in (63-a,b) for Ju|’hoansi, where the locative elements *tzi* “outside” and *tju|ho* “in the village” behave like objects of the verb.

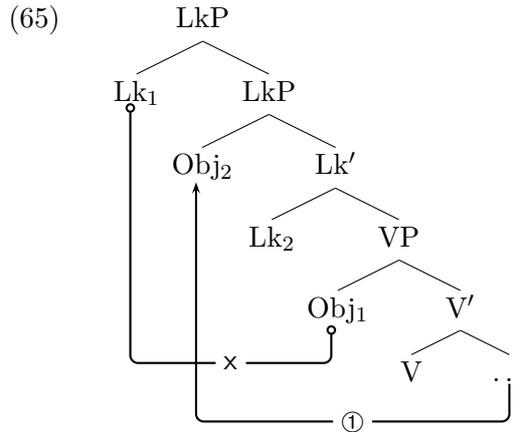
- (63) a.  Mi |’an Maria ko ambere ko t t tzi.
 I give Maria LK bucket LK outside
 “I gave Maria the bucket outside.”
 b. Mi ||ohm-|xoa |’ai ko da’a ko t t tju|ho.
 I chop-with axe LK wood LK village
 “I chopped wood with an axe in the village.”

Multiple linkers are, however, impossible in Kinande. Recall that in Kinande, in contrast to ≠Hoan and Ju|’hoansi, the linker agrees with the object that ends up in its specifier. These facts are illustrated in (64-a,b).

- (64) a. N-a-hir-ir-a omukali y’ ehilanga (*hy’/*y) oko-mesa.
 1S-T-put-APPL-FV woman.1 LK.1 peanuts.19 LK.19/1 LOC.17-table
 “I put the peanuts on the table for the woman.”
 b. Kambale a-seny-er-a olukwi l’- omo-mbasa (*m’/?!l’)
 Kambale 1S/T-chop-APPL-FV wood.11 LK.11 LOC.18-axe LK.18/11
 omw-irima.
 LOC.18-field
 “Kambale chopped the wood with an axe in the field.”

Accordingly, the explanation for the ungrammaticality of multiple linkers in Kinande that Baker and Collins (2006) suggest is that the higher linker Lk₁ cannot agree with the higher object because this relation would have to cross the lower, intervening Lk₂-head, which also bears the relevant agreement features:

²⁸Schneider-Zioga (2015) analyzes the linker as a copula, assimilating OS crossing another object in Kinande to (nominal) predicate inversion in copula constructions, as it occurs in some languages. If correct, this analysis shifts the problem, now raising the question as to why predicate inversion is not blocked by the interaction of MLC and SCC. See section 5.3 for an analysis of predicate inversion.



On the face of it, (65) is an MLC-effect. But as Baker and Collins (2006: 345) note, the impossibility of Agree in (65) cannot be due to the MLC if the MLC is “switched off” in Kinande. At this point, they seem to assume that there is a separate locality condition on Agree that accounts for the impossibility of multiple linkers in Kinande.

In section 4.5.2, I propose an analysis that does without such an additional locality condition. Concretely, I assume that the MLC is invariantly active, also in Kinande.²⁹ This explains the impossibility of multiple linkers in an agreeing language like Kinande without further ado.³⁰ I suggest that OS of a lower object across a higher one in Kinande (“crossing OS”) comes about by a non-monotonic derivation, which, by assumption, is not available in \neq Hoan.

Before I come to this, let me briefly point out that even the derivation of examples like (59-a), (59-b), or (62-a), where OS targets the higher of two objects, may be argued to motivate the use of an additional WSP, as was the case with object-agreement in Icelandic discussed in section 2.4.3. Namely, assuming that the linker cannot assign case to the lower object unless the higher object has moved to SpecLk, Lk must first attract the higher object. If the higher object were merged to SpecLk right away, though, then the SCC (in its strict definition (1), section 2.1) would prevent case assignment by Lk to the lower object. This problem can be avoided if the higher object is stored in another WSP, awaiting remerge to SpecLk at a later step, while Lk assigns case to the lower object.

4.5.2. A non-monotonic analysis

A crucial precondition for a non-monotonic analysis of examples such as (60-a) and (60-b) is the existence of a trigger for removing the linker head. There is no direct evidence from Kinande that the Lk-head is involved in head-movement. In fact, the lexical verb

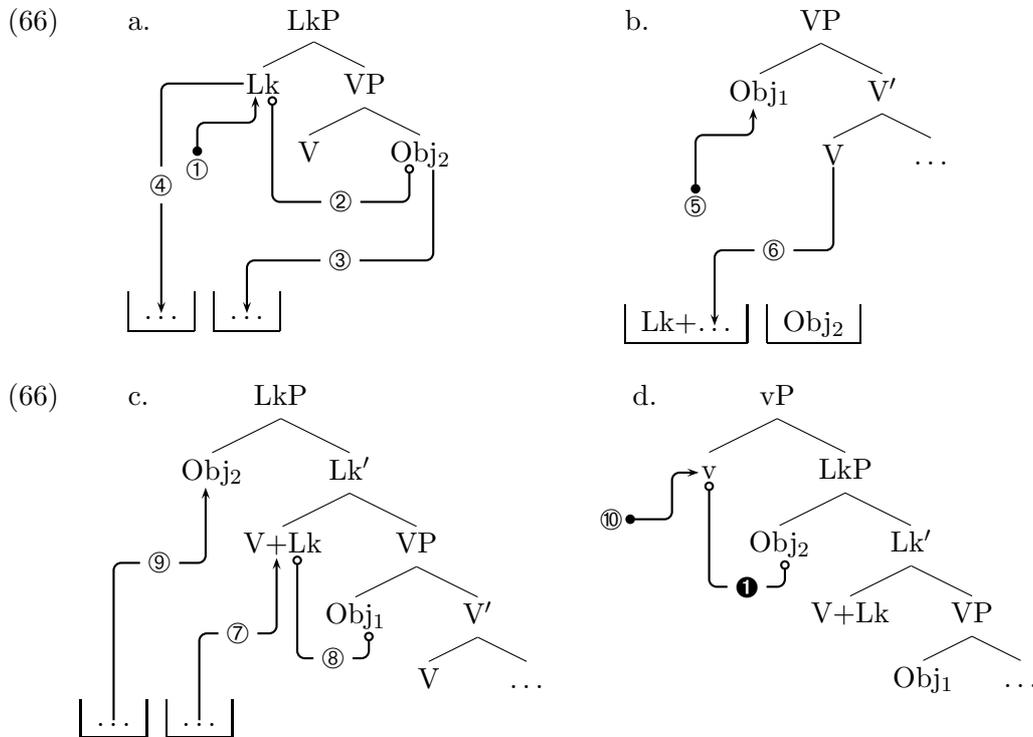
²⁹Baker and Collins (2006: 333) do not seem to be entirely happy with their proposal to parameterize the MLC in this way, noting that “the MLC parameter [...] is quite daring”.

³⁰Another way to account for the difference between Kinande and \neq Hoan or Ju|’hoansi with respect to the availability of multiple linkers might be to assume that every object is introduced by a separate VP-shell, and that \neq Hoan and Ju|’hoansi (but not Kinande) allow for one LkP immediately above every VP.

4. Object shift

that moves to *v* seems to leave the Lk-head untouched. Accordingly, Baker and Collins (2006: 313) assume that the verb skips the Lk-head. But there seems to be no problem arising from an excorporation analysis either. Accordingly, I assume that *V*, on its way to *v*, makes an intermediate stop at Lk. Later, *V* excorporates from Lk and moves to *v*. This is sufficient for a non-monotonic derivation to apply.

The derivation of (60-a) is given in (66-a-c). The idea is that Merge of the higher object is procrastinated. It is introduced (see step ⑤ in (66-b)) only after the lower object has already been attracted by the linker (step ③ in (66-a)), and after the Lk-projection has been removed due to head movement (initiated by step ④ in (66-a)). After case assignment by Lk to the higher object (step ⑧), the lower, second object reaches SpecLk by step ⑨. In the next steps, *v* is merged and assigns case to the higher object (steps ⑩ and ① in (66-d)). Finally, not shown in (66), *V* excorporates from Lk and moves to *v*.



The derivation not only accounts for why movement to SpecLk may affect the lower object but also why, in this case (as opposed to (59-a)), agreement with Lk is with the lower object, see step ② in (66-a).

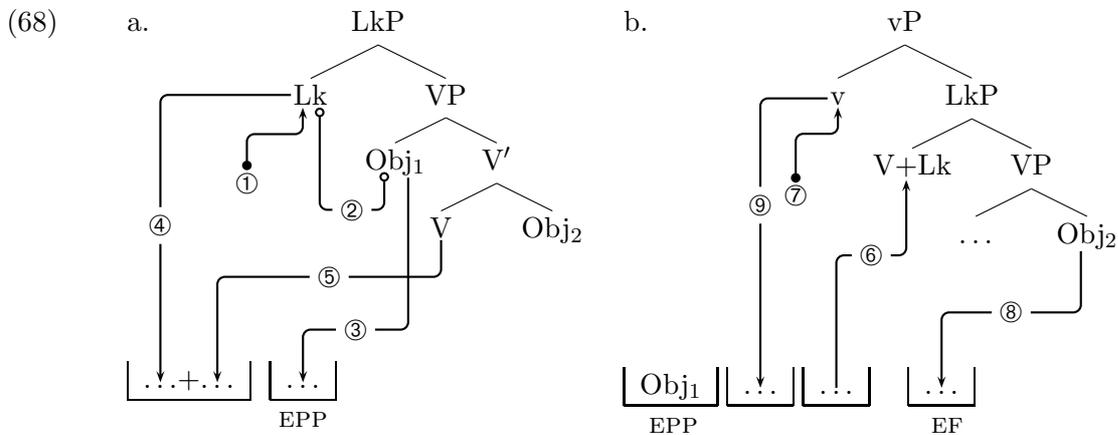
Baker and Collins (2006: 336-337) also note that it is possible in Kinande for a low object to undergo passive raising to the subject position across a higher object in SpecLk (67-a). This, they take as further evidence for the idea that the MLC is not active in Kinande.³¹

³¹Unclear is why Lk is optional or even ill-formed in (67) (Baker and Collins 2006: 336, footnote 21).

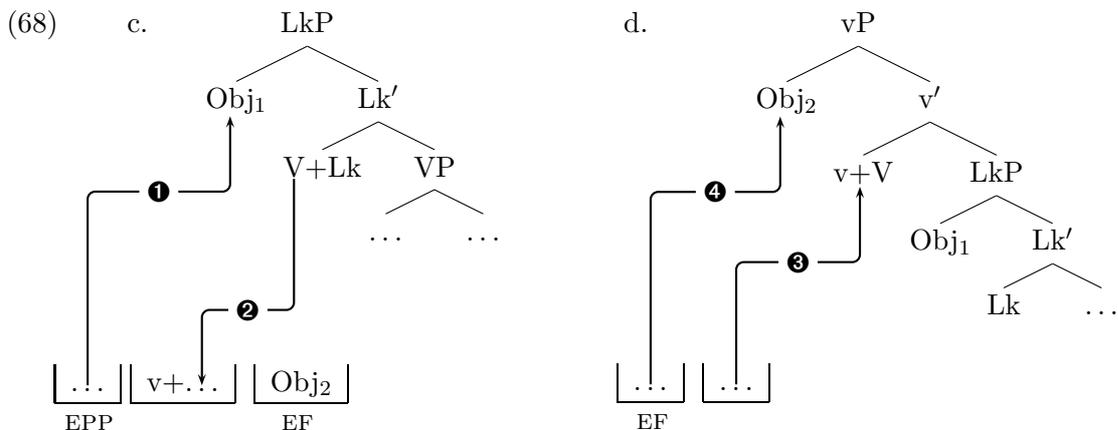
4.5. Object shift in linker constructions

- (67) a. Olukwi lw-a-seny-er-aw-a omwami (??y') t t omombasa.
 wood.11 11S-T-chop-APPL-PASS-FV chief.1 LK.1 LOC.18-axe
 “The wood was chopped for the chief with an axe.”
- b. Omwami a-seny-er-aw-a olukwi (l') t t omombasa.
 chief.1 1S/T-chop-APPL-PASS-FV wood.11 LK.11 LOC.18-axe
 “The chief was chopped wood with an axe.”

Under present assumptions, this fact can be accounted for by the following non-monotonic derivation. When the linker is merged (step ① in (68-a)), it agrees with the higher object, and attracts it to the WSP (steps ② and ③). Afterwards, Lk is removed, initiating V-to-Lk movement (steps ④ and ⑤). Little v is merged and attracts the lower object by means of an EF (steps ⑦ and ⑧ in (68-b)). Then, the removal of v initiates V-to-v movement (step ⑨ in (68-b)).



With the vP gone in (68-c), the higher object can now be merged in SpecLk, satisfying the EPP (step ①). V excorporates and forms a complex head with v (step ②). Finally, the v+V complex is remerged (step ③ in (68-d)) and the lower object is remerged to Specv (step ④). From there, it can undergo further movement to SpecT.



To conclude, the stipulation that the verb moves to the Lk-head combined with the

4. Object shift

idea that Merge of the higher Object may be procrastinated allows for a derivation that raises the lower object across the higher one in different contexts.³² If there is no verb movement to the linker position in \neq Hoan, then it follows why this language does not allow for OS of the lower object to SpecLk or passivization of the lower object to SpecT.

Note that, in principle, it is possible for a non-monotonic derivation to bypass the intervention effect triggered by the lower linker Lk₁ that blocks Agree between the higher Lk₂ and the higher object in (65). However, such a derivation requires that Lk₂ be first merged with VP, then be removed, and, at a later step, be remerged with the Projection of Lk₂. I assume here that such a derivation is prohibited by the following constraint:

(69) *Head Promiscuity Condition:*

A removed head H can only remerge with the same category that H was merged with for the first time.

Ideally, the Head Promiscuity Condition (HPC) is derivable from deeper principles. I leave open here whether this is possible. The HPC will also prove useful in chapter 7.

4.5.3. A complication: multiple linkers in \neq Hoan

In contrast to Kinande, \neq Hoan does not allow for OS of the lower object across the higher object. As mentioned above, I assume that this is due to the lack of V-to-Lk movement in \neq Hoan.³³ Yet, it is possible in \neq Hoan to move both objects in parallel, albeit to specifiers of different linkers. This poses the following problem for the present account. Since the lower object must, by the assumptions in Baker and Collins (2006), move to the lower SpecLk, it crosses the higher object. It seems then, that the higher object must be removed by a non-monotonic derivation. This, however, would require head-movement to Lk, which is exactly what was assumed to be impossible in \neq Hoan, in order to account for its lack of crossing OS.

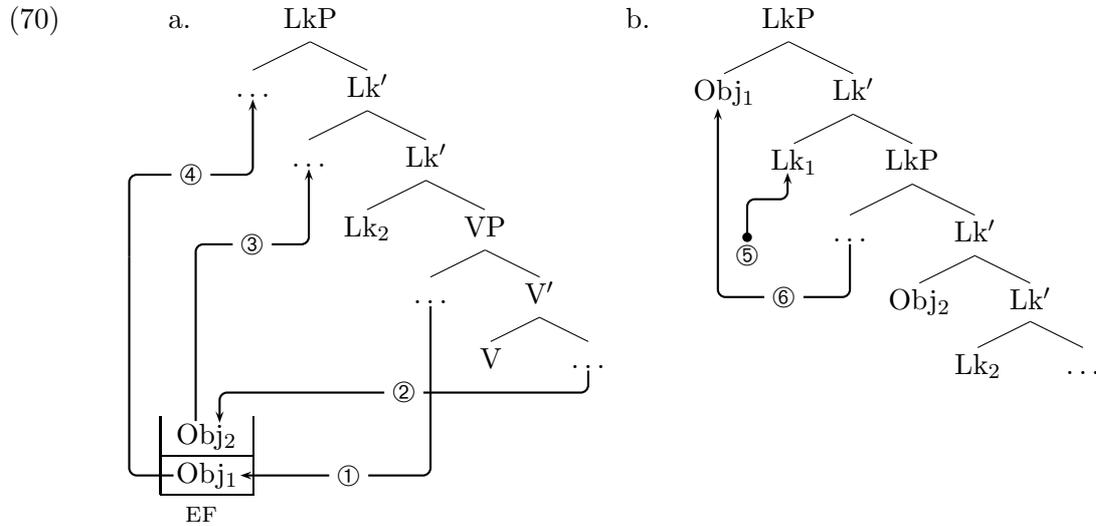
Note that order preserving movement of both objects cannot be explained by movement via a stack alone, as was suggested in section 3.6 for other instances of order preserving movement, because the objects in \neq Hoan do not end up in the same specifier domain, as witnessed by the appearance of multiple linkers. However, it turns out that the order preserving derivation from section 3.6 can be put to use after all in order to explain parallel movement of both objects in \neq Hoan. To this end, suppose the head of a Lk-projection that is selected by another Lk-projection may be provided with an EF.³⁴ This EF then attracts both objects in parallel to the specifier domain of the lower LkP (see steps ①–④ in (70-a)). Once the higher linker Lk₁ is merged (step ⑤ in (70-b)), the object in the outer specifier of the lower LkP can undergo further movement to the

³²Procrastination of Merge of the higher object may be possible because the head introducing this object (be it V or R) does not assign case (as is suggested by the obligatoriness of Lk). See footnote 8 of chapter 5, and section 7.1.2 for related remarks.

³³One cannot correlate the possibility of such crossing OS with the presence of agreeing linkers, as in Kinande, as opposed to non-agreeing linkers, as in \neq Hoan. Ju|'hoansi is a non-agreeing language, like \neq Hoan, but it allows for crossing OS, like Kinande.

³⁴If EFs show up on phase heads exclusively, this would mean that LkP is a phase in \neq Hoan.

specifier of the higher LkP (step ⑥).



I am assuming here that the EPP on Lk_2 can be checked by the lower object “parasitically”, so to speak. That is, although the actual attraction of the lower object in (70) to $SpecLk_2$ is performed by the EF on Lk_2 , this also satisfies the EPP on Lk_2 (cf. also section 7.1.3). The derivation in (70-a,b) does not require the removal of any head and therefore does not undermine the account for why \neq Hoan does not allow for OS across a higher object.

4.6. Summary

To summarize, in sections 4.1–4.4 I discussed constructions where OS lands in a *Specv* position above the subject, and where, at the same time, a higher head (T or causative *v*) must establish a relation with the subject (agreement, case assignment, or attraction to *SpecT*). In principle, the MLC is expected to block this relation as it crosses the shifted object. I suggested to approach the problem in terms of a non-monotonic derivation. Such a derivation goes hand in hand with head-movement. As illustrated, this explains a variety of phenomena: subject-verb agreement in Spanish VOS constructions (and why it is blocked with compound tenses); case assignment and clitic climbing in French causatives; subject raising in the context of OS in Scandinavian (Vikner’s 1989 puzzle), including an account of Holmberg’s (1986) generalization. Section 4.5 dealt with OS that crosses another object in linker constructions in Kinande. The non-monotonic analysis that was proposed lacks the independent support in terms of overt head-movement that was present in the analyses of sections 4.1–4.4. Its main advantage is that it allows to maintain the MLC and the SCC in their strongest form. Notably, the theory of non-monotonic derivations achieves all this without any auxiliary concept such as the notion of equidistance.

5. Inversion

In this section, I discuss three constructions that involve A-movement of a category across the subject to SpecT: quotative inversion in English, stylistic inversion in French, and predicate inversion (in English and some other languages). Such constructions pose a problem for the MLC and the SCC if it is plausible that the ultimate step of such raising to SpecT starts from a position that is below the subject. In other words, if the moved category makes an intermediate stop at the vP-edge, then it lands in an inner Specv below the subject and not in an outer Specv. I suggest that there is indeed evidence for intermediate movement to an inner specifier (what concerns quotative inversion and stylistic inversion). Consequently, the familiar theoretical problem arises. I propose that it can be solved by analyzing these three constructions in terms of a non-monotonic derivation. As a side effect, such an analysis explains why they are accompanied by subject-verb inversion, i.e., head-movement.

5.1. Quotative inversion in English

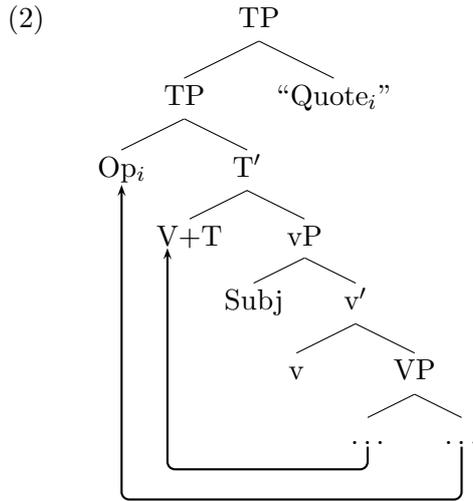
English verbs of saying with direct speech complements optionally allow a construction in which subject and verb are inverted (Collins and Branigan 1997, Collins 1997: chapter 3, Alexiadou and Anagnostopoulou 2001). This construction is known under the name “quotative inversion” (henceforth QI). The examples in (1-a,b) illustrate verbs of saying with the canonic, non-inverted word order. In contrast, the examples in (1-c,d) show the same examples except that, there, subject and verb have been inverted, resulting in QI.

- (1) a. “I finally quit this job,” John murmured happily.
- b. “They’ll never make it!”, John cried to Mary.
- c. “I finally quit this job,” murmured John happily.
- d. “They’ll never make it!” cried John to Mary.

In what follows, I sketch the analysis of QI given in Collins (1997: chapter 3). The proposal in terms of a non-monotonic derivation that will be presented in section 5.1.1 below can be considered to be a modification of Collins’s (1997) analysis.

To put it briefly, Collins’s (1997) analysis of examples such as (1-c,d) looks as in (2). In (2), the subject remains in Specv while the verb moves to T. This is what brings about subject-verb inversion in QI. The subject can remain in Specv because the EPP feature on T is checked by an phonetically empty operator (Op). This “quotative operator” is merged as the complement of the verb of saying. It moves via an outer Specv to SpecT. According to Collins (1997), movement of Op to the outer Specv applies in order for Op to check case. The overt quote, e.g., “I finally quit this job” in (1-c), is a parenthetical term that is associated with Op, the complement of the speech verb. Association between Op and the quote is indicated by coindexation in (2).

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As shown by (1-a,c) and (1-b,d), QI is optional. Collins (1997) analyzes this optionality as the freedom to check T's EPP by either the subject or by the quotative operator Op. Since Op is merged lower than the subject, this is allowed by the MLC only if both Op and the subject count as equidistant to T. Otherwise, Op in the outer Specv would prevent raising of the subject from the inner Specv, thereby making QI obligatory. Equidistance, in turn, is assumed by Collins (1997) to hold for categories contained in the same specifier domain. Since the quotative operator moves to an outer Specv in order to check case, subject and quotative operator do occupy the same specifier domain. Crucially, under this view equidistance is independent from the phenomenon of inversion, i.e., V-to-T movement (see Chomsky 1995, and section 2.3.3).

5.1.1. Towards a non-monotonic analysis

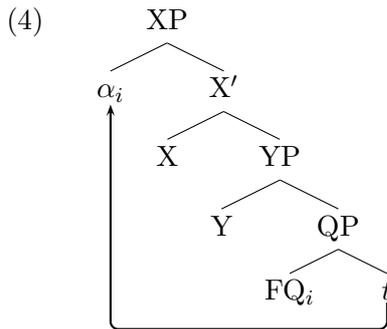
I begin by preparing the ground for a modification of Collins's (1997) analysis. The modified analysis will then derive inversion as a necessary ingredient of QI. Recall in this context that in Collins's (1997) analysis equidistance is not contingent on head-movement. Hence, inversion must be stipulated (see also footnote 1 below).

According to Collins (1997) the quotative operator always moves to Specv in order to check case. Assuming a theory where, in general, raising for case reasons does not exist because case assignment can proceed under c-command, this cannot be maintained. But even if one abandons the assumption that the operator raises to Specv in order to check its case, there is still reason to believe that the quotative operator moves to Specv. The point is that Op is supposed to check an EPP-feature on T in QI-contexts, i.e., it must move to SpecT. Thus, in order to become PIC-accessible for attraction by the T head, Op must first move to the edge domain of vP. Apart from this theory-internal motivation, there is also the following independent motivation for this assumption.

Collins and Branigan (1997) observe that QI is incompatible with the presence of a subject oriented FQ. This is illustrated by (3-c). In contrast, (3-a,b) are grammatical. (3-a) involves a FQ without QI. (3-b) involves QI, but the quantifier does not float (i.e., does not appear to the right of the nominal associated with it).

- (3) a. “We must do this again,” the guests all declared to Tony.
 b. “We must do this again,” declared all the guests to Tony.
 c. *“We must do this again,” declared the guests all to Tony.

The interpretation of (3-c) by Collins and Branigan (1997), which is adopted in Collins (1997), is based on Sportiche’s (1988) theory of FQs. According to this theory, a FQ and its antecedent α form a constituent FQ+ α (say a QP). This constituent is merged in the thematic position of the antecedent. If the FQ appears to the right of α , then this indicates that α has moved to the left, thereby stranding the FQ:

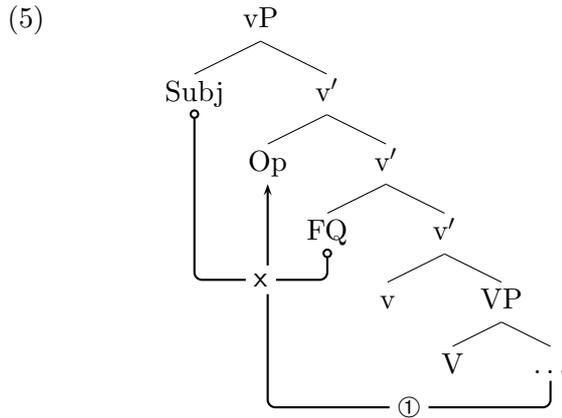


In other words, Collins and Branigan (1997) interpret the ungrammaticality of (3-c) as being the result of the impossibility of stranding the FQ in QI. This follows if the subject in QI cannot move, i.e., it must remain in Specv. (3-b) is grammatical despite the presence of a FQ because FQ and its antecedent still form a constituent.

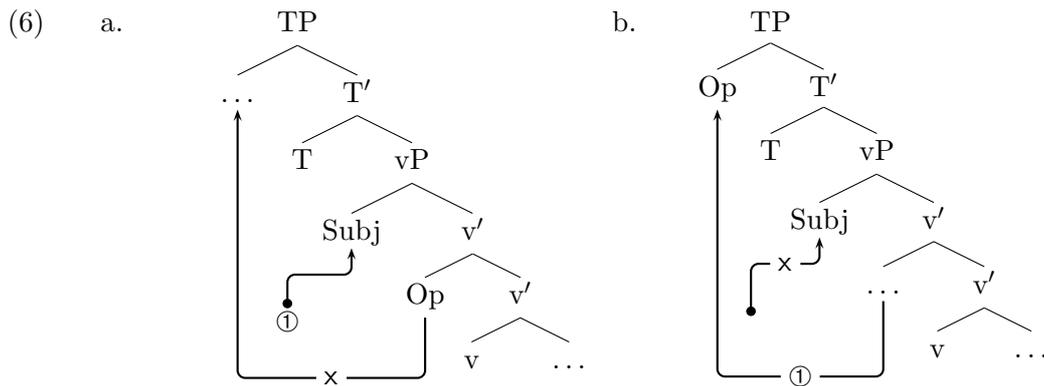
In chapter 4, I assumed that FQs are adverbs (see Bobaljik 1995*b*; 2003, and references therein), and that they are introduced in Specv, like manner adverbs are, too (see section 3.1). In particular, I proposed in section 4.2.4 that a FQ may be merged either above or below the subject. Suppose now that one wants to adopt the idea that FQs are adverbs also for English. Then the following complication arises with respect to the account of (3-c) put forward by Collins and Branigan (1997). For the case where the FQ is merged above the subject (in the outermost Specv), the explanation for the ungrammaticality of (3-c) suggested by Collins and Branigan (1997) carries over: Since the subject does not raise, it will never occur to the left of the FQ. However, for the case where the FQ is merged below the subject (in an inner Specv), one expects (3-c) to be derivable. Hence, an additional explanation for the ungrammaticality of (3-c) is called for.

To this end, I make the following proposal. The quotative operator is merged as the complement of the verb of saying. From there, it is supposed to move to SpecT. Due to the PIC, movement must proceed cyclically via Specv. In section 3.5, I introduced the assumption that such cyclic movement must pass via an intermediate specifier of vP that is located below the specifier position where the subject is merged but above the innermost Specv-positions occupied by adverbs. From this, it follows that the quotative operator Op merges above a FQ that is located as the innermost Specv. In this position, this is the idea, the presence of Op prevents the subject from associating with the FQ. This provides an alternative explanation for the ungrammaticality of (3-c). The relevant configuration illustrating intervention by the quotative operator is shown in (5).

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An important consequence of this analysis is the following. Assuming that the subject is also a relevant target of the EPP feature that is supposed to attract Op to SpecT, the subject, occupying an outer Specv, should block raising of the quotative operator, which occupies an inner Specv, due to the MLC, see (6-a). It does without saying that raising of the operator to SpecT followed by Merge of the subject to Specv violates the SCC. This is illustrated in (6-b).



The upshot is that the above reasoning motivates an analysis of QI in terms of a non-monotonic derivation, which, at the same time, explains why QI exhibits V-to-T movement even though, in general, English lacks this type of movement (see Emonds 1976, Pollock 1989).¹

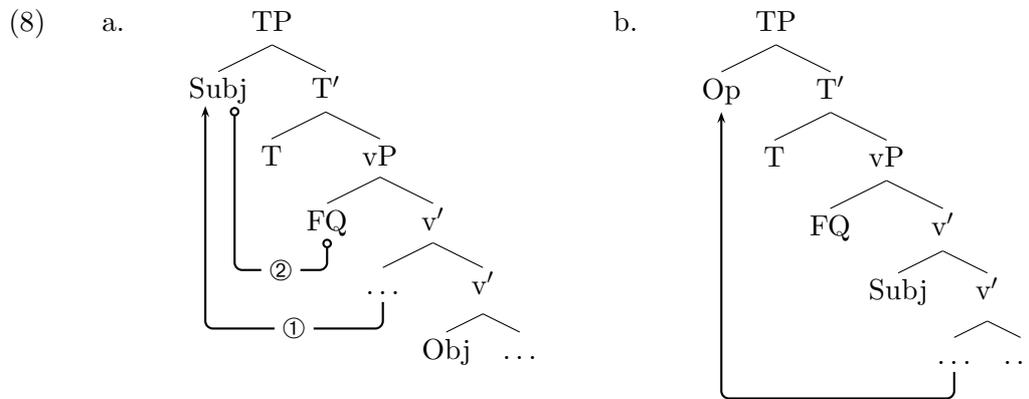
Before I turn to the analysis, I want to address an issue that arises in this context. Namely, given this proposal, one may wonder as to why “ordinary” \bar{A} -constructions in

¹Ultimately, the existence of a T-head in English that triggers movement of main verbs must be stipulated. Similarly, V-to-T movement is a stipulation in the account of Collins (1997) and in the account of Collins and Branigan (1997). Collins (1997: 41) assumes that “the EPP feature of T may enter into a checking relation with the quotative operator only if V[Quote] adjoins to T.” Collins and Branigan (1997) assume that the verb moves across the subject into the AgrO-projection because the quotative operator needs to check its case in SpecAgrO. This appears to derive V-to-T movement. Ultimately, however, verb movement remains a stipulation insofar as the assumption that the operator must check its case overtly does not follow from anything: other objects in English check their accusative case covertly (if case driven movement of the object exists at all).

English (such as interrogative or relative constructions) do not prevent a subject-oriented FQ, cf., for instance, the well-formedness of (7).

(7) [Which films] have the children_i [_{vP} t'_i all_i watched t]?

By assumption, cyclic *wh*-movement in (7) proceeds via an inner Spec_v (below the subject), too, and is thus expected to break the association chain between the subject and a FQ in the innermost Spec_v. The problem vanishes once one allows for FQs to be merged above the subject in English, a possibility that was already envisaged for Scandinavian in section 4.2.4. A subject oriented FQ then becomes possible when the subject raises to Spec_T, see (8-a).



Note that this does not undermine the explanation for the impossibility of subject oriented FQs in QI-contexts (recall (3-c) above) because in such contexts it is the quotative operator that raises to Spec_T, not the subject. Therefore, association between subject and FQ does not become possible, even if the FQ is merged in an outer Spec_v, see (8-b).²

To summarize, assuming that in QI it is the quotative operator Op that raises to Spec_T, and that this raising proceeds via an inner Spec_v (as required by the ISC, see (15), section 3.5), there arises the problem as to how such raising of Op may cross the subject in the outer Spec_v. The MLC should prevent this. The solution to this problem is presented in the following section.

5.1.2. Procrastinating Merge of the subject in QI

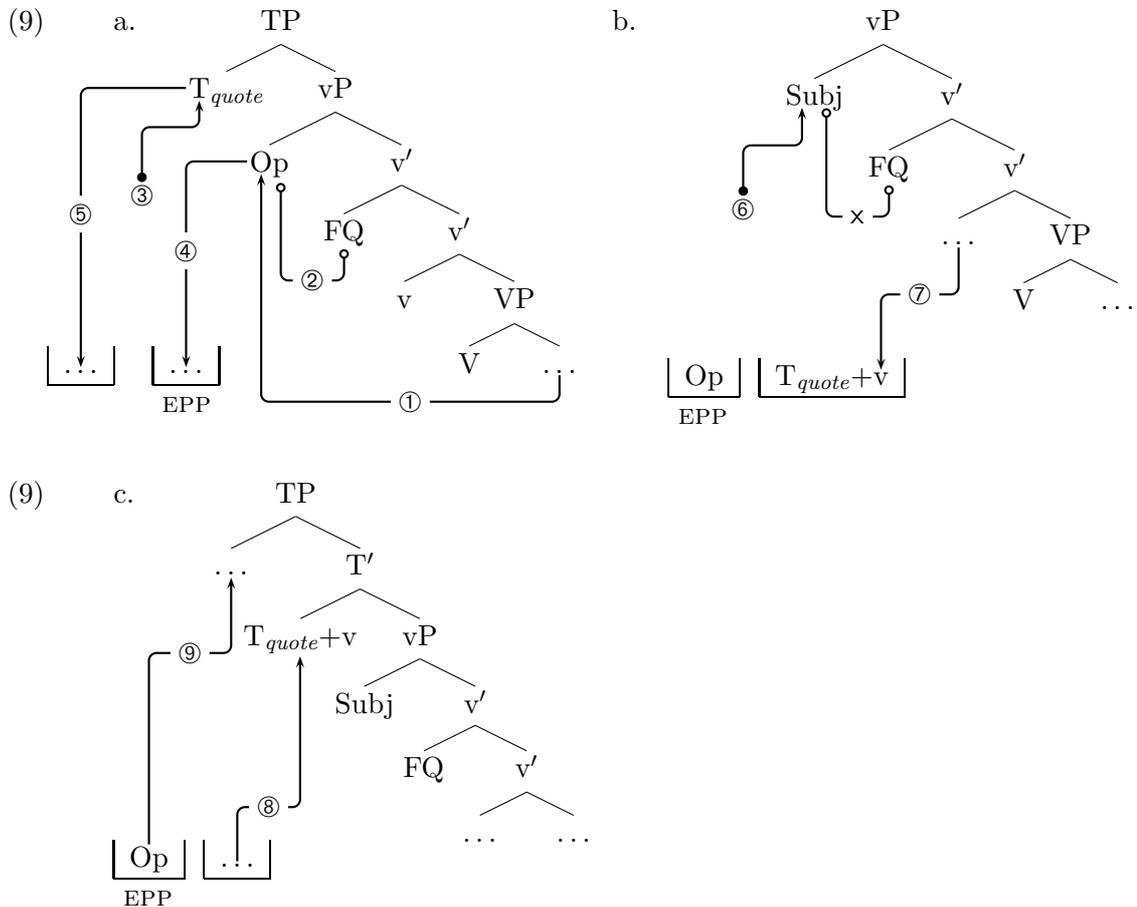
Suppose that alongside the standard T-head, there exists a special head T_{quote} in English, bearing EPP_{quote} . EPP_{quote} can only be satisfied by the quotative operator. Suppose further that T_{quote} triggers general V-to-T movement (in contrast to the standard T-head in English, which only attracts auxiliaries).³ Suppose further that although a subject cannot satisfy EPP_{quote} , it acts as a defective intervener for the attraction of Op by

²Recall that a FQ needs to be c-commanded by its antecedent, see section 4.2.2.

³Stipulating a special head T_{quote} may seem cumbersome. Note, however, that a similar stipulation is implicitly contained in the quote from Collins (1997: 41) given in footnote 1.

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EPP_{quote} . And, finally, assume that Merge of the subject may be procrastinated in QI. Then the following non-monotonic derivation becomes possible.



In words, the derivation in (9-a-c) proceeds as follows. First, Op moves into an inner Specv; if there is a FQ, Op saturates its feature (steps ① and ② in (9-a)).⁴ Next, Merge of the subject is procrastinated. Instead, T_{quote} is merged and attracts Op to the WSP (steps ③ and ④ in (9-a)). This respects the MLC as the subject is not part of the structure yet. Next, T_{quote} is removed in step ⑤ in the process of V-to-T movement. With TP gone, the structure is reduced to the size of a vP, and thus the subject can be merged cyclically (step ⑥ in (9-b)). Note that the subject cannot enter into a syntactic relation with the FQ because the FQ's feature has already been saturated by the quotative operator, see (9-b). Therefore, semantic association between subject and FQ is barred, too.⁵ Next, v is removed to the WSP, where it forms a complex head with T_{quote} (step ⑦ in (9-b)). Finally, the TP-projection is restored by remerging the $T_{quote+v}$ complex,

⁴The background assumption here is that although Op discharges the feature on the FQ, it cannot associate with the FQ as it bears the denotation of a quote. Recall from section 4.2.2 that only the category that has saturated the feature on a FQ is allowed to associate with the FQ semantically.

⁵Ideally, the obligatoriness for Op to enter into Agree with the FQ follows from the Earliness Requirement (see (7), section 4.1.2). This raises the question as to why this saturation cannot be procrastinated, too (as is the case with Merge), until the subject is merged. Here, and also elsewhere, I have

and the quotative operator is remerged in SpecT (steps ② and ④ in (9-c)).

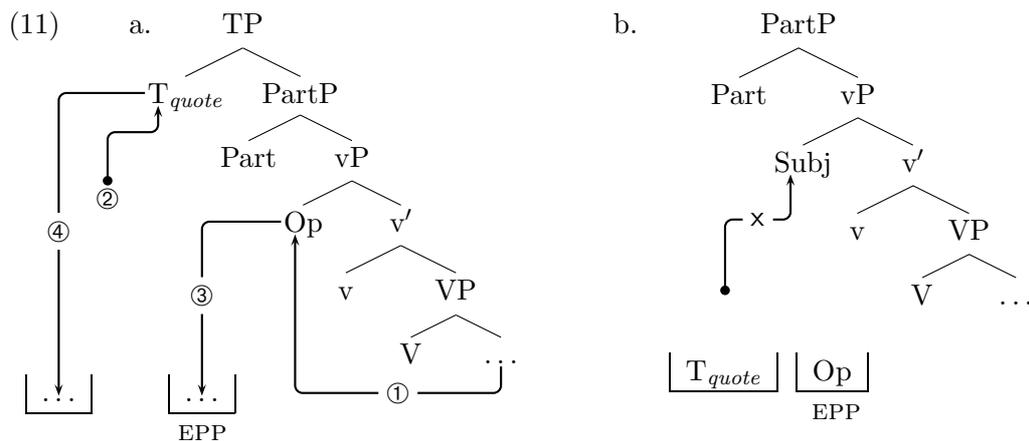
As a result of this derivation, raising of the quotative operator Op to SpecT becomes possible although Op lands in an inner Specv, below the specifier where the subject is merged. Note that if T_{quote} is merged with a vP that does not contain Op, then the derivation crashes because the EPP_{quote} cannot be checked. If standard T is merged with a vP that does contain Op, then Op remains in-situ, the subject checks the EPP, and no QI arises.

Assuming that compound tenses in English exhibit the same underlying structure as the one that was proposed for Spanish (see section 4.1.2) and Scandinavian (section 4.3.1), the following prediction arises. QI construed with compound tenses should either provide a trigger to temporarily remove the functional head Part/Prog involved in compound tenses (by moving the main verb to Part/Prog), or it should not be possible at all. The reason is that the non-monotonic derivation assumed for QI in (9) requires that T_{quote} and all heads in between T_{quote} and vP be temporarily removed for Merge of the subject to Specv to be able to apply in accordance with the SCC. Thus, if there is a PartP/ProgP that sits in between TP and vP, then it has to be removed as well.

As observed in Collins (1997: 41), citing Quirk et al. (1985: 1022) (see also Collins and Branigan 1997: 13), the prediction is borne out. QI in English does not combine with compound tenses, see (10-b,c).

- (10) a. “What time is it?,” John was asking of Mona.
 b. *“What time is it?,” was John asking of Mona.
 c. *“What time is it?,” was asking John of Mona.

The failed derivation of (10-b) is given in (11). Due to the fact that PartP is not removed (because there is no V-to-Part in English QI), Merge of the subject is blocked by the SCC, see (11-b). (10-c) is ungrammatical because English does not allow for V-to-Part movement (not even in the context of QI; but cf. the discussion of stylistic inversion in French in section 5.2).



to leave open when exactly an operation can be procrastinated and when not. A possible hunch is that Agree cannot be procrastinated in favor of Merge (but that the inverse is possible).

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In a similar vein, Collins (1997: 41) observes that QI in English is not well-formed when *do*-support is enforced by the presence of negation. This is shown in (12).

(12) *“Let’s eat” didn’t John say just once.

(12) can be accounted for under the present proposal if *do* is inserted in $T_{(quote)}$ directly, and if this bleeds the V-to-T movement that is typically present in QI. If there is no V-to-T movement, it follows that TP will not be removed. As a consequence, (12) is ungrammatical for the very same reason that (10-b) is ungrammatical: Merge of the subject violates the SCC.

Consider next the ungrammatical examples in (13-a,b) (see Collins 1997: 49-61). Recall the assumption that T_{quote} bears a feature that triggers V-to-T movement (for main verbs). At first sight, it would appear that (13-a,b), where the main verb shows up to the left of the negation and the vP-adverb *happily*, respectively, both of which are assumed to be merged in Specv, should be grammatical.

(13) a. *“Let’s eat,” said not John just once.
b. *“I finally quit this job,” murmured happily John.

However, if adverbs such as *not* and *happily* are merged as the innermost Specvs, that is below the subject (cf. Collins 1997: 37), then they show up in too high a position in (13-a,b) even if the subject remains in its base position in QI. Thus, the ungrammaticality of (13-a,b) also receives an explanation.

Before closing this section, I want to briefly comment on a possible implication of the analysis presented above. Recall that, based on the impossibility of subject-oriented FQs in QI, I concluded that the quotative operator does not move via an outer Specv (as assumed in Collins 1997) but via an inner Specv. This is in accordance with the ISC of Müller (2010a; 2011), introduced in section 3.5. Unfortunately, the above analysis with all its details is not compatible with the reduction of the ISC to the EFC, as proposed in Müller (2010a; 2011). The idea of this reduction was that insertion of an EF on a phase-head H is possible as long as H still bears an unsaturated feature. Given that there is V-to-T movement in QI, v should bear the unsaturated feature [\mathfrak{R}], which was generally assumed to be involved in head-movement (see section 3.4). If so, then one may expect that v in QI is still accessible for EF-insertion even after the subject has been merged. But then cyclic movement via an outer Specv (above the subject) should be possible after all. Since this is not compatible with the present explanation for the impossibility of subject-oriented FQs in QI, I conclude that a reduction of the ISC to the EFC is not straightforwardly possible under the present assumptions.⁶

To summarize, the present approach accounts for why QI is contingent on verb movement without invoking equidistance: V-to-T movement avoids violations of the MLC and the SCC, which, in a traditional monotonic derivation, would be expected to come about due to raising of the quotative operator across the subject and due to late Merge of the subject to Specv after attraction of the quotative operator by T, respectively. Techni-

⁶Similar considerations hold for the analysis of French stylistic inversion, as discussed in section 5.2.

cally, head-movement is enforced in the analysis by the stipulation that QI involves a special T-head. But the point remains that the theory can *explain* why the T-head that figures in QI must trigger V-to-T movement.

5.2. Stylistic inversion in French

As Collins and Branigan (1997) observe, QI in English and stylistic inversion (SI) in French (see Kayne and Pollock 1978) share some characteristic properties, which makes it desirable to treat them in a unified manner. In what follows, I illustrate that a non-monotonic treatment of French SI is motivated and possible.

As QI in English, SI in French involves inversion of the subject and the finite verb. SI in French occurs in different \bar{A} -movement contexts: see (14-a) for an example involving a matrix question and (14-b) for an example involving a relative clause. Like QI, SI is optional. Thus, (15-a,b), examples without inversion but identical otherwise, are equally grammatical.

- (14) a. Quand partira ton ami?
when leave.FUT.3.SG your friend
“When will your friend leave?”
b. L’homme avec lequel est sortie Marie s’appelle Jacques.
the=man with whom is left Marie SELF=names Jacques
“The man who Marie has left with is named Jacques.”
- (15) a. Quand est-ce que ton ami partira?
when is=it that your friend leave.FUT.3.SG
“When will your friend leave?”
b. L’homme avec lequel Marie est sortie s’appelle Jacques.
the=man with whom Marie is left SELF=names Jacques
“The man who Marie has left with is named Jacques.”

Interestingly, Collins and Branigan (1997: 18) note that a subject oriented FQ is not compatible with SI, just as what was the case with QI in English. This is illustrated by the contrast in (16-a,b). (16-a) is an example without SI, where the subject-oriented FQ is possible. This contrasts with (16-b), where SI has applied.

- (16) a. le cadeau que les hommes ont tous donné à Marie
the present that the men have all given to Marie
“the present that all the men gave to Marie”
b. *le cadeau qu’ont donné les hommes tous à Marie
the present that=have given the men all to Marie

For Collins and Branigan (1997), the ungrammaticality of (16-c) is evidence that the subject in SI does not move away from its base position. Similarly to what was the case with QI in section 5.1, if FQs can also be merged below the subject, as I have assumed, then more has to be said in order to explain the ungrammaticality of (16-b). Following the argument in section 5.1, a *wh*-phrase involved in SI must move cyclically through an inner Spec_v, through a position below the subject, where it acts as an intervener

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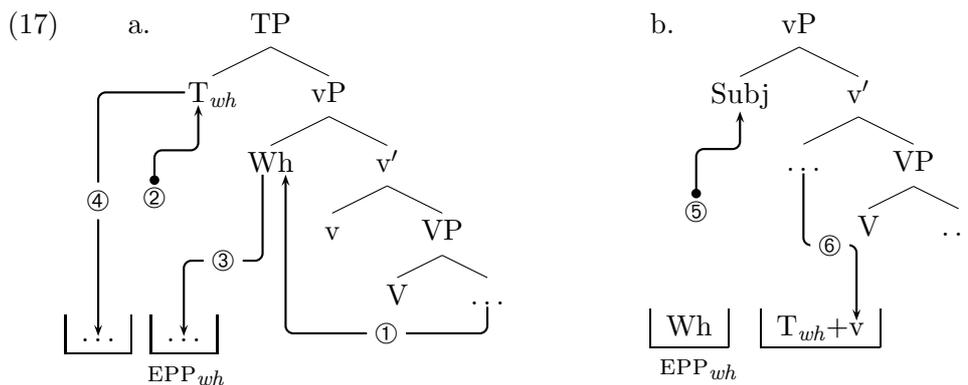
for a subject-oriented FQ. Crucially, intermediate movement to an outer Spec_v must be impossible, which is ensured by the ISC (see (15), section 3.5).⁷

If, in SI, it is the *wh*-phrase and not the subject that moves to SpecT, checking the EPP-feature, then a non-monotonic derivation is required under the assumption that the subject acts as a defective intervener for raising of the *wh*-phrase to SpecT.

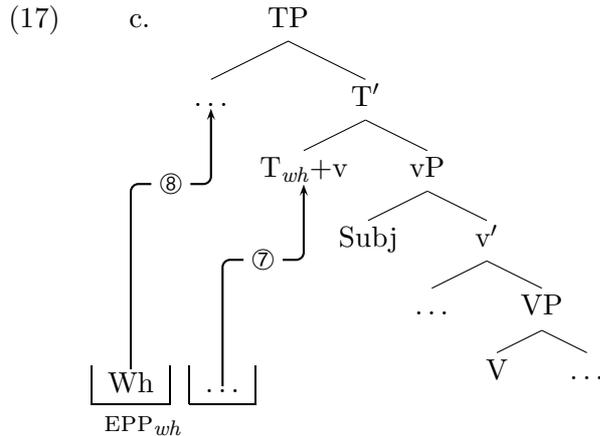
5.2.1. Procrastinating Merge of the subject in SI

It has been argued that in SI the subject remains in its base position (see Déprez 1990, Valois and Dupuis 1992, Collins and Branigan 1997). If this is the case, then the question arises as to how the EPP-feature on T is saturated. As an answer to this question, suppose that alongside with the standard T-head that bears EPP, French exhibits a T head bearing EPP_{*wh*} (call it T_{*wh*}), and that EPP_{*wh*} can only be satisfied by a *wh*-phrase in SpecT. A non-*wh* subject cannot satisfy EPP_{*wh*}. But being in the outer Spec_v, it may act as a defective intervener for a *wh*-phrase in an inner Spec_v. Suppose that this is the case, and that T_{*wh*}, just as standard T in French, triggers V-to-T movement. Finally, suppose, following Déprez (1990), that, ultimately, the verb in French SI moves to C.

With these assumptions in place, the derivation of SI shown in (17-a-c) becomes possible. It proceeds almost exactly like the derivation of QI in (9), section 5.1.2. The only differences are that T_{*quote*} is replaced by T_{*wh*} and Op is replaced by a *wh*-phrase. (Any possible interaction with a FQ is left out in (17) for expository reasons.) Again, a crucial assumption is that Merge of the subject can be procrastinated in favor of Merge of T_{*wh*} (see step ⑤ vs. step ②). As a consequence, the *wh*-phrase can be attracted by T_{*wh*} without violating the MLC (step ③). Once the *wh*-phrase is placed in the WSP, T_{*wh*} is removed by head-movement (step ④), which makes the TP vanish and cyclic introduction of the subject possible. Finally the TP is restored (step ⑦) and the *wh*-phrase remerged in SpecT (step ⑧).



⁷At this point, the same question arises with SI that was already discussed for QI in section 5.1: why does *wh*-movement without SI in French not block a subject-oriented FQ, see (16-a)? The answer is the same as the one given in section 5.1: FQs can also be merged in an outer Spec_v. This enables FQ-association with the subject in ordinary *wh*-constructions, where the subject moves to SpecT. Subject-oriented FQs remain impossible in SI, where the subject remains in Spec_v (16-b).



As what was the case with QI in English, the prediction arises that SI in French should only be compatible with compound tenses if the functional head providing the inflectional features for the main verb (Part/Prog) can be temporarily removed. In section 5.1, I mentioned that QI in English is not compatible with compound tenses. Interestingly enough, French SI differs from English QI in this respect: Part seems to be able to attract the main verb. Thus, a participial verb moves to Part in SI, which is not the case in other contexts in French (see, e.g., Pollock 1989: 369).

This is illustrated by the examples of SI with compound tenses in (18-a,b), where the past participles *écrit* “written” and *manqués* “lacked” show up to the left of the subject (together with the auxiliaries) suggesting that they have moved out of vP (Valois and Dupuis 1992, Collins and Branigan 1997: 22, Alexiadou and Anagnostopoulou 2001: 196), see (18-a,b).

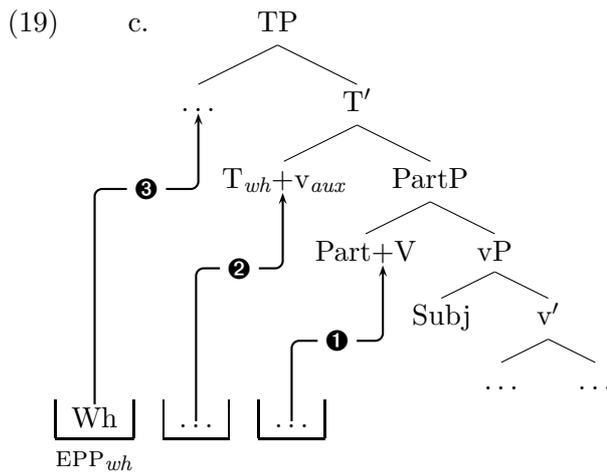
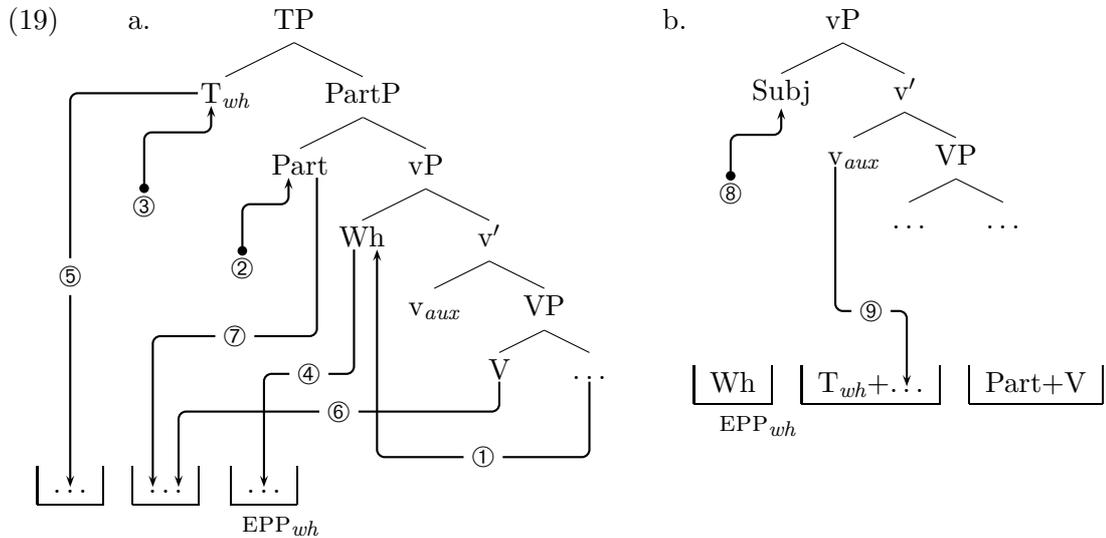
- (18) a. Quelle lettre a écrit Marie à Jean?
 which letter has written Marie to Jean
 “Which letter did Marie write to Jean?”
- b. Tes cours, à quelle occasion les ont manqués les étudiants?
 your courses at which occasion they have lacked the students
 “On what occasion have the students missed your courses?”

The derivation of examples such as (18-a,b) is given in (19). It shares some of the characteristics of the derivation assumed for verb topicalization and OS in Scandinavian (see section 4.3.2).

The derivation proceeds as follows. The *wh*-phrase moves to Specv, in order to remain PIC-accessible (step ①). Part and T_{wh} are merged (steps ② and ③). EPP_{wh} on T_{wh} attracts the *wh*-phrase and places it in the WSP (step ④). T_{wh} is removed to the WSP (step ⑤) in order to facilitate head movement of the auxiliary. The main verb is also removed to the WSP to prepare movement to the Part-head (step ⑥). Part is placed in the same WSP as the main verb, forming a complex head with the latter (step ⑦). With both TP and PartP being removed, the subject can be merged cyclically in Specv because vP is now the root of the current tree (see step ⑧ in (19-b)). The auxiliary is removed to the WSP where it forms a complex head with T_{wh} (step ⑨). Part+V and $T_{wh+v_{aux}}$ are remerged (steps ① and ② in (19-c)). Finally, the *wh*-phrase satisfies EPP_{wh}

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on T_{wh} (step ③). From there, it undergoes subsequent movement to SpecC.



The fact that movement of the main verb in compound tenses applies in SI but not in general in French may be traced back to the presence of a special T-head that is employed in SI. What needs to be assumed is that T_{wh} selects for a Part-head that has the potential to attract the main verb.

To briefly conclude, SI in French can be assimilated to QI in English under a non-monotonic analysis.

5.2.2. The transitivity restriction

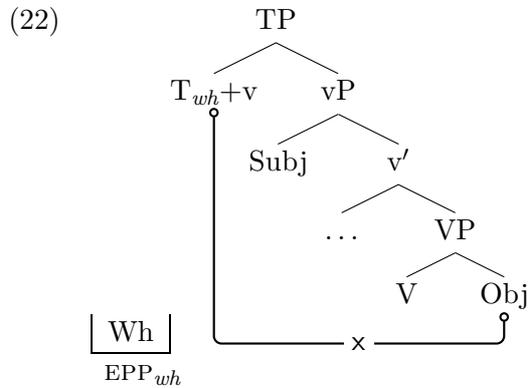
QI in English exhibits a (di)transitivity restriction: there must not be an(other) object present that is case-dependent on the verb associated with Op (Collins and Branigan 1997, Collins 1997: 49-61, Alexiadou and Anagnostopoulou 2001; cf. also Bures 1992). This is shown by the ungrammaticality of (20-b). The same restriction holds for SI

(Kayne and Pollock 1978: 604, footnote 12, Déprez 1990, Valois and Dupuis 1992, Collins and Branigan 1997: 21); see (21-b).

- (20) a. “The wind is too strong,” the navigator told the skipper.
 b. *“The wind is too strong,” told the navigator the skipper.
- (21) a. Je me demande quand Marie mangera sa pomme.
 I SELF ask when Marie eat.FUT.3.SG her apple
 “I wonder when Marie is going to eat her apple.”
 b. *Je me demande quand mangera Marie sa pomme.
 I SELF ask when eat.FUT.3.SG Marie her apple

Since both QI and SI are analyzed in the same way, it is desirable to come up with a uniform explanation for the restriction.

To this end, suppose that the vP-structure embedded under T_{wh} in French SI and under T_{quote} in English QI is defective in the sense that, by stipulation, the v+V complex is not able to assign case to the object unless it has incorporated into a higher head: T_{wh} and T_{quote} , respectively (see Alexiadou and Anagnostopoulou 2001: 218).⁸ Observe now that the SCC enforces that the subject in QI is merged before the T+v(+V) complex is remerged: see step ⑥ vs. step ⑧ in (9), section 5.1.2. Likewise, the subject in SI is introduced to Specv before T+v(+V) is remerged, see step ⑤ vs. step ⑦ in (17) above. But then the MLC prevents case assignment by T+v(+V) to the (second) object across the intervening subject (additionally, the PIC may be relevant), see (22).



The upshot is that the transitivity restriction is implied by the case filter (or whatever makes sure that arguments are assigned abstract case), see Valois and Dupuis (1992) and Alexiadou and Anagnostopoulou (2001) for related proposals.

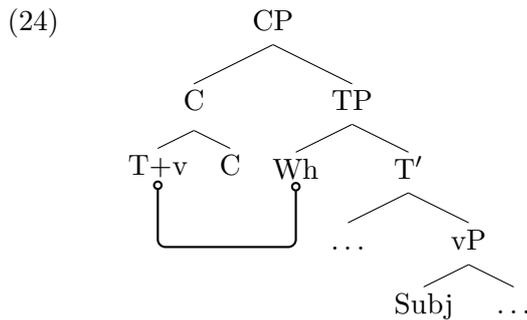
There is one exception to the transitivity restriction in SI. Namely, it is lifted if the case dependent object undergoes *wh*-movement or cliticization. Relevant examples were shown in (18-a) and (18-b), here repeated in (23-a,b):

⁸This raises the question as to why both T_{wh} and T_{quote} should select for a defective vP. One may speculate that defectivity with respect to case assignment correlates with the ability of v to procrastinate Merge of the subject. I will not go further into this matter here, but see section 7.1.2 for some more discussion (cf. also footnote 5 of the present chapter).

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- (23) a. Quelle lettre a écrit Marie à Jean?
 which letter has written Marie to Jean
 “Which letter did Marie write to Jean?”
 b. Tes cours, à quelle occasion les ont manqués les étudiants?
 your courses at which occasion them have lacked the students
 “On what occasion have the students missed your courses?”

This can be explained if the T+v complex is able to assign case to the *wh*-object after the latter has raised to SpecT and the former has moved to C: in this configuration, the subject does not intervene between T+v and the *wh*-phrase, see (24).



Presupposing that case assignment requires c-command (and that there is no such thing as a specifier-head relation), the explanation presupposes that the *wh*-phrase makes an intermediate stop in SpecT. This comes for free if one assumes that it checks EPP_{wh} on T_{wh} .⁹ As for (23-b), it may be the case that incorporation satisfies the case filter (see Baker 1988).

To summarize, a unified account for the transitivity restriction arising in QI and SI can be given also against the background of the present non-monotonic analysis.

5.3. Predicate inversion in English (and other languages)

It has been noted in the literature that “specificational” copula constructions in English, as the one in (25-b), involve a flip in agreement as compared to their non-inverted predicational variants, see (25-a): In the latter, agreement is with the subject; in the former, agreement is with the predicate (see Moro 1997: 35-39, Dikken 2006: 96, 117, and Heycock 2012 for discussion and many further references).

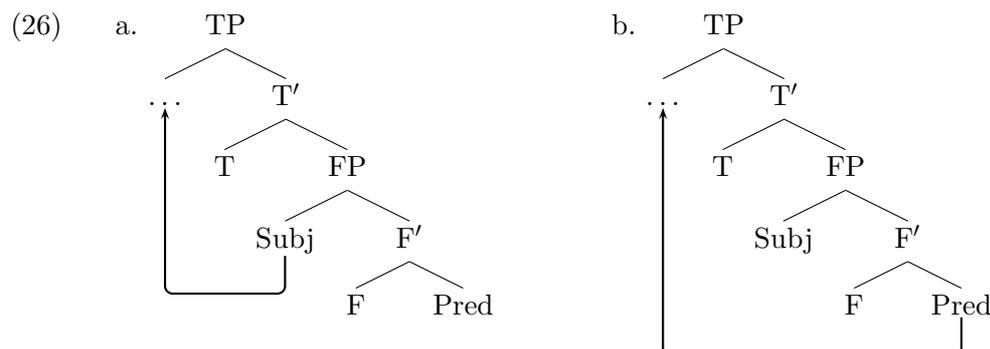
- (25) a. John and Mary are / *is the cause of the riot.
 b. The cause of the riot *are / is John and Mary.

Going back (at least in spirit) as far as Williams (1983: 427), a popular analysis of the predication structures in (25-a,b) has it that they are connected by a transformation of “inversion”. Thus suppose that, underlyingly, examples such as the ones in (25-a,b)

⁹I am ignoring here the complication that, strictly speaking, T+v in (24), being adjoined to C, does not c-command the *wh*-phrase in SpecT. Somehow, the features of the adjoined part of the complex head must become part of the complex head as a whole (see Fanselow 2001 for a relevant proposal).

5.3. Predicate inversion in English (and other languages)

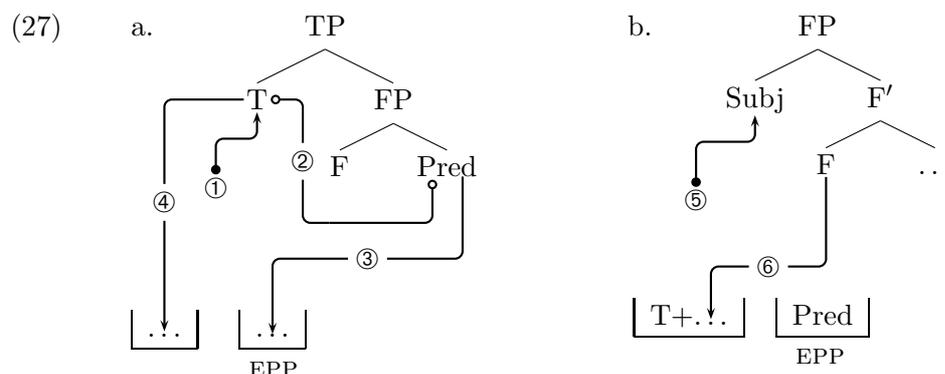
consist of a small clause (called FP in (26-a,b)), the specifier of which hosts the subject and the complement position of which is occupied by the nominal predicate. Suppose further that FP is complement to T. In the non-inverted construction (25-a), the subject is attracted by T and moves to SpecT in order to saturate T's EPP-feature (see (26-a)). In contrast, in the specificational construction (25-b), it is the nominal predicate that moves to SpecT (see (26-b)); the subject remains in its base position (see Heycock 1994, Moro 1997, Mikkelsen 2004, Dikken 2006; 2007 for more recent versions of this analysis). Accordingly, the process that derives (25-b) is sometimes called "predicate inversion."



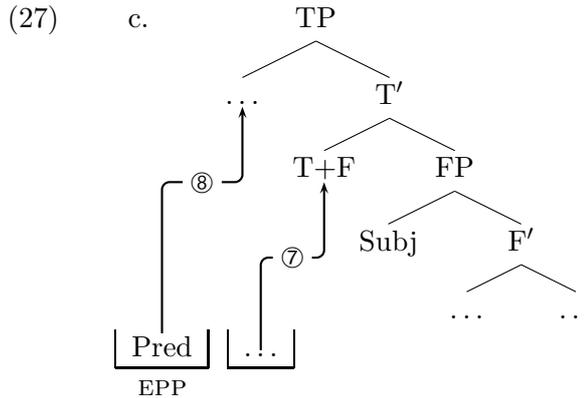
Notwithstanding the many virtues of this analysis, it raises two questions. First, there is the question as to why agreement flips in the inversion context (25-b), as compared to the non-inversion context (25-a). Second, note that movement of the predicate to SpecT in (26-b) crosses the subject. The MLC should prevent this since the subject, being the specifier of the small clause, is closer to the attracting T-head than the predicate. The question thus is why predicate inversion in (26-b) should be licit in the first place.

There is a non-monotonic derivation of (25-b) that provides a straightforward answer to both questions. The idea is as follows. Suppose that in nominal copula constructions, Merge of the subject to SpecF can be procrastinated in favor of Merge of the T-head. In case Merge of the subject is procrastinated, only the predicate nominal is present when T enters the structure. This frees up the way for T to agree with the predicate nominal (hence the flip in agreement) and to attract it to the WSP. The subject is merged later, too late to prevent the predicate from raising and to trigger agreement. After the subject has been merged in SpecF, the predicate is remerged from the WSP to SpecT (without violating the MLC).

The non-monotonic derivation of predicate inversion is given in (27-a-c). Note that step ② in (27-a) indicates the process of agreement between T and the predicate.



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Obviously, the analysis requires that F move to T in English: After Pred has been attracted (step ③ in (27-a)), TP must be temporarily removed in order to allow for Merge of the subject to apply in accordance with the SCC (step ⑤ in (27-b)).¹⁰ If the copula is an instantiation of F, then there is overt evidence for F-to-T movement in the context of predicate inversion: the copula shows up to the left of the subject. But there is also indirect evidence for F-to-T movement. As Frank (2002: 101-112) discusses, predicate inversion is not possible with all types of raising. For instance, passive raising does not allow for predicate inversion:

- (28) a. The assassination of the king is often considered [*t* the cause of the war].
 b. *The cause of the war is often considered [the assassination of the king *t*].

The ungrammaticality of (28-b) can be explained by assuming that a (passivized) predicate such as *considered* does not allow for incorporation of F: without F-to-T movement, TP is not temporarily removed, and the non-monotonic derivation in (27-a-c) is blocked. Accordingly, predicate inversion becomes possible again if the same context is enriched by the presence of a copula, which, by hypothesis, enables incorporation:

- (29) a. The assassination of the king is often considered to be the cause of the war.
 b. The cause of the war is often considered to be the assassination of the king.

Finally, note that there is cross-linguistic variation as to whether predicate inversion triggers a flip in agreement or not. For instance, in Italian (30) or German (31), agreement is always with the nominal that is underlyingly pre-copula, i.e., the subject, no matter whether predicate inversion applies or not (see Moro 1997: 60 on Italian, Heycock 2012 on German). This is illustrated for Italian in (30) and for German in (31). The same holds for Dutch (Dikken 2006: 96; cf. Heycock 2012 for qualification).

- (30) a. Le foto del muro sono / *è la causa della rivolta.
 the photographs of.the wall are is the cause of.the riot
 “The photographs on the wall are the cause of the riot.”

¹⁰Dikken 2006 also assumes that there is movement of F to T, albeit for different reasons. The solution in Dikken (2006) to the problem that predicate inversion poses to the MLC is formulated in terms of equidistance.

- b. La causa della rivolta sono / *è le foto del muro.
 the cause of.the riot are is the photographs of.the wall
 “The cause of the riot is the photographs on the wall.”
- (31) a. weil deine Eltern das Problem sind / *ist
 because your parents the problem are is
 “because your parents are the problem”
- b. weil das Problem deine Eltern sind / *ist
 because the problem your parents are is
 “because the problem is your parents”

It would seem then, under the present proposal, that in these languages Agree must not apply before the subject is introduced into the structure even if Merge of the subject is procrastinated (in order for predicate raising to be able to apply). A way to ensure this would be to stipulate that in Italian, German, and Dutch, as opposed to English (and, perhaps, French, see Moro 1997: 70, Heycock 2012), T in nominal predications does not agree unless F has incorporated into it.

5.4. Summary

This chapter discussed the phenomena of quotative inversion in English (section 5.1), stylistic inversion in French (section 5.2), and predicate inversion, mainly on the basis of English (section 5.3). It was argued that the reason why the verb shows up to the left of the subject in inversion constructions can ultimately be traced back to the idea that a category other than the subject raises to SpecT, checking T’s EPP-feature. Under the assumption that the subject counts as a (defective) intervener for attraction by T, such raising is expected to violate the MLC or the SCC. It was suggested that raising can avoid a violation of the MLC or the SCC if it applies non-monotonically. This, in turn, requires that the T-head be temporarily removed at some point. Removal of T is made possible by verb movement to T, which thus automatically accounts for the position of the verb relative to the subject.

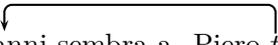
Other inversion structures that are not addressed in detail here but might be analyzable in the same way include locative inversion in English (Levin and Rappaport 1995), generalized inversion in Russian (Bailyn 2004), or subject-object reversal in Bantu (Ura 1996).

6. Raising

This chapter discusses instances of the problem (21-a) (from section 2.3) that involve A-movement to subject-position (SpecT), traditionally called “raising”. Section 6.1 addresses subject-to-subject raising across experiencers, section 6.5 is concerned with passivization of theme arguments in double object constructions, and section 6.6 discusses analyses of psych-verbs. To a certain extent, separating these constructions from the inversion constructions discussed in chapter 5 is arbitrary because the latter were also analyzed in terms of movement to SpecT. A difference between inversion on the one hand and raising (as discussed in the present chapter) on the other is that in the latter movement to SpecT does not cross the external argument but an internal one, such as an experiencer object or a theme object.

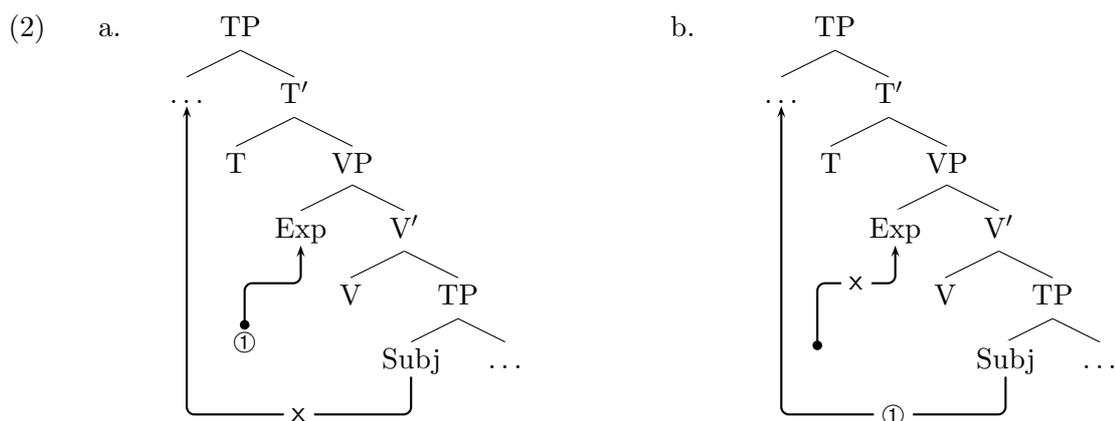
6.1. Subject-to-subject raising

As already mentioned in section 3.2, Rizzi (1986:75, footnote 9) observes that A-movement to subject position of a matrix clause from an embedded infinitive across a dative experiencer is ungrammatical in Italian. The relevant contrast is repeated in (1-a,b).

- (1) a.  *?Gianni sembra a Piero *t* fare il suo dovere.
Gianni seems to Piero to.do the his duty
“Gianni seems to Piero to do his duty.”
- b. Gianni sembra *t* fare il suo dovere.
Gianni seems to.do the his duty
“Gianni seems to do his duty.”
- c. *A Piero sembra *t* Gianni fare il suo dovere.
to Piero seems Gianni to.do the his duty

If no experiencer is present, raising is fine, as shown in (1-b). This suggests that the ungrammaticality of (1-a) should be analyzed as an intervention effect in terms of an MLC-violation: the dative experiencer *a Piero* is closer to the matrix SpecT-position than the embedded subject. This is the case if a raising predicate with experiencer takes two arguments: the experiencer in its specifier and the infinitive as its complement (Chomsky 1995: 304-305), see (2-a). Of course, merging the experiencer in SpecV after raising to the matrix SpecT has applied, as in (2-b), spares the MLC violation. However, such a derivation violates the SCC. Note that (1-a) is a case of defective intervention as the dative phrase *a Piero* cannot undergo raising itself, as illustrated in (1-c), see McGinnis (1998: 92).

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Similar facts have been reported to hold for French (Chomsky 1995: 305; cf. Rouveret and Vergnaud 1980: 146 and Chomsky 1995: 388, footnote 79 for qualifications), as illustrated in (3-a-c), and also for Spanish (Torrego 1998, McGinnis 1998: 161).

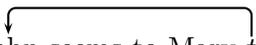
- (3) a. *Jean semble à Marie *t* avoir du talent.
 Jean seems to Marie have of.the talent
 “Jean seems to Marie to be gifted.”
- b. Jean semble *t* avoir du talent.
 Jean seems have of.the talent
 “Jean seems to be gifted.”
- c. *À Marie semble *t* Jean avoir du talent.
 to Marie seems Jean have of.the talent.

Similarly, raising from an infinitive across dative experiencers in Icelandic is blocked, see (4-a).¹ One point where the case of Icelandic differs from the Romance paradigm is that the dative experiencer may undergo raising to SpecT itself (4-c), see Sigurðsson (1996: 24) (also see McGinnis 1998: 82, Holmberg and Hróarsdóttir 2003: 1003 on Icelandic).

- (4) a. *Ólafur virðist mér *t* vera gáfaður.
 Olaf.NOM seems me.DAT to.be intelligent
 “Olaf seems to me to be intelligent.”
- b. Ólafur virðist *t* vera gáfaður.
 Olaf.NOM seems to.be intelligent
 “Olaf seems to be intelligent.”
- c. Mér virðist *t* Ólafur vera gáfaður.
 me.DAT seems Olaf.NOM to.be intelligent

Interestingly, these observations from Romance and Icelandic sharply contrast with facts reported on English, where raising across a PP-experiencer is fine (5-a) (see, e.g., Chomsky 1995: 304, McGinnis 1998: 98-99).

¹See also McGinnis 1998, where further languages are shown to exhibit intervention effects with raising, among them Albanian, Georgian, and Greek.

- (5) a.  John seems to Mary *t* to be happy.
 b. John seems *t* to be happy.
 c. *To Mary seems *t* John to be happy.

In light of the observations presented in (1)–(4), this behavior of raising in English is surprising. I know of no claim to the effect that the structural relations between the matrix T-head, the experiencer, and the embedded subject is substantially different in English as opposed to the other languages under discussion.² The question to be addressed in this section is what enables English to escape the intervention effect that arises with raising across an experiencer in other languages.

6.1.1. Previous accounts

A popular point of view is that the crucial property of a language without intervention such as English is that the experiencer is embedded in a PP while, for instance, in the Icelandic example (4-a) it is not (see Rizzi 1986: 76, Kitahara 1997: 63-65, McGinnis 1998: 198-215, Boeckx 1999; 2000). The idea is that the experiencer does not c-command the embedded subject from this position within PP and therefore does not qualify as a structural intervener.

The problem with this explanation is that there is conflicting evidence to the effect that the experiencer c-commands out of the P, after all. For instance, the experiencer triggers Principle C effects, see (6-a), and is able to bind variables in the embedded clause in English, as shown in (6-b) (see Chomsky 1995: 304, Pesetsky 1995: 105; see also McGinnis 1998: 201-209 for detailed argumentation):

- (6) a. *Mary_{*i*} seemed to him_{*i*} *t* to like John_{*i*}.
 b. Mary_{*i*} seemed to every boy_{*i*} *t* to like him_{*i*}.

It is therefore far from straightforward to assume that the experiencer in English does not intervene due to lack of c-command.

In order to get around this problem, it has been proposed in the literature that the preposition of the PP-experiencer in English is reanalyzed via some transformation applying at LF. LF-reanalysis renders the PP-shell transparent for c-command and thereby establishes the attested c-command relations. Crucially, this applies too late for the experiencer to prevent raising in the overt syntax but early enough to derive Principle C effects and variable binding (see Kitahara 1997; Epstein et al. 1998; McGinnis 1998; Boeckx 1999). In this way, reanalysis of P is able to explain the contrast between Ice-

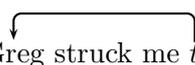
²Recently, Hartman (2011) has argued that other instances of raising in English *do* exhibit intervention effects, after all, see for instance (i-a,b):

- (i) a. John was claimed (*to Bill) *t* to have stolen the art.
 b. It was claimed to Bill that John had stolen the art.

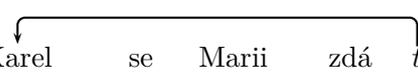
This makes it even more surprising that raising with *seem* does not exhibit intervention effects. Against the background of the analysis to be presented below, one may interpret this as there being lexical differences between raising verbs in English: some of them allow to procrastinate Merge of the experiencer while others do not.

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landic (4-a) and English (5-a) because in Icelandic the experiencer is not embedded within a PP. For Romance, one has to make the additional assumption that the prepositional like element preceding the experiencer (for instance, *à* in the case of the French example (3-a)) is a case marker and not a preposition. Presumably, such an analysis requires postulation of an empty preposition for the case of the raising predicate *strike* in English, see (7), which does not seem to involve a PP but nevertheless tolerates raising across the experiencer (see McGinnis 1998: 200).³

- (7)  Greg struck me *t* as having been quite fortunate.

The same problem, but in a more general shape, arises in a language like Czech, where dative experiencers do not trigger intervention effects although they are never introduced by an overt preposition (Petr Biskup, p.c.). See (8) for illustration.

- (8)  Karel se Marii zdá *t* (být) chytrý.
Karel.NOM SELF Mari.DAT seems to.be smart
“Karel seems to Mary to be smart.”

It appears that a proponent of the reanalysis account is forced to assume that in Czech all experiencers are accompanied by a covert preposition.⁴

Approaches that dismiss this analysis usually assume that c-command out of PP is (exceptionally) possible. As a consequence, intervention effects with raising are straightforwardly explained. What remains to be explained is the lack of intervention in English.⁵

In what follows, I suppose that the evidence from Principle C effects and variable binding suggests that the presence of a PP-shell does not prevent the experiencer from c-commanding the embedded subject. Thus, the question whether there is a PP present or not is irrelevant for the question whether raising across an experiencer is possible or not. Instead, I suggest that raising across an experiencer in English can be assimilated to the analyses presented in the previous chapters. In other words, I propose that what makes such raising possible with certain predicates in English is a non-monotonic derivation.

³And it remains to be explained why there is intervention in other raising constructions in English that exhibit an overt preposition (see footnote 2 above).

⁴Unless there is reason to assume that examples like (8) in Czech do not involve A-movement across the experiencer to begin with.

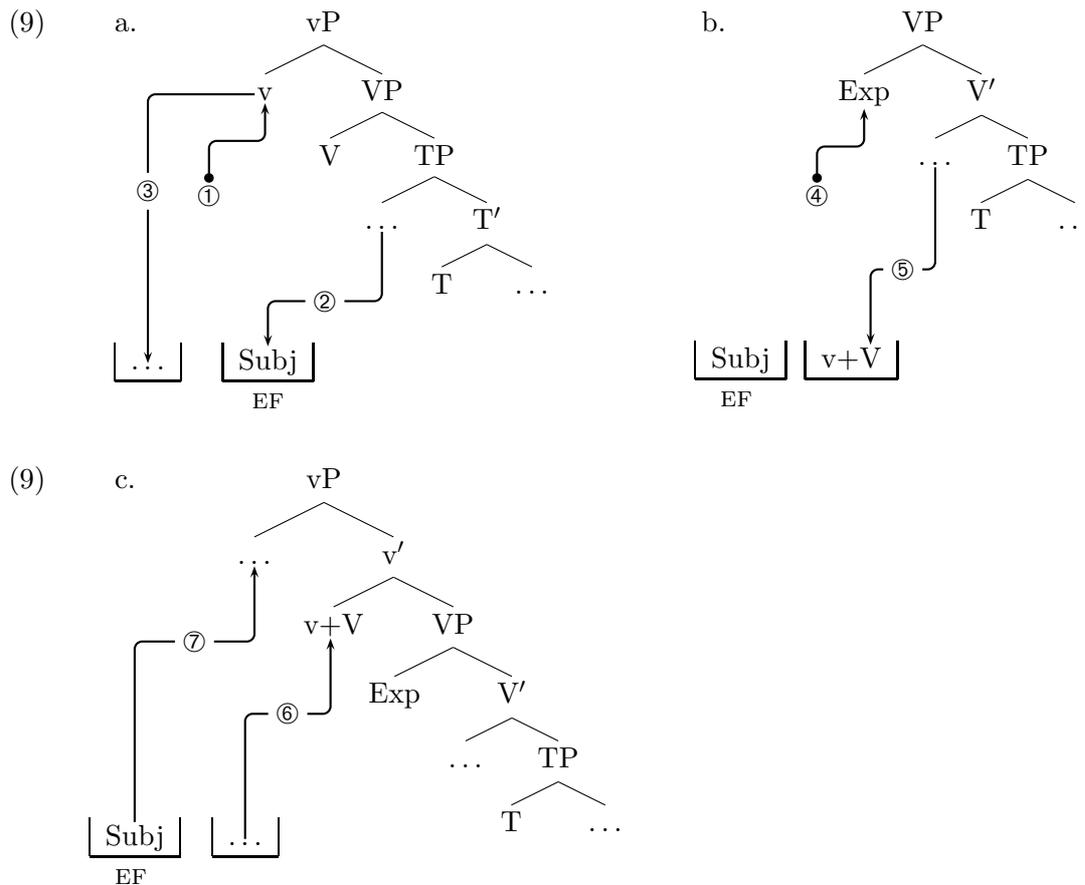
⁵There are various proposals to this end, which I only briefly mention here. Hartman (2011) suggests that P-reanalysis avoids conflicting c-command statements in English, which do arise in Romance. The proposal is representational to a large extent and therefore does not fit well in a derivational framework. Collins (2005) proposes that the raised object can be “smuggled” across the experiencer by VP-movement. At some later step, it then undergoes raising out of the moved VP. As Collins (2005) notes, the smuggling analysis violates the Freezing Principle (Wexler and Culicover 1980; see (6) in section 2.1). Boeckx (2008: chapter 9) puts forward the idea to reduce the intervention effect in Italian to the existence of *pro* in this language (as opposed to English). It is unclear how this account is supposed to carry over to French, which (at least for some speakers) behaves like Italian with respect to intervention while at the same time lacking *pro*. McGinnis (1998) and Anagnostopoulou (2003) propose a solution in terms of equidistance (along the lines of the revised equidistance theory of Chomsky 1995, see section 2.3.3).

6.1.2. Non-monotonic raising

The derivation that explains the grammaticality of (5-a) is very similar to the non-monotonic derivations discussed in the preceding chapters. A non-monotonic derivation for raising requires that Merge of the experiencer in SpecV can be procrastinated in favor of Merge of *v*.

The underlying idea is familiar: the experiencer does not act as an intervener for raising because at the point of the derivation where the embedded subject is attracted, the experiencer is not yet part of the structure. Thus, the experiencer is merged only after the subject has been attracted. In order for this to not violate the SCC (cf. (2-b)), it is necessary that all projections between the Merge site of the experiencer and up to the attracting head be temporarily removed. Since there is no general V-to-T movement in English that would enable the maneuver to temporarily remove T, the subject cannot be attracted by the matrix T-head directly. Rather, it needs to be attracted by a lower head, namely the *v*-head embedding the raising predicate. In this context, recall from section 3.5 that I assume that the little *v* accompanying raising verbs (and passivized verbs) is a phase head and may thus bear the EF that can perform the necessary attraction.

The relevant derivation is given in (9-a-c).



In words, the derivation proceeds as follows. Little *v* is merged with the projection of the raising predicate, attracts the embedded subject, and places it in the WSP (steps

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① and ② in (9-a)). In step ③, little *v* is removed and placed in the WSP in order to prepare V-to-*v* movement. With the *v*P-projection gone, the experiencer can be merged cyclically in SpecV (step ④ in (9-b)). Next, the raising verb is removed and placed in the WSP, where it merges with *v* (see ⑤). The *v*+V complex is remerged with VP (step ⑥ in (9-c)). Finally, the subject is remerged in Spec*v* (see step ⑦ in (9-c)), above the experiencer, where it satisfies the EF. From there will it move on to the matrix SpecT.

The hypothesis that V-to-*v* head-movement must apply for (9) to be possible dovetails with the fact that the lexical raising verb appears to the left of the experiencer (suggesting that it has moved). Provided that V-to-*v* movement applies universally, one can conclude that although it is a necessary condition for such a derivation it is not a sufficient one because, as illustrated above, Romance or Icelandic do exhibit intervention effects with raising. Maybe, what enables such raising in English is that English, as opposed to Romance and Icelandic, allows for procrastination of Merge of the experiencer.⁶

Given that the evidence coming from verb raising for a non-monotonic derivation is not particularly strong in this case (assuming that languages that exhibit intervention effects with raising across an experiencer also show V-to-*v* movement) one may wonder whether there is other evidence for the existence of non-monotonic raising in English as opposed to, say, French. In section 6.2 below I suggest that there is such evidence. Before presenting it, however, I would like to briefly address another way of avoiding intervention effects with raising. This is done in the following section.

6.1.3. Maneuvering the intervener

As noted by Rizzi (1986: 75), the intervention effect disappears in Italian or French once the experiencer is cliticized. This is also discussed in McGinnis (1998: 149-151):

- (10) a. Gianni le sembra *t t* fare il suo dovere.
 Gianni her.DAT seems to.do the his duty
 “Gianni seems to her to do his duty.”
 b. Jean lui semble *t t* avoir du talent.
 Jean him.DAT seems to.have of.the talent
 “Jean seems to him to be gifted.”

Similarly, the experiencer does no longer act as an intervener once it undergoes \bar{A} -movement (see Rizzi 1986: 75, McGinnis 1998: 92, Anagnostopoulou 2003: 221, Holmberg and Hróarsdóttir 2003: 1004, 1010, footnote 8). This is illustrated by (11-a,b) for Italian and French, and by (11-c) for Icelandic.

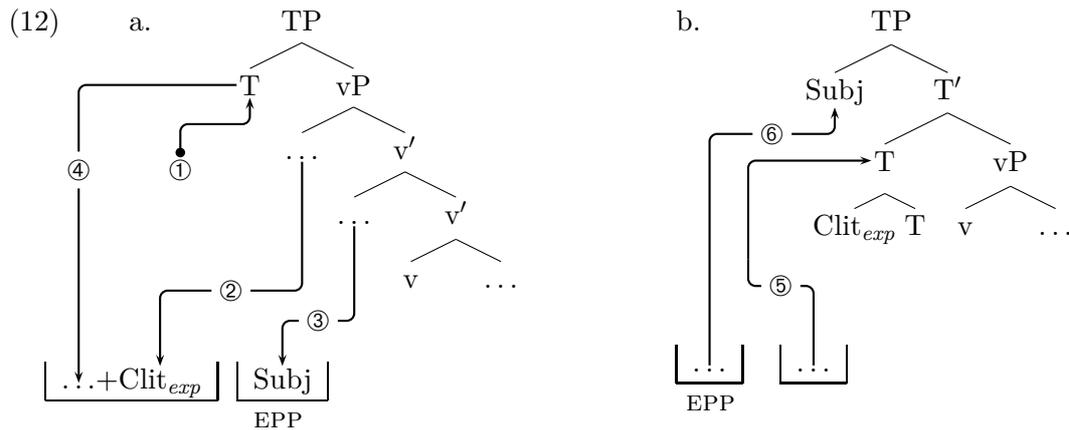
- (11) a. A Piero Gianni sembra *t t* fare il suo dovere.
 to Piero Gianni seems to.do the his duty
 “As for Piero, Gianni seems to him to do his duty.”

⁶Again, the question arises as to whether this difference can be correlated with some other difference between raising *seem* in English versus, say, *sembler* in French. I leave this issue for further research.

6.1. Subject-to-subject raising

- b. A qui est-ce que Jean semble *t t* avoir du talent?
 to whom is-it that Jean seems to.have of.the talent
 “To whom does Jean seem to be gifted?”
- c. Hverjum hefur Ólafur *virst t t* vera gáfaður?
 who.DAT has Olaf.NOM seemed be intelligent
 “To whom did Olaf seem to be intelligent?”

The analysis of (10-a,b) is unproblematic. Suppose that both the experiencer clitic and the embedded subject first undergo cyclic movement to multiple specifiers of the matrix v-head, triggered by an EF in an order preserving fashion (see section 3.6). This arguably happens because both the experiencer and the subject must be PIC-accessible in order to undergo subsequent cliticization and raising to SpecT, respectively. When T has been merged (step ① in (12-a)), the experiencer is removed to the WSP to prepare cliticization (see step ② in (12-a)) and thus frees up the way for attraction of the subject (see step ③ (12-a)). For ease of exposition, V-to-T movement is ignored in (12). When T is removed, cliticization takes place in the WSP. Finally, the T-head together with the clitic is remerged (step ⑤ in (12-b)) and subject raising can be completed (step ⑥).

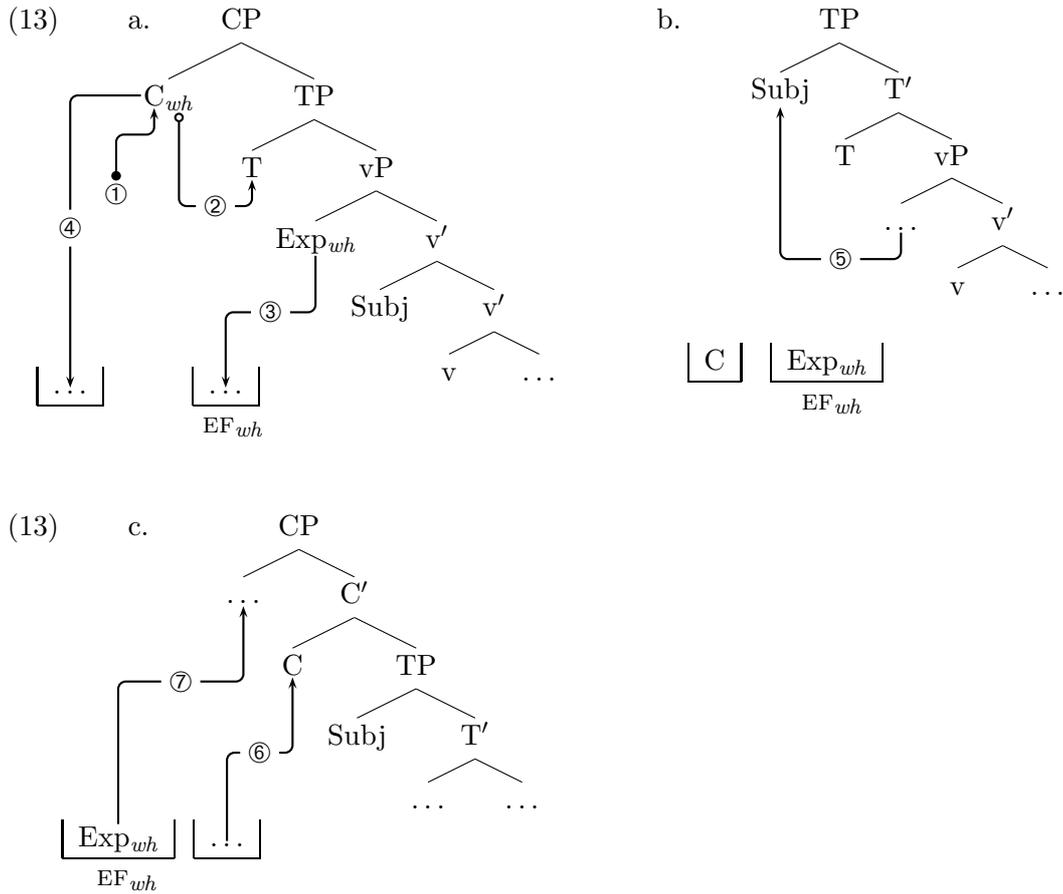


The explanation for the well-formedness of (11-a-c) cannot proceed entirely along the same lines. The reason is the following. The embedded subject in (11-a-c) cannot undergo raising before the experiencer has been removed. The experiencer undergoes \bar{A} -movement. Thus, the probe that attracts it is arguably introduced by the C-head. But once C has been merged and has attracted the experiencer, it is too late for the subject to be attracted by the matrix T-head because of the SCC. Such attraction would become possible again if CP vanished temporarily. This, in turn, would require removal of C. The problem with this is that there is no overt evidence that, e.g., topicalization in the Italian example (11-a) involves head-movement to C, which would be necessary to trigger temporary removal of C. A similar problem arises with respect to a variant of the Icelandic example (11-c) involving an embedded question because Icelandic lacks V-to-C movement in embedded questions (see Thráinsson 1986b: 174, Sigurðsson 1989: 12).

A non-monotonic derivation for (11-a-c) becomes possible under the assumption that there is feature inheritance by T from C (see section 3.3 for details). This is illustrated by the following derivation. The idea is that once C is merged (step ① in (13-a)), it

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attracts the *wh*-experiencer to the WSP (step ③) and is then removed to the WSP itself (step ④). The trigger for removal of C is feature inheritance by T from C (see step ②). In (13-b), the tree has shrunk to the size of a TP. Therefore, subject raising can apply cyclically (step ⑤). Finally, C is remerged, and the experiencer is remerged in SpecC (steps ⑥ and ⑦ in (13-c)).



In this way, a non-monotonic derivation explains how \bar{A} -movement, which is triggered by a high head, can free up the way for A-movement, which is triggered by a lower head.

I close with a brief remark on the possible scope of feature inheritance. Chomsky (2008) proposes that T also inherits its ϕ -features from C. There is a reason why one would rather assume that feature inheritance only comprises EPP (although this is not compatible with the rationale for feature inheritance proposed in Richards 2007). Namely, Holmberg and Hróarsdóttir (2003: 1001) report that number agreement between T and an embedded nominative argument in Icelandic is blocked even if *wh*-movement displaces an intervening dative experiencer, see (14).

- (14) ??Hvaða stúdent finnst *t* tölvurnar ljótar?
 which student.DAT find.PL the.computers ugly
 “Which student finds the computers ugly?”

The status of (14) follows if T bears ϕ inherently, and if the ϕ -probe starts searching for a goal at the earliest point possible, namely when T is merged.⁷ If it does, then it will find the *wh*-experiencer, with which it cannot Agree assuming that agreement must be with the nominative argument. Provided that a failed attempt to probe cannot be repeated, the result is a defective intervention effect (Preminger 2014; see Richards 2008 for a different interpretation of defective intervention). In this way, it may follow from the analysis that *wh*-movement of an experiencer in Icelandic does not rescue agreement with a lower nominative argument although it does rescue raising of a nominative to subject position, but only if feature inheritance does not comprise ϕ -features.

6.2. Lebeaux's (2009) puzzle

In this section, I introduce a new type of evidence for the analysis presented in section 6.1. Recall that in this analysis Merge of the experiencer is procrastinated. As a consequence, the experiencer is not expected to trigger Principle C violations with respect to a coreferent R-expression that moves out of the experiencer's c-command domain before the experiencer is introduced into the structure. It turns out that this expectation is borne out with raising across an experiencer in English. I interpret this fact as support for the non-monotonic analysis proposed in section 6.1.

Crucially, the argument is based on the premise that Principle C is checked at every point of the derivation. This premise is defended in detail by Lebeaux (2009). If one accepts the premise, then, as Lebeaux (2009) points out, a puzzle arises with raising across experiencers in English. I illustrate that the puzzle receives a natural solution once it is assumed that such raising proceeds by a non-monotonic derivation. Before the argument itself can be given in detail, it is helpful to repeat the reasoning, as it is presented in Lebeaux (2009), that motivates the premise. This is what I will do first.

To begin with, Lebeaux (2009) claims that A-movement exhibits "reconstruction effects." This claim is based on examples such as the one in (15-a-c). These examples involve successive cyclic A-movement of *two women* and *Mary*, respectively, from the position marked by *t* to the matrix SpecT-position via the intermediate SpecT-position marked by *t'*. Lebeaux (2009) observes that (15-a) is ambiguous. In particular, it may receive an interpretation where the universally quantified phrase *every senator* takes scope over (" $>$ ") the numeral phrase *two women*.

- (15) a. Two women seem *t'* to be expected *t* to dance with every senator.
two women > every senator; every senator > two women
- b. Two women seem to each other *t'* to be expected *t* to dance with every senator.
*two women > every senator; *every senator > two women*
- c. Mary seems to two women *t'* to be expected *t* to dance with every senator.
*two women > every senator; *every senator > two women*

In contrast to (15-a), (15-b) is not ambiguous, that is, it lacks the reading where the

⁷This would mean that Agree cannot be procrastinated in contrast to Merge, cf. footnote 5, chapter 5.

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universally quantified phrase scopes over the numeral phrase. This suggests that the existence of this reading in (15-a) is not (exclusively) due to the application of quantifier raising (QR) of *every senator* across *two women* at LF but rather due to reconstruction of *two women* (presumably to the position *t*) plus QR of the universally quantified phrase *every senator* across the numeral phrase *two women* in its reconstructed position. Reconstruction is blocked in (15-b) because *two women* must bind the reciprocal *each other* at LF. Lebeaux (2009) calls this a “trapping effect.” Without reconstruction, the inverse scope reading cannot be generated. Finally, (15-c) is not ambiguous because the numeral phrase *two women* has not undergone A-movement, and thus there is no position it can reconstruct to. Lebeaux’s (2009) conclusion from all this is that there is reconstruction with A-movement (see also May 1985, Hornstein 1995, Boeckx 2001).

Next, Lebeaux (2009: 29-30) suggests that both Principle A and variable binding are “anywhere” principles in the sense that it suffices if they are satisfied at any point of the derivation (cf. Barss 1986: 168-176 for a critical assessment of this assumption). For Principle A, this is illustrated by the examples in (16-a-c): the anaphor *himself* in (16-a-c) may be bound at any of the positions that *which picture of himself* occupies during the derivation (see Langendoen and Battistella 1981, Weisler 1982, Barss 1986).

- (16) a. John_{*i*} wondered which picture of himself_{*i*} Bill said *t* that Steve liked *t*.
b. John wondered which picture of himself_{*i*} Bill_{*i*} said *t* that Steve liked *t*.
c. John wondered which picture of himself_{*i*} Bill said *t* that Steve_{*i*} liked *t*.

Similarly, variable binding of the pronoun *his* in examples such as (17-a,b) may apply in any of the positions that *which of his parents* occupies during the derivation.

- (17) a. Which of his_{*i*} parents did some patient_{*i*} believe *t* that every analyst knows *t* best?
b. Which of his_{*i*} parents did some patient believe *t* that every analyst_{*i*} knows *t* best?

In contrast to what is the case with Principle A and variable binding, Lebeaux (2009: 23-28) suggests that Principle C must apply *everywhere* (see also Burzio 1986, Belletti and Rizzi 1988, Lebeaux 1988, Sabel 1995: chapter 7). To see this, consider (18-a). In (18-a), variable binding of *he* by *every man* is impossible. The idea is that this is due to a violation of Principle C due to coindexation of *his* and *every man* (required by variable binding). In contrast, variable binding of *his* by *every man* is possible in (18-b) because *his* does not c-command *every man*. Lebeaux’s (2009) point is that the explanation of the contrast between (18-a,b) in terms of Principle C only goes through if Principle C must be fulfilled at every point of the derivation. In particular, if Principle C were to be fulfilled merely at LF, reconstruction of *he* to position *t* at LF in (18-a) would avoid a violation of Principle C, thereby rendering (18-a) grammatical (contrary to fact). If, however, Principle C must be fulfilled at every point, then the ungrammaticality of (18-a) follows.

- (18) a. *He_{*i*} seems to every man_{*i*} *t* to be quite wonderful.
b. His_{*i*} mother seems to every man_{*i*} *t* to be quite wonderful.

Note that reconstruction of *he* in (18-a) should be possible, in principle: the pronoun has undergone A-movement, and, as argued above, A-movement may undergo reconstruction.

Similarly, coreference between *he* and *John* in (19-a,b) (expressed by coindexation) is impossible. Again, the explanation for this is a Principle C violation. And again, as Lebeaux (2009) points out, this explanation requires that Principle C be not confined to LF because otherwise reconstruction of *he* to position *t* or *t'* would save the structures.

- (19) a. *He_i seems to John's_i mother *t'* to be expected *t* to win.
 b. *He_i seems to John_i *t'* to be expected *t* to win.

To conclude, since A-movement allows for reconstruction it follows from (18-a) and (19-a,b) that Principle C must be fulfilled at every point of the derivation. Or, to put it differently: there must not be a single point in the derivation where Principle C is violated. It is hard to see how this conclusion can possibly be avoided. In particular, there is no straightforward way to account for the ungrammaticality of (18-a) and (19-a,b) in terms of a surface structure constraint, given that surface structure as a designated level of representation is assumed to not exist any more (see Chomsky 1995).

At this point, the premise of the argument, the idea that Principle C is an everywhere principle, is motivated. I can now turn to the puzzle, which is called the “hole in Principle C” by Lebeaux (2009: 29-41). First, as (20-a,b) illustrate, again, an \bar{A} -moved category can fulfill Principle A and variable binding at any point of the derivation. Moreover, (20-c) shows that Principle C must be fulfilled at all points of an \bar{A} -derivation.

- (20) a. Which pictures of himself_i does John_i like *t*?
 b. Which of his_i parents did Freud say that every man_i likes *t* best?
 c. *Which pictures of John_i does he_i like *t*?

Next, (21-a,b) illustrate, again, that an A-moved category can fulfill Principle A and variable binding at any point of the derivation. The crucial observation is now given in (21-c). As (21-c) illustrates, a derivation involving A-raising need not fulfill Principle C at all points (cf. Rizzi 1986: 76, 80, Mahajan 1990: 19). The R-expression *John* in (21-c) is coreferent with the anaphor *himself*. Before *John* underwent raising, it occupied a position that is c-commanded by the anaphor. Yet, no Principle C violation arises. This seems to suggest that Principle C need not be fulfilled *before* raising applies. Thus, Principle C does not behave like an everywhere principle when it comes to A-raising.

- (21) a. Each other's_i parents are expected *t'* to seem to the boys_i *t* to be quite wonderful.
 b. Pictures of his_i father in his youth are known *t'* to seem to every man_i *t* to be quite wonderful.
 c. John_i seems to himself_i *t* to be intelligent.

The facts are summarized in the following table. For the positive anywhere conditions Principle A and variable binding, “yes” in (22) means that the binding required by the principle can apply. For the negative everywhere condition Principle C “yes” in (22) means that binding forbidden by the principle must not apply.

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(22)

	Principle A	variable binding	Principle C
\bar{A} -reconstruction	yes (20-a)/(16)	yes (20-b)/(17)	yes (20-c)
A-reconstruction	yes (21-a)	yes (21-b)	no (21-c)

To put it in a nutshell, then, Lebeaux’s (2009) puzzle is why Principle C does not behave like an everywhere principle with respect to A-movement, as opposed to \bar{A} -movement (see also Fox 1999: 192). If Principle C is indeed an everywhere principle, as was argued above, then (21-c) should be ungrammatical because there is a point of the derivation (before the embedded subject *John* is attracted) where *himself* c-commands *John*.

I now turn to the argument in favor of a non-monotonic analysis of raising across an experiencer. Lebeaux’s (2009) puzzle is relevant in this context because (21-c) involves raising across an experiencer. The argument is that the non-monotonic derivation in (9) from section 6.1.2 provides a straightforward answer to the puzzle. At the point of the derivation in (9) where the experiencer is introduced into the structure (step ④), the embedded subject has already been attracted by the EF on the matrix v-head (step ②). Thus, at no point of the derivation does the experiencer c-command the raised subject. Consequently, if the derivation of (21-c) proceeds along the lines of (9), then Principle C is fulfilled, and (21-c) is correctly predicted to be grammatical. To conclude, the fact that the analysis of raising across an experiencer in terms of the non-monotonic derivation in (9) solves Lebeaux’s (2009) puzzle provides independent evidence for this analysis.

Before closing this section, I have to address an issue that is implicated by this discussion. Namely, given the above conclusion there now arises a worry with examples such as (21-a,b). Principle A and variable binding in (21-a,b), respectively, require that the raised category is c-commanded by the experiencer at least at one point of the derivation. Since I have argued that the experiencer in raising constructions is only merged after the category to be raised is removed, it now follows that binding cannot apply in (21-a,b). Since binding apparently *is* possible in (21-a,b), something more has to be said.⁸ To account for (21-a,b), I therefore assume that literal reconstruction (i.e. syntactic lowering) of a raised category is possible at LF (see May 1977 for this approach to reconstruction; see also Heck and Assmann 2014).⁹ Assuming that Principle A and variable binding may apply anywhere, this suffices to satisfy binding of the anaphor and the variable in (21-a,b), respectively.¹⁰

⁸The same type of problem will also arise in the discussion of psych-verbs, see section 6.6. The solution proposed there is the same as the one suggested here.

⁹Note that semantic reconstruction via β -conversion of a higher order trace is not an option here for two reasons. First, it would remain unclear how Principle A, being a syntactic principle, can be satisfied if reconstruction applies in the semantics; second, binding of a free variable by β -conversion, which is what would have to happen in (21-a) and (21-b), is not allowed in the standard lambda calculus (but see Klein and Sternefeld 2013 for a proposal that eliminates the latter objection.)

¹⁰The assumption does not lead to an unwanted prediction with respect to (21-c) because nothing *forces* lowering to apply in (21-c). Note that one does not achieve the same result by assuming that A-movement reconstructs obligatorily while A-movement reconstructs optionally (see Fox 1999 for relevant discussion) as this would leave (18-a) and (19-a) unaccounted for.

6.3. Raising across anaphors

In this section, I provide evidence, based on the explanation for Lebeaux's (2009) puzzle given in section 6.2, that raising in French and Italian behaves differently from raising in English in that it does not make use of a non-monotonic derivation. The argument is based on the ungrammaticality of constructions that involve raising across anaphors in Romance. In sections 6.3.1 and 6.3.2, I briefly discuss two alternative explanations that were proposed by Rizzi (1986) and McGinnis (1998; 2004), respectively, suggesting that both suffer from a few drawbacks that the present approach manages to avoid.

As was illustrated at the beginning of this chapter, raising across an experiencer is not allowed in Romance, in contrast to English. In section 6.1.2, I suggested that raising across an experiencer in English involves procrastination of Merge of the experiencer. As argued in section 6.2, this also provides a solution as to why there is a hole in Principle C with raising in English (Lebeaux's 2009 puzzle).

Since Romance languages and Icelandic, for some reason, cannot resort to the non-monotonic derivation in (9) that is available in English (see section 6.1.2), it is predicted that A-raising constructions in these languages should be sensitive for Principle C effects involving the experiencer and the embedded subject. In other words, since the experiencer is introduced into the structure before the embedded subject undergoes raising, it should trigger a Principle C effect if it is coreferent with the subject, and if the latter counts as an R-expression in the sense of Principle C.

There is, however, a complication with the prediction: if an experiencer is present, then raising is ungrammatical in Romance for independent reasons, namely due to the usual dilemma involving MLC and SCC (recall (2) above). The dilemma holds independently of whether there is a Principle C configuration or not. In order to test the prediction, one must therefore consider a context where, exceptionally, raising across an experiencer is possible in Romance, but where this is not derived by means of a non-monotonic derivation. Such a context was noted in section 6.1.3 above: raising across an experiencer is possible in Romance if the experiencer undergoes cliticization.

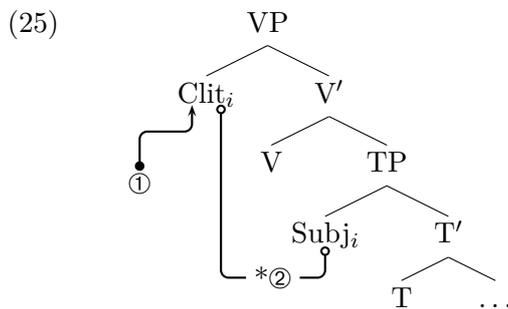
As it turns out, the prediction is borne out (see Rizzi 1986: 75-78 on Italian and French; see also McGinnis 1998: 151). The examples in (23-a) and (24-a) for French and Italian, respectively, are variants of the examples in (10), section 6.1.3, here repeated in (23-b) and (24-b). The only difference between the a.-examples and the b.-examples is that in the former the experiencer clitic is reflexive, hence coreferent with the raised subject. As expected, (23-a) and (24-a) are ungrammatical.

- (23) a. *Jean_i se_i semble t t avoir du talent.
 Jean SELF.DAT seems to.have of.the talent
 “Jean seems to himself to be gifted.”
- b. Jean_i lui_j semble t t avoir du talent.
 Jean him.DAT seems to.have of.the talent
 “Jean seems to him to be gifted.”

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- (24) a. *Gianni_i si_i sembra *t t* fare il suo dovere.
 Gianni SELF.DAT seems to.do the his duty
 “Gianni seems to himself to do his duty.”
- b. Gianni_i le_j sembra *t t* fare il suo dovere.
 Gianni her.DAT seems to.do the his duty
 “Gianni seems to her to do his duty.”

The relevant point of the derivation in question that explains the ungrammaticality of (23-a) and (24-a) is shown in (25). The experiencer is merged as a clitic in SpecV of the raising verb (step ① in (25)). Since at this point the embedded subject has not yet undergone raising, coindexation of the clitic experiencer and the embedded subject incurs a Principle C violation (see ②).



It is only later that the experiencer undergoes cliticization, thereby freeing up the way for raising of the subject (see section 6.1.3). This contrasts with the case of raising across a reflexive experiencer in English (see (21-c) above).¹¹

At the surface of (23-a) and (24-a), no Principle C violation can be detected because the experiencer does not c-command the subject after the latter has been raised to SpecT. Thus, the violation of Principle C in (23-a) and (24-a) is opaque, forming an instance of counter-bleeding. The fact that the present approach can account for the

¹¹Rizzi (1986: 76-77, footnote 10) also reports the contrast in (i-a,b) from Dutch, which is problematic under the present account: raising across the experiencer is possible (i-a), but not if the experiencer is a coreferent pronoun (i-b).

- (i) a. John lijkt mij *t* een aardige man te zijn.
 John seems me.DAT a nice man to be
 “John seems to be a nice man.”
- b. *Ik lijkt mij *t* een aardige man te zijn.
 I seem me.DAT a nice man to be
 “I seem to myself to be a nice man.”

German also allows for raising across an experiencer (see also section 3.2). Although the German analogue of (i-b) does not sound very natural (for whatever reason), I find other examples better:

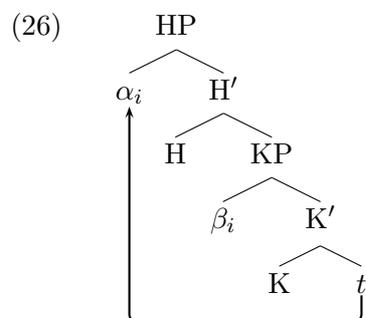
- (ii) Ich scheine mir *t* für diese Aufgabe ungeeignet zu sein.
 I seem me.DAT for this task not suitable to be
 “I seem to myself to not be suitable for this task.”

I therefore assume that the ill-formedness of (i-b) has an independent source, but I must leave open what it is.

ungrammaticality of (23-a) and (24-a) without further assumptions provides independent support for the derivational treatment of Principle C (i.e., the assumption that Principle C is an everywhere principle).¹²

6.3.1. Chain formation

Rizzi (1986) proposes to derive the ungrammaticality of (23-a) and (24-a) from the ϑ -criterion, which requires that each argument is in a chain with exactly one ϑ -role and vice versa.¹³ Rizzi (1986) argues that chains are not generated by the derivation (via movement) but rather are constructed from surface structure representation by a process called “chain formation,” which operates independently from movement. Chain formation is defined in such a way that if a category α moves across a coindexed (i.e., coreferent) element β , as in (26), then β is obligatorily integrated into the movement chain headed by α , thereby creating the complex chain $CH = \langle \alpha, \beta, t \rangle$.



Due to chain formation, the chain CH in (26) comprises two arguments (and two ϑ -roles). It therefore violates the ϑ -criterion. All other possible chains that may be constructed by chain formation on the basis of (26) also violate the ϑ -criterion for one or another reason. Importantly, it is impossible under Rizzi’s (1986) assumptions to construct the chain $CH = \langle \alpha, t \rangle$ for (26), alongside the trivial chain $CH' = \langle \beta \rangle$, which would satisfy the ϑ -criterion.

Since (26) is an abstraction of the configuration underlying (23-a)/(24-a), the ungrammaticality of the latter is reduced to the ϑ -criterion, too.¹⁴ I think the mere fact that Rizzi’s (1986) account requires the additional process of chain formation already provides a conceptual argument against it as opposed to the present account, which refers to the independently motivated Principle C.¹⁵ Moreover, chain formation, as conceived

¹²A derivational evaluation of Principle C may also account for cases of strong cross-over, provided that *wh*-phrases count as R-expressions in the sense of Principle C (cf. McGinnis 2004: 83), see (i):

(i) *Who_i does he_i like *t*?

¹³Another account of (23-a)/(24-a), proposed in McGinnis (1998; 2004), is briefly discussed in section 6.3.2. For yet two other proposals (not discussed here), see Sternefeld (1991) and Müller (1995*b*).

¹⁴Accordingly, the grammaticality of raising across a reflexive experiencer in English (see (21-c) above) is unexpected under this account. See Rizzi (1986: 76, 80-81) for discussion, and the critique thereof in McGinnis (1998: 200-202).

¹⁵See Fanselow (1991: 256-261) for arguments that Principle C is a grammatical principle and not part

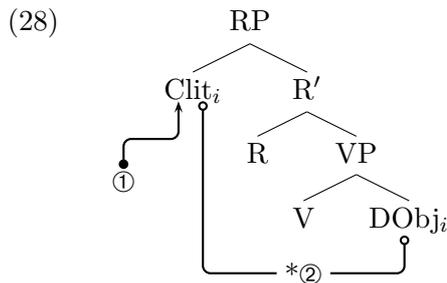
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of in Rizzi (1986), makes reference to surface structures, a concept that is often assumed not to be of theoretical relevance these days (see Chomsky 1995).

Consider now the contrast in (27-a,b), discussed by Rizzi (1986: 85-90):

- (27) a. Affiderò Gianni_i a se stesso_i.
 entrust.1SG.FUT Gianni to SELF SELF
 “I will entrust Gianni to himself.”
 b. *Si_i affiderò *t* Gianni_i.
 SELF entrust.1SG.FUT Gianni

Let me first consider the ungrammaticality of (27-b) under present assumptions. (27-a) involves the reflexive prepositional object *a se stesso*, which is *c*-commanded and bound by the coreferent direct object *Gianni*. In (27-b), which is ungrammatical (as observed in Kayne 1975), the prepositional reflexive is replaced by the reflexive dative clitic *si*, which I assume to be merged in the specifier of a functional projection of its own (called RP, see section 4.2.2, and section 6.5 below for references), from where it undergoes cliticization onto T at some later step. Crucially, the clitic *c*-commands the coreferent direct object *Gianni* from SpecR under present assumptions. It is therefore straightforward to reason that (27-b) is ungrammatical due to a Principle C violation, as illustrated in (28) (which structurally mirrors (25) from section 6.3).¹⁶



Under this view, (27-b) is simply a transparent analogue to (23-a) and (24-a), which involve an opaque violation of Principle C.¹⁷

Rizzi (1986: 85-90) discusses in detail the possibility of accounting for (27-b) in terms of chain formation. The background assumption is that *si* and *Gianni* in (27-b) *c*-command each other. This allows for forming the two chains CH = ⟨*si*, *t*⟩ and CH' = ⟨*Gianni*⟩, which both satisfy the ϑ -criterion. Rizzi (1986) suggests that in order to derive (27-b) as ungrammatical, the formation of CH and CH' must be blocked. Rizzi (1986) achieves this by a slight modification of the theory of chain formation. What this modification consists of is not important here. However, what is important is that Rizzi (1986) ultimately

of pragmatics. Whether it can be reduced to a deeper principle of grammar is another question.

¹⁶If one assumed that the clitic *si* in (27-b) were merged in the same position as the prepositional object in (27-a), then it would still move to Spec_v, under the present analysis, before undergoing cliticization onto T. And from Spec_v, the clitic would also *c*-command the coreferent direct object, again triggering a Principle C violation. See, however, section 6.5.4 below, where the assumption that dative clitics are merged higher than direct objects in Romance becomes crucial.

¹⁷See Kayne (1975), where the ungrammaticality of (27-b) and of (23-a)/(24-a) are also theoretically related to each other.

comes to the conclusion that such an approach faces empirical counter-evidence when examples are considered where the crossed-over element is an anaphor itself, as is the case with the complex anaphor *se stesso* in (29):

- (29) ?Difficilmente un medico $\overbrace{si \quad prende \quad in \quad cura \quad se \quad stesso}^t$.
 with difficulty a doctor SELF puts in cure SELF SELF
 “It is difficult that a doctor takes care of himself for the benefit of himself.”

Crucially, (29) is equally excluded by the modified theory of chain formation: it is irrelevant for the ϑ -criterion whether the crossed-over element is an R-expression or an anaphor. But as Rizzi (1986) notes, while (29) is not perfect, it is much better than examples such as (23-a)/(24-a), which are on a par with (27-b). Therefore, the exclusion of (29) by the ϑ -criterion is an unwanted result. In contrast, (29) can be derived as well-formed if one resorts to the unmodified variant of the theory of chain formation, which allows to create the two chains $CH = \langle si, t \rangle$ and $CH' = \langle se \text{ stesso} \rangle$ in (29). This, however, requires the above mentioned assumption that in (29) *si* and *se stesso* c-command each other.

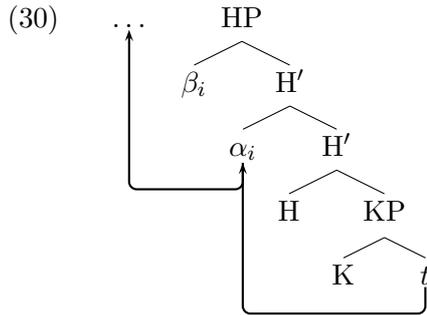
While such a move is, in principle, possible, it is unattractive for two reasons. First, the assumption that the reflexive clitic and the crossed-over direct object c-command each other is incompatible with the assumption that the clitic has moved, provided that branching is binary (the standard assumption nowadays): under these assumptions, movement always lands in a specifier position. Thus, if the moved clitic and the direct object stand in any c-command relation at all, then the clitic c-commands the direct object, but not vice versa.¹⁸ Second, since Principle C needs to be invoked in any event in order to account for (27-b), as Rizzi (1986) notes, it clearly appears to be preferable to hold it also responsible for the ungrammaticality of the examples in (23-a)/(24-a), and to dispense with the concept of chain formation entirely. This is the proposal that was made in section 6.3.

6.3.2. Lethal ambiguity

McGinnis (1998; 2004) postulates another mechanism to account for the ungrammaticality of examples such as (23-a)/(24-a). This mechanism is dubbed “lethal ambiguity.” The idea, in a nutshell, is as follows. Suppose that movement of α makes an intermediate stop in SpecH (for reasons of locality), and that, at the same time, HP hosts the category β in another SpecH. Suppose further that β is coreferent with α (i.e., it bears the same index). Then, according to lethal ambiguity, α and its trace cannot be associated with each other in an unambiguous way, leading to a crash of the derivation at the LF-interface. The relevant part of the derivation that illustrates this state of affairs is given in abstract form in (30).

¹⁸Alternatively, one could, perhaps, ensure creation of CH and CH' by assuming that chain formation applies twice: before and after raising of *si*. But this would have the unwanted consequence of also rendering (23-a)/(24-a) compatible with the ϑ -criterion.

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By assumption, the derivations of (23-a) and (24-a) proceed as in (30), with the subject raising cyclically via the specifier domain that hosts the experiencer (before cliticization onto T).

As McGinnis (1998; 2004) illustrates, the abstract pattern in (30) allows to account for many phenomena besides the ban on raising across reflexive experiencer clitics in Romance. To pick just one, consider the following examples from Georgian (see McGinnis 1998: 131-134 or McGinnis 2004: 76 for more examples and discussion).¹⁹

- (31)
- a. Vano_i tavis tav-s_i xatav-s.
Vano.NOM SELF'S SELF-DAT draw-PRES
“Vano is drawing himself.”
 - b. Nino-s_i tavis_i deida *t* xatav-s.
Nino-DAT SELF'S aunt.NOM draw-PRES
“Her aunt is drawing Nino.”
 - c. *Vano-s_i tavis_i tav-i_i *t* xatav-s.
Vano-DAT SELF'S SELF-NOM draw-PRES
“Himself is drawing Vano.”

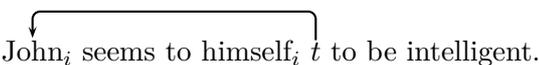
(31-a) shows binding of a complex reflexive dative object by the subject. As (31-b) illustrates, the dative object can undergo A-scrambling, thereby binding a reflexive within the subject. However, binding by a scrambled dative object fails if the bound reflexive is the subject itself (see (31-c)). This follows from lethal ambiguity, assuming that the object is scrambled into the specifier domain that also hosts the subject. Clearly, the ill-formedness of (31-c) is equally covered by Principle C, if interpreted derivationally: before scrambling applies, the reflexive subject *c*-commands the object in (31-c).²⁰ Note the contrast with (31-b), where the anaphor does not *c*-command the R-expression before scrambling of the object applies, and thus Principle C is not violated.

The account in terms of lethal ambiguity also provides a handle to explain why some derivations in which a coreferent category is crossed by movement do not result in ungrammaticality. Namely, what may be assumed for such cases is that locality theory does

¹⁹Other cases involve A-scrambling in Japanese (McGinnis 1998: 128-130), Hindi (Mahajan 1990: 32-33, McGinnis 1998: 135), and German (McGinnis 1998: 126-127), various constructions with derived subjects that raise across clitics in Romance (e.g., the arbitrary-*si* passive of double object constructions in Italian, see Rizzi 1986, McGinnis 1998: 153, 190), and double nominative constructions in Japanese (McGinnis 2004: 78-79).

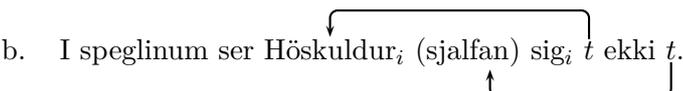
²⁰The ungrammaticality of example (31-c) may also be accounted for by Rizzi's (1986) theory of chain formation.

not force movement to make an intermediate stop in the specifier domain that also hosts the coreferent category. In other words, if the two movement steps shown in (30) can be replaced by one (long) movement step, then lethal ambiguity is not violated. A case in point, according to McGinnis (1998), is raising across a coreferent experiencer in English (see (21-c) from section 6.2), repeated in (32).

- (32)  John_i seems to himself_i *t* to be intelligent.

As far as I can see, all the phenomena discussed in McGinnis (1998: 126-138), which are attributed in this work to lethal ambiguity, can straightforwardly be re-interpreted as Principle C violations (provided a derivational interpretation of Principle C).²¹

However, the concept of lethal ambiguity is not without problems. As McGinnis (2004: 84) reports, it is possible in Icelandic for an anaphor that is coreferent with the subject to undergo OS, see (33-b):

- (33) a. I speglinum ser Höskuldur_i ekki (sjalfan) sig_i.
 in.the.mirror sees Höskuldur not SELF SELF
 “Höskuldur does not see himself in the mirror.”
- b.  I speglinum ser Höskuldur_i (sjalfan) sig_i *t* ekki *t*.

Assuming that OS lands in (an outer) Spec_{vp}, this is predicted to be impossible by lethal ambiguity. In order to explain the problem away, McGinnis (2004) resorts to an analysis of OS in terms of PF-movement (Holmberg and Platzack 1995, Holmberg 1999), the idea being that the base position of PF-movement can always be associated with its antecedent because PF-movement (in contrast to genuinely syntactic movement) leaves a full copy. Presumably the main stumbling block for an analysis of OS in terms of a PF-operation is the observation that OS can have semantic effects (see Diesing 1996; 1997, Vikner 2001). Of course, there is always the possibility to assume that OS does not land in the same specifier domain where the subject is merged. But this arguably complicates the theory, which would have to be motivated on independent grounds. In contrast, a non-monotonic derivation for OS, as proposed in section 4.2.3, explains straightforwardly why there is no Principle C violation in (33-b), even if one adopts a derivational interpretation of Principle C. The reason is that at no point of the non-monotonic derivation in (33-b) does the shifted object c-command the subject. This allows to distinguish the Icelandic case in (33-b) from, say, the Georgian case in (31-c)

A similar argument can be made on the basis of German. First of all, McGinnis (1998: 126) presents the contrast in (34-a,b), where (34-b) involves scrambling of a direct object across a coreferent nominative anaphor in German.

- (34) a. Vermutlich hat der Mann_i sich selbst_i im Spiegel gesehen.
 presumably has the man.NOM SELF SELF in.the mirror seen
 “Presumably, the man saw himself in the mirror.”

²¹See section 6.3.3 on the potentially problematic case of double nominative constructions in Japanese.

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- b. *Vermutlich hat den Mann_i sich selbst_i *t* im Spiegel gesehen.
presumably has the man.ACC SELF SELF in.the mirror seen

Under the assumption that scrambling in (34-b) involves movement to an outer Specv, the ungrammaticality (34-b) receives an explanation in terms of lethal ambiguity. But it is equally explainable as a Principle C violation.²²

Turning to the problem for lethal ambiguity, consider (35-a,b). In (35-a), a direct object binds an indirect object anaphor. In (35-b), a subject binds a direct object anaphor.

- (35) a. dass sie die Kinder_i einander_i *t* im Spiegel zeigte
that she the children.ACC each other.DAT in.the mirror showed
“that she showed the children to each other in the mirror”
- b. dass sie_i sich_i den Kindern *t* im Spiegel zeigte
that she SELF.ACC the children.DAT in.the mirror showed
“that she showed herself to the children in the mirror”

Suppose that the indirect object is merged higher than the direct object in German (see Lenerz 1977, Thiersch 1982, Webelhuth 1992, Haider 1993; 2010). Then, assuming lethal ambiguity, (35-a) must involve scrambling of the direct object into Specv. If scrambling in (35-a) landed in an outer specifier of the projection introducing the indirect object (SpecRP, see section 4.2.2, and section 6.5 below), the result would violate lethal ambiguity, and (35-a) should be ungrammatical. Again assuming lethal ambiguity, scrambling of the direct object in (35-b) must land in an outer SpecR for (35-b) to come out as grammatical. If it landed in Specv, the same specifier domain where the coreferent subject is merged, lethal ambiguity would be violated. Against the background of a theory in terms of non-monotonic derivations and a derivational interpretation of Principle C, one may assume for (35-a) that Merge of the indirect object is procrastinated. Scrambling can then target an inner Specv. No particular assumptions are needed to account for (35-b).²³

Up to this point, lethal ambiguity can be maintained by assuming that scrambling may either target Specv or SpecR. But now consider (36) (which has a structure similar to the Italian example (29) discussed in section 6.3.1):

- (36) dass sie_i sich_i sich selbst_i *t* im Spiegel zeigte
that she SELF SELF SELF in.the mirror showed
“that she showed herself to herself in the mirror”

(36) involves a simplex direct object anaphor (*sich*) that appears in a position between the subject and a complex indirect object anaphor (*sich selbst*). Both anaphors are

²²Alternatively, (34-b) may be ungrammatical because German does not have subject anaphors.

²³This appears necessary in order to explain the lack of a Principle C violation in (35-a). In principle, the mere fact that a direct object in German (as opposed to Dutch) can be scrambled across an indirect object might be an instance of the problem (21-a) (section 2.3), therefore motivating a non-monotonic derivation that involves procrastination of Merge of the indirect object.

bound by the subject. (36) may not be the most straightforward example, pragmatically speaking, but it is certainly grammatical. The point is that there is no way that (36) would not violate lethal ambiguity. If scrambling of the direct object anaphor lands in an inner Specv, the direct object shares a specifier domain together with the coreferent subject. If scrambling lands in an outer SpecR, then the direct object shares a specifier domain with the coreferent indirect object. In either case is lethal ambiguity violated, and (36) is predicted to be ungrammatical, contrary to fact.²⁴ In contrast, the present proposal rules in (36) without any further assumptions.

I conclude that an account of the restriction on anaphors in terms of Principle C offers advantages over the proposals made in Rizzi (1986) and McGinnis (1998; 2004). Indirectly, this supports the analysis of raising across an experiencer in English in terms of a non-monotonic derivation (section 6.1.2). To complete the argument, I now turn to the only case among those discussed in McGinnis (1998; 2004) where an analysis in terms of Principle C is not completely straightforward.

6.3.3. Japanese double nominatives

McGinnis (1998: 128-130) observes that in Japanese a scrambled dative marked object can bind an anaphor embedded within a subject (37-b) but not an anaphoric subject itself (37-c). (37-a) illustrates that the dative object is, in principle, able to bind an anaphor.

- (37) a. Hiroshi-ga kagami-o tukatte Osamu-ni_i karezisin-o_i miseta.
Hiroshi.NOM mirror-ACC using Osamu-DAT SELF-ACC showed
“Hiroshi showed Osamu himself using a mirror.”
- b. John-ni_i karezisin-no_i hahaoya-ga t Mary-o miseta.
John-DAT SELF-GEN mother-NOM Mary-ACC showed
“His mother showed John Mary.”
- c. *John-ni_i karezisin-ga_i t Mary-o miseta.
John-DAT SELF-NOM Mary-ACC showed
“Himself showed John Mary.”

The ungrammaticality of (37-c) is attributed by McGinnis (1998) to lethal ambiguity. An account in terms of a derivational interpretation of Principle C is equally possible.

The potentially problematic pattern involves multiple nominative constructions in Japanese, as analyzed in Miyagawa (2001) (and taken up by McGinnis 2004: 78-80). To begin with, Miyagawa (2001) notes that an accusative marked object cannot scope over

²⁴A similar argument can be made on the basis of the grammaticality of (i-a), assuming that the placement of the anaphor *sich* relative to the manner adverb *sorgfältig* “carefully” in (i-a) indicates that the anaphor must undergo scrambling to Specv (cf. (i-b)):

- (i) a. dass sie_i sich_i sorgfältig t vorbereitet hat
that she SELF carefully prepared has
“that she prepared herself carefully”
- b. ?*dass sie_i sorgfältig sich_i vorbereitet hat
that she carefully SELF prepared has

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negation while a nominative marked subject (at least for many speakers) must scope over negation:

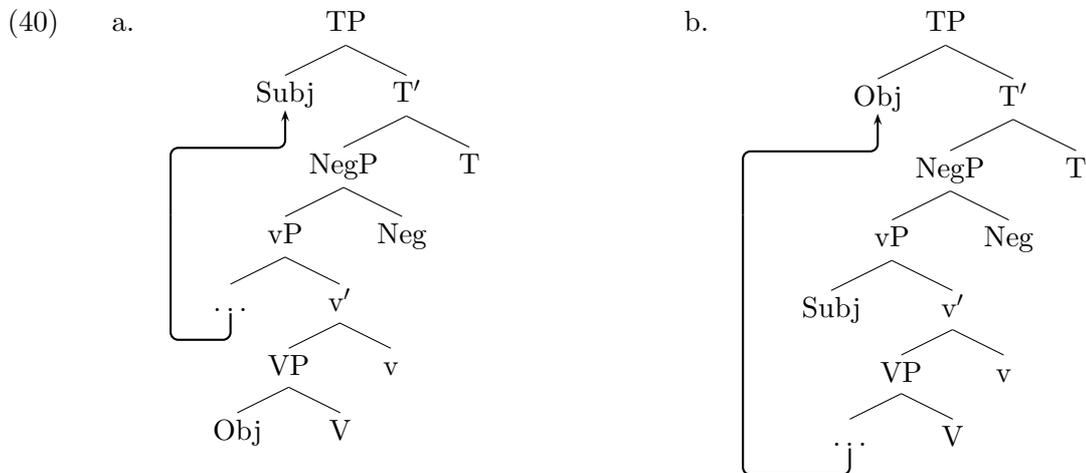
- (38) a. Taroo-ga zen'in-o home-nakat-ta.
 Taro-NOM all-ACC praise-NEG-PAST
 “Taro did not praise all.” not > all, *all > not
- b. Zen'in-ga sono tesuto-o uke-nakat-ta.
 all-NOM that test-ACC take-NEG-PAST
 “All did not take the test.” *not > all, all > not

This asymmetry is attributed by Miyagawa (2001) to subject raising to SpecT, assuming that negation in Japanese is a functional head in between *v* and T, see (40-a).

If the word order is OSV, then the subject optionally scopes above or below negation, see (39).

- (39) Sono tesuto-o zen'in-ga *t* uke-nakat-ta.
 that test-ACC all-NOM take-NEG-PAST
 “That test, all did not take.” not > all, all > not

According to Miyagawa (2001), the reading not > all in (39) comes about via raising of the object to SpecT, where it checks the EPP-feature on T, while the subject remains in Spec_v below negation (40-b). In contrast, the reading all > not in (39) is the result of subject raising (as in (38-a,b)) plus \bar{A} -scrambling of the object to a position above SpecT.



The apparent MLC-violation incurred by object-raising to SpecT across the subject in (40-b) (under the reading not > all in (39)) is analyzed in terms of equidistance by Miyagawa (2001). This is made possible by V-to-T movement in (39) (and also (38)), a prerequisite for such an analysis (see section 2.3.3). Moreover, Miyagawa (2001) illustrates that in OSV-contexts that lack V-to-T movement the subject must scope above negation, meaning that the object is not in SpecT but rather has undergone \bar{A} -movement. The lack of an intervention effect in (40-b) can be reanalyzed in terms of a non-monotonic derivation that involves attraction of the object before the subject is merged into Spec_v.

Such an analysis dispenses with the notion of equidistance while maintaining the dependency on V-to-T movement.²⁵ Instead of illustrating this in detail (but see below, where a similar derivation is shown), I rather turn directly to the construction that may seem problematic for an analysis in terms of Principle C.

Japanese allows for nominative objects, sometimes co-occurring with nominative subjects, in various constructions. One of them involves predicates denoting states (see Kuno 1973). Against this background, Miyagawa (2001) observes that the nominative object of a stative predicate must scope above negation:

- (41) Taroo-ga zen'in-ga osie-rare-nakat-ta.
 Taro-NOM all-NOM teach-can-NEG-PAST
 "Taro was not able to teach all." *not > all, all > not

The interpretation in Miyagawa (2001) is that obligatory wide scope of the object results from both nominative arguments being attracted to SpecT by the same EPP-feature (see also Koizumi 1994; 1998 for the claim that the nominative object moves to SpecT). Now consider (42-a-c). (42-a) shows that a nominative subject can bind an accusative object anaphor. (42-b,c) involve nominative objects. Binding of an anaphor within the nominative object is possible (42-c), however, binding fails if the nominative object *is* the anaphor (42-b).

- (42) a. [Taroo-to Hanako]_i-ga otagai_i-o yato-e-ru.
 Taro-and Hanako -NOM each other-ACC hire-can-PRES
 "Taro and Hanako can hire each other."
 b. *[Taroo-to Hanako]_i-ga otagai_i-ga yato-e-ru.
 Taro-and Hanako -NOM each other-NOM hire-can-PRES
 c. [Taroo-to Hanako]_i-ga [otagai_i-no gakusei]-ga
 Taro-and Hanako -NOM each other-GEN students -NOM
 yato-e-ru.
 hire-can-PRES
 "Taro and Hanako can hire each other's students."

An explanation for the ungrammaticality of (42-b) in terms of lethal ambiguity (as proposed by McGinnis 2004) is straightforward if both nominative arguments occupy multiple specifiers within TP.²⁶

The potential problem arising in the context of the present study is this. In order to derive the ungrammaticality of (42-b) from Principle C, there must be at least one step in the derivation of (42-b) where the anaphor c-commands its binder. But the derivation for constructions involving order preserving multiple movement to the same specifier domain proposed in section 3.6 does not have this property.²⁷

To offer an account of (42-b), I tentatively propose the following modification of Miya-

²⁵The intervening NegP is no problem for such an analysis because verb-movement proceeds via the Neg-head, as is evident from the fact that negation is realized as a verbal suffix.

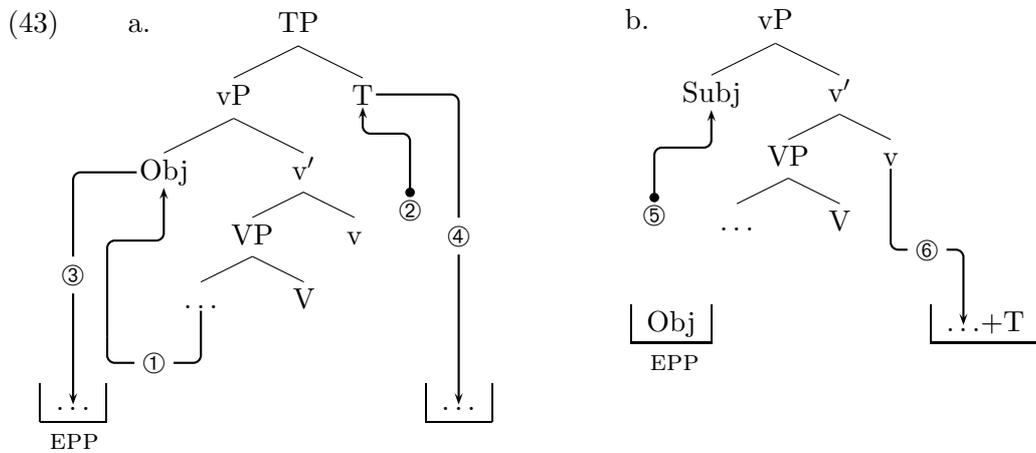
²⁶Miyagawa (2001) assumes an account in terms of chain formation (see section 6.3.1).

²⁷Incidentally, the same problem would arise if one adopted a derivation employing tucking-in.

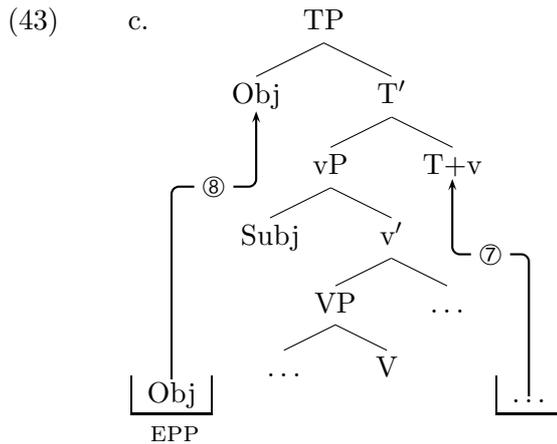
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gawa's (2001) analysis. Suppose that the object in (42-b) receives structural nominative while the subject receives inherent nominative (or nominative by default).²⁸ Suppose further that the EPP in Japanese requires checking by an argument with structural nominative (or accusative). Then (42-b) must involve raising of the object to SpecT (as argued by Miyagawa 2001), accounting for its obligatory wide scope. The subject, in turn, must have moved to a higher position. I assume that it moves to SpecC in order to check a focus feature.²⁹

The derivation of (42-b) then proceeds as follows. First, the object moves to Spec_vP for reasons of PIC-accessibility (step ① in (43-a)). Next, T is merged, attracts the object to the WSP, and is removed, preparing head-movement (steps ②–④). The subject is merged in accordance with the SCC (step ⑤), and the verb moves to T (step ⑥).



In (43-c), step ⑦ completes V-to-T movement. The complex T+v(+V)-head can now remerge the object in its specifier (step ⑧). In subsequent steps, the C-head is merged and attracts the subject (not shown here).



²⁸Saito (1985) suggests that nominative in Japanese is inherent throughout. Koizumi (1994; 1998) proposes that all instances of nominative in Japanese are structural.

²⁹Cf. Kuno (1973), where it is observed that the leftmost *-ga*-marked element in stative constructions with multiple nominatives receives a focus interpretation.

Crucially, in (43-c), the derivation has reached a configuration where the anaphor (the object) c-commands its binder (the subject). This triggers a Principle C violation, which is masked by subsequent \bar{A} -movement of the subject (again, a case of counter-bleeding). I suggest that this Principle C violation is what is responsible for the ungrammaticality of (42-b).³⁰ To the extent that this analysis is tenable, a treatment of (42-b) in terms of Principle C is possible. Consequently, I think there are reasons to prefer the present approach over the proposals in Rizzi (1986) and McGinnis (1998; 2004) on both conceptual and empirical grounds.

6.4. Pit-stop reflexives

In section 6.2, I introduced the assumption that anaphor binding may apply derivationally. The examples in (16) involved binding of an anaphor in English by the subject of an intermediate clause that a *wh*-phrase containing the anaphor moves through on its way to the matrix SpecC-position. Abels (2003; 2012) calls this “pit-stop binding.” As discussed in Abels (2003: 26-33), the pit-stop binder may also be an object, in particular an experiencer (see also Abels 2012: 21-25). Also, Abels (2003) reports the contrast in (44-a,b). (44-a) involves *wh*-movement out of a finite clause embedded under the raising verb *seem*, across an experiencer that binds the anaphor *himself* contained within the *wh*-phrase. In (44-b), the embedded clause is an infinitive. Accordingly, raising of the embedded subject across the experiencer applies in addition to *wh*-movement. For some reason, the interaction of raising and pit-stop binding leads to ungrammaticality.

- (44) a. Which picture of himself_i did it seem to John_i [_{CP} *t'* that Mary liked *t*]?
 b. *Which picture of himself_i did Mary seem to John_i [_{TP} *t* to *t'* like *t*]?
-

The grammaticality of (44-a) is expected if, as is usually assumed, *wh*-movement can make an intermediate stop in the embedded SpecC-position, marked by *t'* in (44-a), and if Principle A is an anywhere principle. Once the *wh*-phrase has reached the embedded SpecC-position, the anaphor embedded within the *wh*-phrase is both c-commanded by and close enough to the experiencer to be bound. According to Abels (2003), (44-b) is ungrammatical because raising infinitives are TPs, not CPs, and therefore lack a SpecC-position. Thus, the only point of the derivation of (44-b) at which the anaphor may be bound is when the *wh*-phrase is in Spec_vP (due to intermediate movement to the edge of vP). In this position (indicated by *t'* in (44-b)), however, the anaphor is contained within the minimal TP that includes a subject and excludes the binder (the experiencer). In this configuration, the locality requirements on Principle A assumed by Abels (2003) prohibit binding of the anaphor by the experiencer.

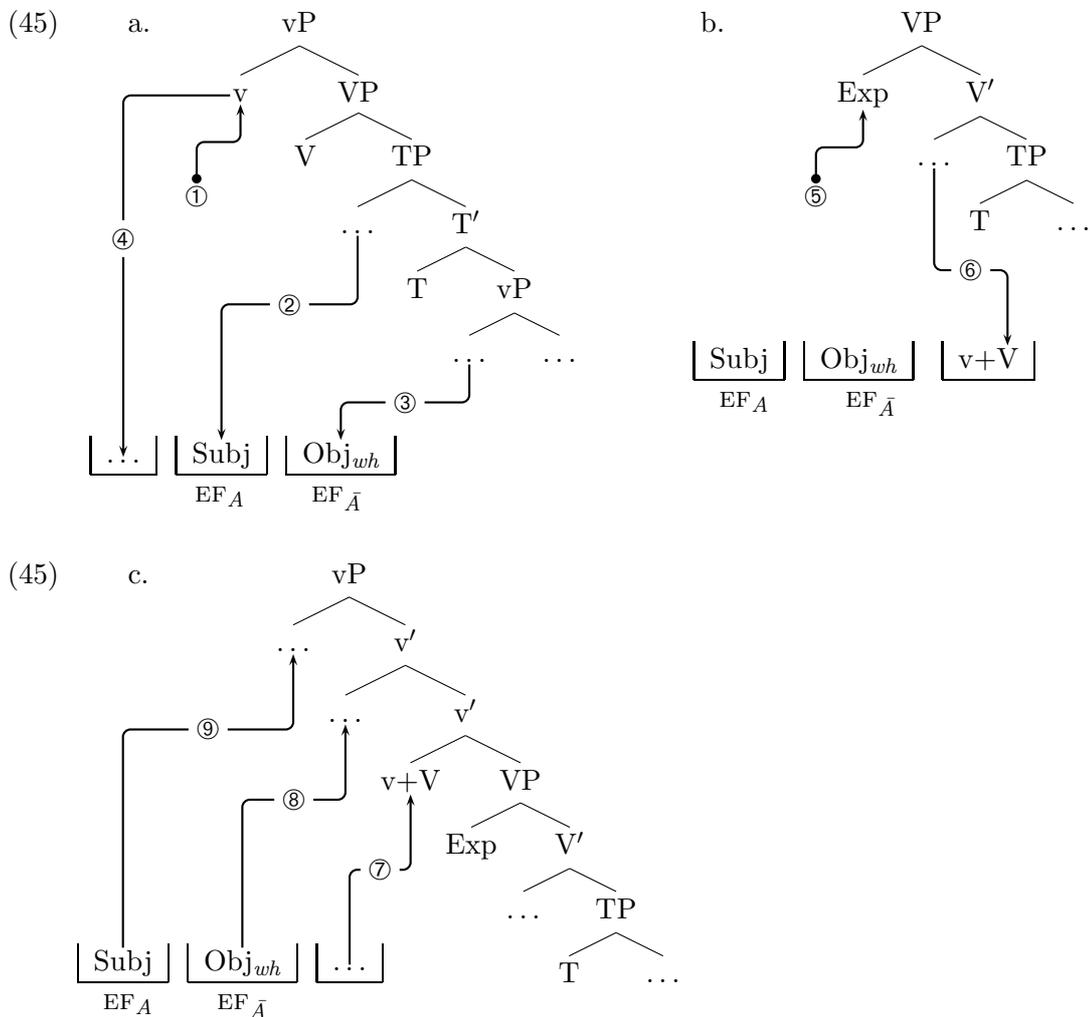
Suppose now that there are no locality principles for anaphor binding as such, and that locality effects for anaphor binding follow from the PIC. I will not defend this view here.

³⁰It must be possible that the \bar{A} -movement step by the subject is preceded by optional A-scrambling of the subject to a position above the object in order to derive anaphor binding in (42-c).

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But I would like to point out that if this assumption is made, then the ungrammaticality of (44-b) does not follow from locality theory any more because the anaphor, being part of the *wh*-phrase in Spec_v of the embedded clause, is PIC-accessible for the experiencer.

The reason why this is of interest here is that the non-monotonic analysis of raising across an experiencer proposed in section 6.1.2 provides an independent explanation for the ungrammaticality of (44-b), analog to the explanation of Lebeaux's (2009) puzzle proposed in section 6.2. Recall that this non-monotonic analysis involves raising of the subject at a point of the derivation where the experiencer is not part of the structure yet. For (44-b), the derivation is given in detail in (45-a-c). When the matrix *v*-head is merged (see step ① in (45-a)), its EF attracts both the embedded subject and the *wh*-phrase, placing them in separate WSPs, each of them associated with a different kind of EF (EF_A and $EF_{\bar{A}}$). This is shown by steps ② and ③ in (45-a). After this, *v* is removed (see step ④), and the experiencer is merged cyclically (step ⑤ in (45-b)).



Later, the *v*P-shell is restored by head movement (steps ⑥ and ⑦ in (45-b,c)), and *wh*-phrase and subject are remerged in Spec_v (steps ⑧ and ⑨ in (45-c)), from where they undergo further movement to their ultimate landing positions. Crucially, at no point of

this derivation does the experiencer c-command the anaphor contained in the *wh*-phrase, and consequently Principle A is not satisfied. Thus, the non-monotonic derivation in (45-a-c) can explain the incompatibility of raising and pit-stop binding arising in (44-b).

There is, however, a problem with this analysis. Recall from section 6.2 that I assumed that syntactic reconstruction (in terms of literal lowering at LF) must be possible in order to explain the grammaticality of examples such as (46) (cf. example (21-a) above):

(46) Pictures of himself_i seem to John_i [t to be beautiful].

In the (overt part of the) non-monotonic derivation of (46), the experiencer does not come to c-command the raised subject. Hence, anaphor binding is expected to be impossible, thereby failing to satisfy Principle A. If the raised subject can be reconstructed at LF, Principle A will be satisfied there. The problem arising from this in the present context is that one has to ensure that (44-b) does not allow for syntactic lowering of the \bar{A} -moved category below the experiencer, too.

To account for the difference between (44-b) and (46), I tentatively propose that while A-movement may be reconstructed by literal lowering, \bar{A} -movement may not. In other words, reconstruction effects with \bar{A} -movement must be the result of the derivational satisfaction of grammatical principles. This would then explain why Principle A can be fulfilled in (46) while it cannot in (44-b).³¹ Possible support for this suggestion may be gained from the contrast in (47-a,b), from German:

(47) a. Welchen Verwandten von sich_i hat Maria jedem_i t' gestern t t
 which.ACC relative.ACC of SELF has Maria everyone.DAT yesterday
 im Spiegel gezeigt?
 in.the mirror shown
 “Which relative of himself_i did Maria show everyone_i yesterday in the mirror?”

b. *?Welchem Verwandten von sich_i hat Maria t' jeden_i gestern t t
 which.DAT relative.DAT of SELF has Maria everyone.ACC yesterday
 im Spiegel gezeigt?
 in.the mirror shown
 “To which relative of himself_i did Maria show everyone_i yesterday in the mirror?”

³¹A complication for this idea arises from (i), which is well-formed (Andrew Murphy, p.c.). In (i), binding cannot be computed derivationally because subject raising across the experiencer has taken place. This suggests that the \bar{A} -moved category may undergo literal reconstruction after all:

(i) Which pictures of himself_i seem to John_i t to be on sale?

A potential account of (i) is that movement of the *wh*-phrase to the edge of vP in (i) may be ambiguously triggered by EF_A and $EF_{\bar{A}}$. Due to $EF_{\bar{A}}$, movement to the edge of vP may then, perhaps, be able to cross the experiencer as part of a monotonic derivation without violating the MLC because the experiencer is not a possible target for \bar{A} -movement. Under this view, (i) does not involve a non-monotonic derivation, and Principle A is satisfied derivationally, after all.

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Suppose that the dative marked indirect object is merged higher than the accusative marked direct object in German, and that scrambling of the one object and intermediate movement of the other object in (47-a,b) to Spec_v, to the left of the adverb *yesterday*, proceed in an order preserving way (see section 3.6).³² Then the ungrammaticality of (47-b) is accounted for if the \bar{A} -moved indirect object cannot undergo reconstruction (in terms of lowering) below the surface position of the direct object, leading to a violation of Principle A. Moreover, Principle A cannot be satisfied derivationally in (47-b) either because at no point of the overt derivation does the direct object come to c-command the indirect object. In contrast, (47-a) can fulfill Principle A derivationally, thereby accounting for its well-formedness.

6.5. Asymmetries in passivization

6.5.1. The structure of double object constructions

In Icelandic double object constructions (DOCs), OS can either apply to the indirect object alone (48-c) or to both the indirect object and the direct object (in an order preserving fashion), see (48-d). Crucially, OS of the direct object across the indirect object is blocked, see (48-b).³³ A classical analysis of these observations is couched in terms of locality (Vikner 1989, Collins and Thráinsson 1996, Collins 1997): the MLC blocks OS of the direct object across the indirect object because the indirect object is closer to the attracting v-head.

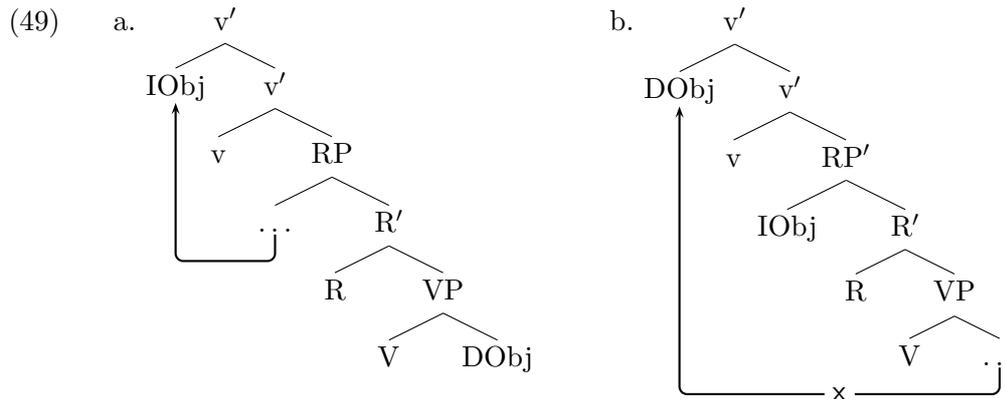
- (48) a. Ég lána not Maríu bækunar.
I lend not Maria.DAT the.books.ACC
“I do not lend the books to Maria.”
b. *Ég lána bækunar not Maríu *t*.
I lend the.books.ACC not Maria.DAT
c. Ég lána Maríu not *t* bækunar.
I lend Maria.DAT not the.books.ACC
d. ?Ég lána Maríu bækunar not *t t*.
I lend Maria.DAT the.books.ACC not

The prerequisite of such an explanation is that the indirect object c-commands the direct object asymmetrically. As mentioned in section 4.2.2, I assume that the indirect object is merged in the specifier of a separate functional head R (see Marantz 1993; Ura 1996; McGinnis 1998; Pylkkänen 2002; Anagnostopoulou 2003). Its projection RP is located in between vP and VP. If OS to Spec_v is movement triggered by a feature [OS] on v, then the ungrammaticality of (48-b) follows from the MLC, see (49-b).³⁴

³²This presupposes that scrambling in German is EF-driven, an assumption that is also made in Heck and Himmelreich (2015).

³³There is the possible caveat that (48-b) is grammatical as an “inversion” structure, which requires a particular stress pattern; see Zaenen et al. (1985), Collins and Thráinsson (1996: 420) or Anagnostopoulou (2003: 98-99).

³⁴Bobaljik (1995b) proposes that (48-b) is ungrammatical because OS of the direct object targets a position *below* the base position of the indirect object. This idea presupposes the existence of further



As usual, a derivation that first moves the direct object to Specv and then merges the indirect object in SpecR violates the SCC.

Against this background, it is surprising that there are languages where (other instances of) A-movement of the direct object across the indirect object is possible. I turn to these in the following section.

6.5.2. Passive asymmetries

Languages differ as to which of the two objects in a passivized double object construction (DOC) may raise to subject position (provided there is subject raising to begin with). Some languages allow only the indirect object to be passivized, for instance (American) English (Larson 1988: 362-363, Ura 1996: 169-176, Ura 2000: 244-248) and Danish (Vikner 1989: 150, Falk 1990: 86). See (50-a,b) for Danish (from Falk 1990).

- (50) a. Han blev tilbudt *t* en stilling.
 he was offered a job
 "He was offered a job."
 b. *En stilling blev tilbudt ham *t*.
 a job was offered him
 "A job was offered to him."

Other languages allow passivization of both objects, for instance Swedish (Holmberg and Platzack 1995: 217-218) and Norwegian (Hellan 1990: 76, Holmberg and Platzack 1995: 215). (51-a,b) illustrates for Swedish.

- (51) a. Johan förärades *t* en medalj.
 Johan present.PASS a medal
 "Johan was presented a medal."
 b. Medaljen förärades Johan *t*.
 the.medal present.PASS Johan
 "The medal was presented to Johan."

Yet other languages only allow passivization of the direct object, as for instance Polish (at least for most verbs, see Dziwirek 1994, Citko 2011: 115-118), Czech (Petr Biskup,

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p.c.), or Dutch (Zwart 2011: 20, Koster 1978: 156); this is illustrated in (52-a,b) for Polish (examples from Dziwirek 1994).³⁵

- (52) a. *Ewa była wysłana *t* paczkę przez Janka.
Eve.NOM was sent package.ACC by John
“Eve was sent a package by John.”
b. Paczka została wysłana Ewie *t* przez Janka.
package.NOM was sent Eve.DAT by John
“The package was sent to Eve by John.”

The question posed by languages that belong to one of the latter two classes is how the direct object can undergo passivization if the indirect object intervenes. Provided that the indirect object c-commands the direct object and acts as a defective intervener, the MLC should block “long passivization” across the indirect object in Swedish or Polish just as it does in Danish, and just as it blocks OS of the direct object across the indirect object in Icelandic.³⁶

6.5.3. Non-monotonic passivization

There are two canonic approaches to asymmetries in passivization: the absorption approach (e.g., Baker 1988, Woolford 1993, Müller 1995*a*) and the locality approach (e.g., Vikner 1989, Anagnostopoulou 2003, Ura 1996; 2000). The absorption approach assumes that languages differ in whether they “absorb” the case of the indirect object or of the direct object (or both) in a passive. Accordingly, only the object whose objective case has been absorbed will receive nominative instead and thereby be able to undergo rais-

³⁵Due to the freedom of word order in Polish and Czech, it is not obvious that these languages require raising of an argument to SpecT. As for Polish, Dziwirek (1994: 31-53) presents a series of tests for subjecthood, some of which may be interpreted to characterize an argument as occupying SpecT. To pick just one, the phrase *po pijanemu* “while drunk” can only be controlled by a subject, see (i). As (ii) shows, it may also be controlled by the nominative object of a passivized clause.

- (i) a. Ewa często jeździ samochodem po pijanemu.
Eve.NOM often drives car.INSTR while drunk
“Eve often drives drunk.”
b. Janek pobił Ewę po pijanemu.
John.NOM beat.up Eve.ACC while drunk
“John beat up Eve while he/*she was drunk.”
c. Ewa zwróciła Jankowi pierścioneK po pijanemu.
Eve.NOM returned John.DAT ring.ACC while drunk
“Eve returned the ring to John while she/*he was drunk.”
(ii) Janek był pobity przez Marka po pijanemu.
John.NOM was beaten.up by Mark while drunk
“John_i was beaten up by Mark while he_i was drunk.”

Some of Dziwirek’s (1994) tests are applicable to Czech with similar results (Petr Biskup, p.c.).

³⁶For the claim that the indirect object c-commands the direct object in these languages, see the following references: Hoekstra (1991) and Zwart (2011: 20, 261) on Dutch; Citko (2011: chapter 4) on Polish (cf. Franks 1993 for both supporting and conflicting evidence with respect to Polish); Veselovská (1995) on Czech; Holmberg and Platzack (1995: 190-194) on Scandinavian.

ing (in languages where raising to SpecT is restricted to arguments bearing nominative case). According to the locality approach, raising can only apply to the higher of the two objects due to the MLC.

In what follows, I argue that both absorption and locality are required. Looking at Icelandic it may seem as if a pure locality account would be sufficient. The ungrammaticality of crossing OS in (48-b) suggests that A-movement in Icelandic is subject to the MLC. Accordingly, one expects long passivization to be impossible, too. This expectation is borne out (Falk 1990), as illustrated in (53-a,b):

- (53) a. Honum var gefin *t* bókin.
 him.DAT was given the.book.NOM
 “He was given the book.”
 b. *Bókin var gefin honum *t*.
 the.book.NOM was given him.DAT
 “The book was given to him.”

However, the existence of languages that exclusively passivize the direct object suggests that locality theory alone cannot account for asymmetries in passivization. Assuming that the indirect object is closer to T than the direct object, one needs to explain why a derivation that passivizes the indirect object is not an option in these languages.

On the other hand, if case theory were all that is relevant, then one would expect that a language that allows for passivization of the direct object also allows for OS of the direct object across the indirect object (provided the language exhibits OS at all).³⁷ But at least in Swedish, where long passive is possible (recall (51-b)), the direct object cannot undergo OS across an in-situ indirect object (not even in case the indirect object is a full noun phrase and thus inert for OS), see (54-a) (from Holmberg 1999: 2).³⁸

- (54) a. *Jag gav den inte Elsa *t*.
 I gave it not Elsa
 “I did not give it to Elsa.”

³⁷Ura (1996: 155-169; 2000: 235-244) proposes that long passivization in Swedish and Norwegian is fed by OS of the indirect object, which he assumes to be possible for full noun phrases in these languages (cf. footnote 16, chapter 4) but not Danish. See Anagnostopoulou (2003: 218) for discussion.

³⁸There are speakers of Swedish that allow for such crossing OS with pronouns (Hellan and Platzack 1999: 131-132), see (i-b), and there are also speakers that allow for inverted order with multiply shifted pronouns (Holmberg 1986: 207), see (ii-b). Note that the contrast between shifting across a full noun phrase (54-a) as opposed to the shift across a pronoun (i-b) does not arise with passivization, which suggests that crossing OS and long passivization are not directly connected (cf. Anagnostopoulou 2003: 126). Moreover, Anagnostopoulou (2003: 329, footnote 41) reports that some speakers who accept (ii-b) do not accept (i-b), suggesting that the two phenomena are independent.

- | | | | |
|-----|---|------|---|
| (i) | a. Han visade henne inte <i>t</i> den.
he showed her not it
“He didn’t show it to her.” | (ii) | a. Jag gav honom den inte <i>t t</i> .
I gave him it not
“I didn’t give it to him.” |
| | b. ?Han gav den inte henne <i>t</i> .
he gave it not her
“He didn’t give it to her.” | | b. Jag gav den honom inte <i>t t</i> .
I gave it him not |

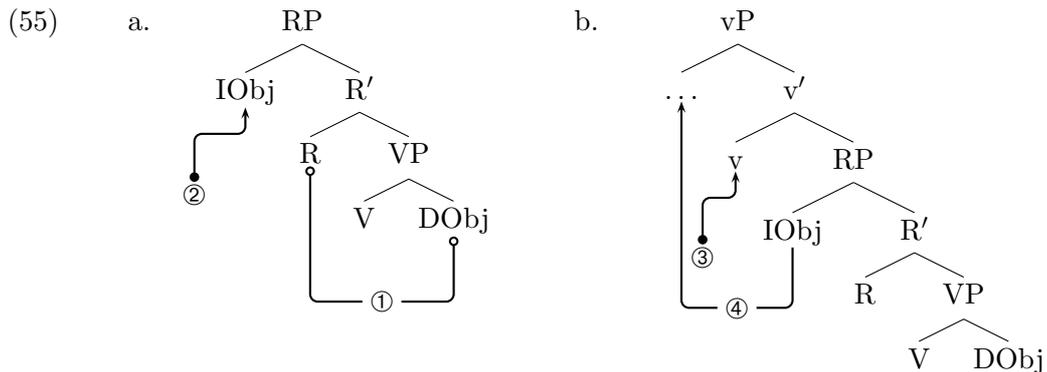
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- b. Jag gav inte Elsa den.
I gave not Elsa it

To conclude, case absorption is a necessary condition for raising in passives but not a sufficient one. Thus, even if the case for the direct object has been absorbed locality still blocks raising across the intervening indirect object.

In what follows, I suggest that raising of the direct object across the indirect object in passivization is made possible by a non-monotonic derivation. Concretely, the assumptions are the following. In a DOC (with two structural objective cases), *v* assigns structural dative to the indirect object and *R* assigns structural accusative to the direct object (Ura 1996: 152, Ura 2000: 233, McGinnis 1998: 41). I further assume that little *v* cannot assign dative unless *R* has adjoined to it, forming the complex head *v+R*. In the “short passive” (passivization of the indirect object), *v*’s case is absorbed; in the long passive (passivization of the direct object), *R*’s case is absorbed (cf. Müller 1995*a*: 239–246).³⁹ Finally, in the long passive of the DOC, where *R* is defective, Merge of the indirect object can be procrastinated in favor of Merge of *v*.

With these assumptions in place, I now turn to the derivations. In what follows, *V*-to-*R* movement is suppressed for ease of exposition. I begin with the less complex derivation of a short passive in (55).

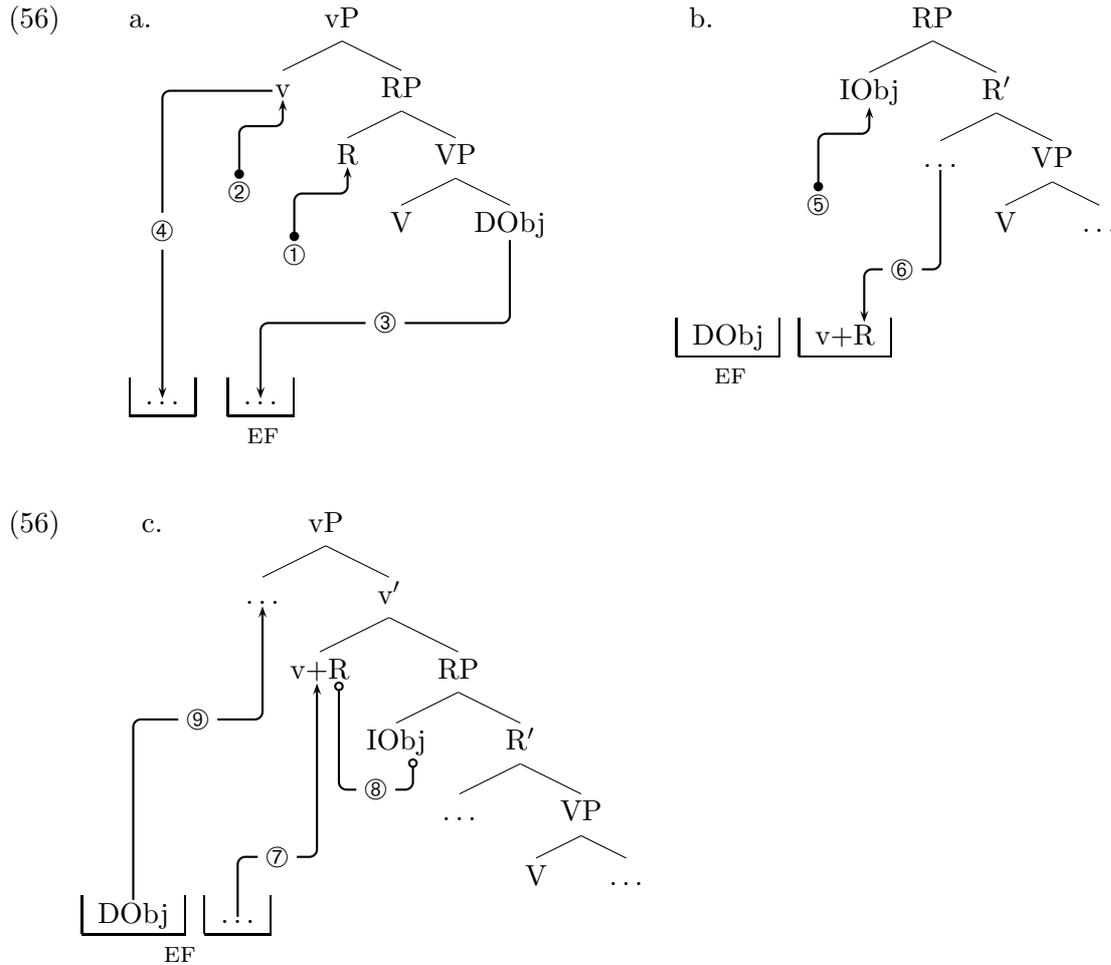


The details of (55-a,b) are as follows. First, *R* assigns case to the direct object (step ① in (56-a)), then the indirect object is merged in Spec*R* (step ②). Next, little *v* is merged (see step ③). As *v*’s case feature is absorbed in this kind of derivation, the indirect object cannot receive case. Consequently, it moves to Spec*v* (triggered by EF on little *v*) to become PIC-accessible for case assignment by *T* (and subsequent raising to Spec*T*), see step ④. The rest of the derivation involves Merge of *T* plus raising of the indirect object to Spec*T* after assignment of nominative case (not shown in (55)).

Let me now turn to the (more complex) derivation of raising the direct object in a passivized DOC in (56). (56-a) enters the derivation when *R* is merged (step ①). By assumption, *R*’s case is absorbed. Therefore, it cannot assign objective case to the direct object. At this point, Merge of the indirect object is procrastinated. Instead, little *v* is

³⁹In German, where both types of passives exist (Höhle 1978, Reis 1985, Fanselow 1987), the difference is reflected in the choice of the auxiliary: a complex head $v[+CASE]+R[-CASE]$ is realized as *werden* “become” while the head $v[-CASE]+R[+CASE]$ is realized as *bekommen* “get”.

merged, and the direct object is removed by an EF on little *v* (steps ②–③ in (56-a)). If the direct object stays within the *vP*, it is trapped by the indirect object at a later point and remains without case. Note that *v*, by assumption, cannot assign case to the direct object in (56-a) because *R* has not yet incorporated into *v*. In order to prepare *R*-to-*v* movement, *v* is removed to the WSP in the next step (④ in (56-a)). With *v* gone, the *vP* vanishes, too, and the indirect object can be introduced cyclically in Spec*R* (step ⑤ in (56-b)). Next, *R* is removed, too, in order to perform head-movement (see step ⑥).



When the *v+R* complex is remerged with *RP*, it assigns case to the indirect object (steps ⑦–⑧ in (56-c)). Finally, the direct object is remerged to Spec*v* to become PIC-accessible for case assignment by *T* (and raising to Spec*T*, both not shown in (56-c)), see step ⑨ in (56-c). By familiar reasoning, the non-monotonic derivation in (56-a-c), which thus enables passivization of the direct object across the indirect object, is dependent on (*V*-to-)*R*-to-*v* movement. *R*-to-*v* movement, in turn, is motivated by the word order in the ditransitive constructions under discussion: the verb precedes the indirect object.

One question remains to be answered. Why is crossing OS in Swedish, a language that allows for long passivization and thus, by hypothesis, for the derivation in (56), not grammatical (recall (54-a))? As an answer to this question, I tentatively propose that *R*

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in Swedish cannot procrastinate Merge of the indirect object unless R's case has been absorbed. This assumption ensures that the direct object can cross the indirect object by A-movement in a passivization context, but not in an active structure involving OS.⁴⁰

6.5.4. (Anti-)Principle C effects

Given the conclusion from section 6.5.3 that R-to-v movement is necessary for the derivation (56) but not sufficient, i.e., only a subset of the languages with R-to-v movement also allow for long passivization, it would be interesting to see further evidence for the assumption that long passivization involves a non-monotonic derivation.

Similar to what was discussed with respect to raising across an experiencer in section 6.2 above, the present analysis makes the prediction that languages that allow for long passivization in DOCs (because they can absorb R's case and they allow to procrastinate Merge of the indirect object) lack Principle C effects between the indirect object and the direct object in the context of long passivization. The reason is that at the point of the derivation where the indirect object is merged in a derivation involving long passivization, a coreferent R-expression that is merged as the direct object has already been removed from the structure. Thus, the indirect object never comes to c-command the R-expression in direct object position.

The prediction is borne out for Dutch (57-a) (McGinnis 2004: 53), Polish (57-b) (Joanna Zaleska, p.c.), Czech (57-c) (Peter Biskup, p.c.), and Norwegian (57-d) (Siri Gjersøe, p.c.).⁴¹ Thus, all these languages allow for long passivization. And in none of them does a relevant Principle C effect arise.

- (57) a. Jan_i werd zichzelf_i *t* getoond.
Jan became SELF shown
“Jan was shown to himself.”
- b. Panie_i zostały przedstawione sobie_i nawzajem *t*.
women became introduced SELF.DAT RECIPR
“The women were introduced to each other.”
- c. Děti_i byly sobě_i ukázány *t* v zrcadle.
children were SELF.DAT shown in mirror
“The children were shown to each other in the mirror.”
- d. Hans_i ble tildelt seg selv_i.
Hans was assigned SELF SELF
“Hans was assigned to himself.”

In Italian and French, passivization of the direct object across the indirect object is

⁴⁰This assimilates passivized R in Swedish to the defective little v-head embedded under a causative in French (section 4.1.3), and the defective v-head embedded under T in QI in English and SI in French (sections 5.1 and 5.2, respectively).

⁴¹Choosing an anaphor in Norwegian requires some care. Hellan (1988) notes that of the three anaphors *ham selv*, *seg*, and *seg selv*, only the last can be bound by a local subject, compare (57-d) with (i).

- (i) *Hans_i ble tildelt ham selv_i / seg_i.
Hans was assigned him SELF SELF

possible only if the indirect object is moved out of the way by cliticization (cf. section 6.3 on raising in Romance). This suggests that these languages do not make use of a non-monotonic derivation of the type in (56). Consequently, Principle C effects with passivized DOCs are expected to show up in these languages because at some early point in the derivation the indirect object clitic *does* c-command a raised R-expression that was merged as a direct object (again, cf. section 6.3).

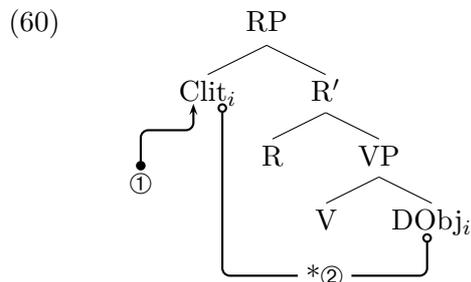
The expectation is borne out (see Kayne 1975: 350-351, 376; Rizzi 1986: 70; McGinnis 1998: 152). (58-a,b) illustrates this for French, (59-a,b) for Italian. Note that (58-a) and (59-a) are grammatical under an active reflexive reading, such as “Our friends introduced themselves” in the case of (58-a), which is irrelevant here.

- (58) a. *Nos amis_i se_i sont présentés *t t*.
 our friends SELF are presented
 “Our friends were introduced to each other.”
 b. Nos amis lui sont présentés *t t*.
 our friends him.DAT are presented
 “Our friends were introduced to him.”

- (59) a. *Gianni_i si_i è stato affidato *t t*.
 Gianni SELF is been entrusted
 “Gianni was entrusted to himself.”
 b. Gianni le è stato affidato *t t*.
 Gianni her.DAT is been entrusted
 “Gianni was entrusted to her.”

Note that the well-formedness of (58-b) and (59-b), where the anaphoric clitic is replaced by a non-anaphoric one, suggests that the ungrammaticality of (58-a) and (59-a) is indeed due to the anaphoricity of the argument being crossed by passive raising.

(60) illustrates the configuration incurring the Principle C violation responsible for the ungrammaticality of (58-a) and (59-a). (60) is identical to (28) from section 6.3.1.



Note that I make the crucial assumption here, following McGinnis (1998: 152) (who refers to Marantz 1993), that the dative reflexive clitic c-commands the theme argument in the base in French and Italian (see also Demonte 1995, Cuervo 2003: 48-60 on Spanish).⁴²

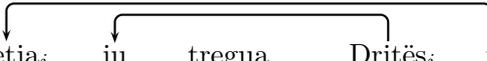
⁴²But cf. Rizzi (1986: 71), who seems to assume that the dative reflexive originates in a position to the

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As reported by McGinnis (1998: 158), the direct object in a Greek passive scan raise across an indirect object if latter is doubled by a clitic, see (61-a). Anagnostopoulou (2003) argues that the reason for this is that the doubling clitic contains all the features of the indirect object that are relevant for intervention (presumably ϕ). This frees up the way for raising of the direct object. Again, this suggests that Greek does not resort to a non-monotonic derivation when forming a long passive. Consequently, Principle C effects between a passivized direct object and an indirect object are expected, and they do arise, see (61-c).

- (61) a.  To vivlio tu dothike tu Janni t apo tin Maria.
 the book.NOM him.DAT was given the Jannis.DAT by the Maria
 “The book was given to Jannis by Maria.”
- b. O kalitexnis tu edikse tu Janni_i ton eafton tu_i.
 the artist.NOM him.DAT showed the Jannis.DAT the self.DAT his.ACC
 “The artist showed Jannis to himself.”
- c. *O Jannis_i tu dixtike tu eaftu tu_i t apo ton
 the Jannis.NOM him.DAT was shown the SELF.DAT his.GEN by the
 kalitexni.
 artist.ACC
 “Jannis was shown himself by the artist.”

Finally, the same picture emerges for Albanian (McGinnis 1998: 53, McGinnis 2004: 96). Albanian is like Dutch in that it obligatorily passivizes the direct object (62-a), see McGinnis (1998: 142). Moreover, in Albanian, cliticization of the dative is obligatory (Massey 1992: 160). In this respect, it is similar to Greek (where cliticization is obligatory in the context of raising across the indirect object). Again, this suggests that Albanian uses the same strategy as Italian, French, and Greek to avoid an MLC violation in a configuration with long passivization, namely cliticization of the intervening indirect object. Accordingly, Principle C effects arise in the relevant context (see Hubbard 1983: 67, Massey 1992: 126). This is illustrated by (62-c) (from Hubbard 1983).

- (62) a.  Vetja_i iu tregua Dritës_i t prej artistit.
 SELF.ACC CL.CL show.N-ACT Drita.DAT by the.artist
 “Herself was shown to Drita by the artist.”
- b. Artisti_i ia tregoi Dritës veten_i.
 the.artist CL.CL show.ACT Drita.DAT SELF.ACC
 “The artist showed himself to Drita.”
- c. *Drita iu tregua vetes_i t prej artistit.
 Drita.NOM CL.CL show.N-ACT SELF.DAT by the.artist
 “Drita was shown to herself by the artist.”

To conclude, the assumption that long passivization is brought about by a non-monotonic derivation explains without further ado why no Principle C effect arises if the crossed-

right (and thus below) of the direct object.

over indirect object is an anaphor. In contrast, languages that employ cliticization to generate long passives expectedly *do* show such Principle C effects because the indirect object clitic *c*-commands the R-expression in direct object position before cliticization and passive raising take place.

6.6. Psych-verbs

6.6.1. Belletti and Rizzi's (1988) analysis

According to Belletti and Rizzi (1988), there are three different classes of psych-verbs in Italian: the *temere*-class, typically instantiated by the predicate *temere* “fear”, the *preoccupare*-class (“worry”), and the *piacere*-class (“please”). There is evidence that verbs that belong to one of the latter two classes differ from those belonging to the first class in being transitive unaccusative: both the experiencer argument and the theme argument are merged VP-internally, and there is no agentive argument in Specv. Moreover, for verbs of both classes (*preoccupare* and *piacere*), binding suggest that the experiencer is merged to a position that asymmetrically *c*-commands the position to which the theme argument is merged (see below). As for the *preoccupare*-class, the theme argument obligatorily raises to SpecT, see (63-a,b).

- (63) a. Questo preoccupa Gianni *t*.
 this worries Gianni
 “This worries Gianni.”
 b. *Gianni preoccupa *t* questo.
 Gianni worries this

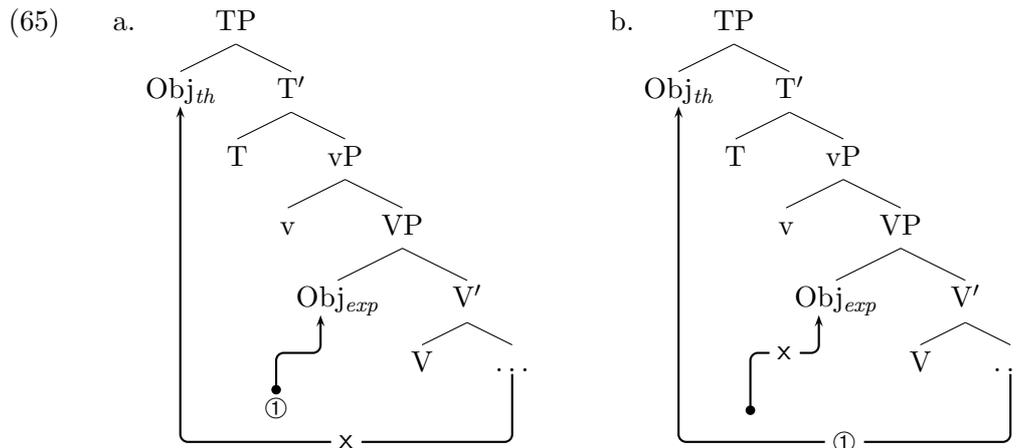
In contrast, constructions that involve a predicate of the *piacere*-class involve either raising of the experiencer or of the theme, as is illustrated in (65-a,b), see Belletti and Rizzi (1988: 337-339).

- (64) a. La musica è sempre piaciuta a Gianni *t*.
 the music is always pleased to Gianni
 “Music always pleases Gianni.”
 b. A Gianni è sempre piaciuta *t* la musica.
 to Gianni is always pleased the music

According to Belletti and Rizzi (1988: 331), the experiencer ϑ -role of verbs of both classes is tied to an inherent case. Verbs that belong to the *preoccupare*-class assign inherent accusative, verbs of the *piacere*-class assign inherent dative.

This analysis, which is well-motivated, is confronted with the problem that raising of the theme across the experiencer to SpecT as in (63-a) and (64-a) should be barred by the MLC, as shown in (65-a). For (63-a), this problem presupposes that the experiencer may act as a defective intervener. For (64-a), intervention is not even defective, witness (64-b).

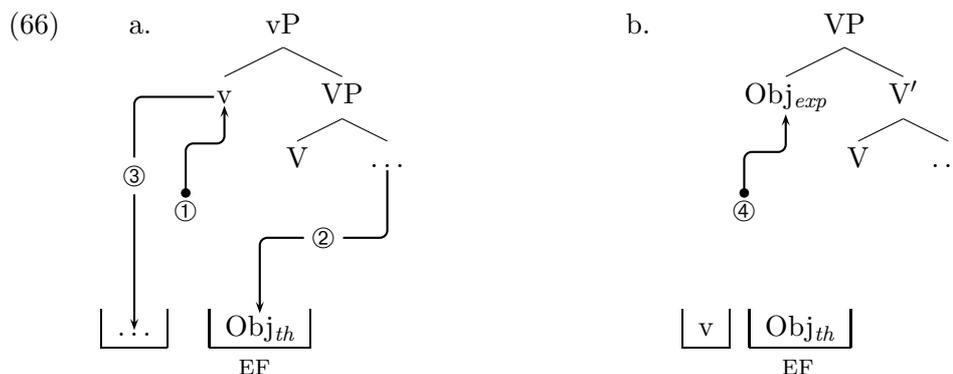
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The alternative derivation that first applies raising of the theme argument to SpecT and then merges the experiencer argument afterwards is blocked by the SCC, see (65-b).⁴³

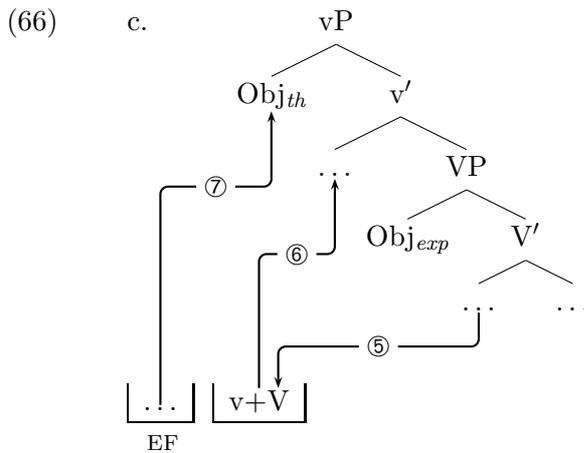
6.6.2. Non-monotonic raising and psych-verbs

I propose to analyze raising in the context of psych-verbs in terms of a non-monotonic derivation. The general idea is the same as before: Merge of the experiencer argument of a psych-predicate can be procrastinated in favor of merging the next higher v-head. Only after little v has attracted the theme argument and has placed it in the WSP is the experiencer introduced.⁴⁴ Consequently, the experiencer enters the structure too late to act as an intervener for raising of the theme argument. (66-a-c) show the details of this derivation.



⁴³Pesetsky (1995) subjects the analysis of Belletti and Rizzi (1988) to further scrutiny (partially on the basis of facts from English), claiming that an unaccusative analysis of verbs of the *preoccupare*-class is incorrect (Pesetsky 1995: 19-53). Crucially, however, Pesetsky's analysis still involves raising of the theme across the experiencer, even for verbs belonging to the *preoccupare*-class (Pesetsky 1995: 21, 43, 201-210). Therefore, the problem discussed here stands also if one accepts Pesetsky's (1995) proposal. However, Belletti and Rizzi's (1988) analysis of the verbs that belong to the *piacere*-class remains unaffected by Pesetsky's criticism (see Pesetsky 1995: 52).

⁴⁴Recall in this context the assumption (from section 3.5) that unaccusative vPs (as they show up in psych-predicate contexts) are also phases.



Movement of the theme object (step ⑦ in (66-c)) lands in Spec_v. From there, it undergoes subsequent movement to Spec_T, which is not shown in (66).

The derivation in (66) is contingent on V-to-v movement and procrastination of Merge of the experiencer. Of course, V-to-v movement applies generally and therefore can only be a necessary precondition for such a derivation, not a sufficient one. Procrastination may be optional for both, the *preoccupare*-class and the *piacere*-class. For the *preoccupare*-class, I assume that an argument bearing inherent accusative, such as the experiencer of a predicate belonging to this class, cannot satisfy the EPP on T in Italian, while an argument with inherent dative, as the experiencer of a predicate of the *piacere*-class, apparently can (cf. Preminger 2014: 160-166 for related discussion). If procrastination does not apply with a verb of the *preoccupare*-class, the derivation crashes.

6.6.3. Complications: Principle C

Belletti and Rizzi (1988: 296) observe that (67), which involves raising of a theme argument across a reflexive experiencer clitic in a psych-verb construction, is ungrammatical.

- (67) *Gianni_i si_i preoccupa t t.
 Gianni SELF worries
 “Gianni worries himself.”

(67) strongly recalls the ungrammaticality of (59-a), here repeated in (68). Accordingly, Belletti and Rizzi (1988: 296-297) treat both examples in terms of chain formation (see Rizzi 1986 and section 6.3.1 above for discussion).

- (68) *Gianni_i si_i è stato affidato t t.
 Gianni SELF is been entrusted
 “Gianni was entrusted to himself.”

In section 6.5.4, I argued that the reason for the ungrammaticality of (68) is that at some point of the derivation the raised direct object is c-commanded by the reflexive indirect object clitic, incurring a Principle C violation. It now seems as if this explanation were

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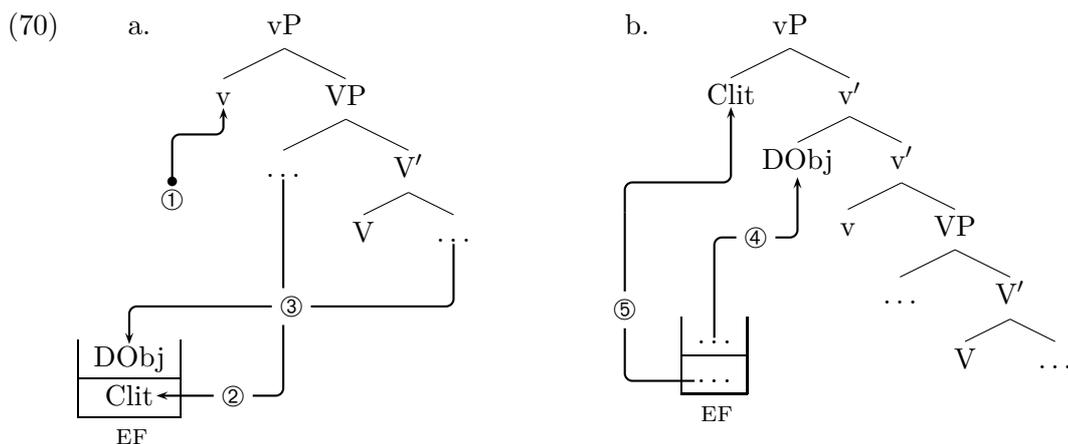
not available in the case of (67) because it requires the experiencer to be part of the structure before the theme argument undergoes raising, which is exactly what is denied by the analysis of psych-predicates of the *preoccupare*-class given in section 6.6.2.

In what follows, I suggest that the reason for the ill-formedness of (67) lies in the fact that it involves cliticization. More precisely, I argue that, under present assumptions, cliticization is incompatible with the non-monotonic derivation that I suggested to enable raising of theme arguments across experiencer arguments in psych-verb constructions. As a consequence, (67) cannot be derived by the non-monotonic derivation proposed in section 6.6.2 and is therefore bound to incur a Principle C violation after all, thus explaining its ungrammaticality.

As a preliminary to this explanation, consider first the derivation of the grammatical example (69) (from Rizzi 1986: 70), which is similar to (59-a) and (68) except that the reflexive dative clitic *si* has been replaced by the non-reflexive dative clitic *le* “her”.

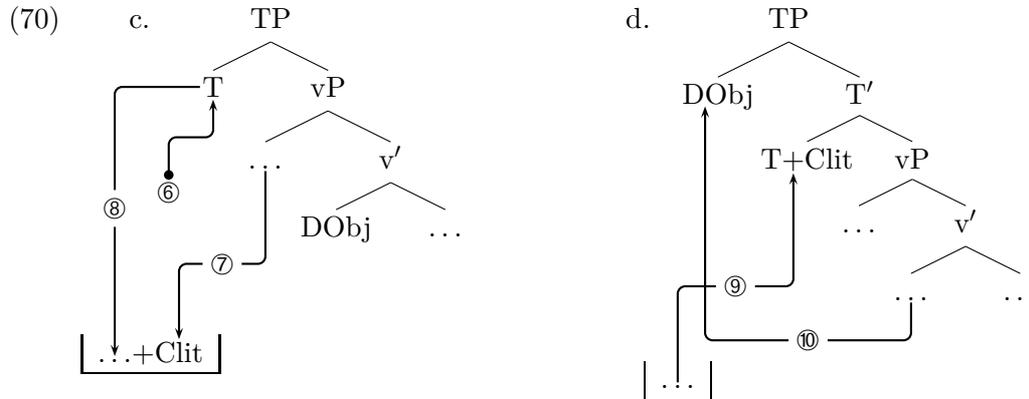
- (69) Gianni *le* è stato affidato *t* *t*.
 Gianni her.DAT is been entrusted
 “Gianni was entrusted to her.”

The relevant part of the derivation of (69) is given in (70-a-d). The dative clitic *le* must adjoin to T, and the direct object *Gianni* is supposed to undergo raising to SpecT. For this to happen, both arguments first have to move to Spec_v in order to become PIC-accessible. Recall from section 3.5 that multiple movement of co-arguments to the phase edge is performed by a single EF. This assumption was necessary in order to derive order preservation effects. It follows that if some argument is supposed to reach Spec_v, then it must move to this position together with other categories (e.g., co-arguments) that also go there, i.e., as part of the same movement operation. This is illustrated for (69) by the steps ②–⑤ in (70-a,b).



Once the T-head is merged (step ⑥ in (70-c)), it attracts the dative clitic and forms a complex head with it (steps ⑦ and ⑧), thereby freeing the way for attraction of the

direct object to SpecT (step ⑩) after the T-head is remerged (step ⑧).⁴⁵



To emphasize, the property of the derivation in (70-a-d) that is relevant in the present context is that a category that is not attracted to the specifier of a phase Φ along with other categories that also move to Spec Φ will *never* reach Spec Φ . The reason is that there is exactly one EF that can perform movement to the edge of Φ , and this EF has to attract all categories in one fell swoop. Therefore, the indirect object clitic and the direct object in (69) must together undergo movement to Specv.

Importantly, what holds for the non-reflexive indirect object clitic *le* in (69) also holds for the reflexive experiencer clitic *si* in (67). Thus, cliticization of *si* requires previous movement of the clitic to Specv. But since movement to Specv must affect all categories that are supposed to undergo movement to the edge of vP at once, comprising the theme object, this implies that the experiencer clitic *si* in (67) must be part of the structure before raising of the theme object applies. Since the experiencer is merged in a position c-commanding the theme, it follows that the derivation of (67) incurs a violation of Principle C. This explains the ungrammaticality of (67).⁴⁶

Note that examples such as (71), which involve raising of the theme argument across a non-coreferent experiencer argument in psych-constructions, can still be derived: as in the derivation of (67), Merge of the experiencer need not be procrastinated because its cliticization to T frees up the way for raising of the theme argument to SpecT. Crucially, since the clitic is not coreferent with the direct object, there is no coindexation between the two, and therefore Principle C is not an issue.

- (71)
- Maria *le* preoccupata *t t*.
 Maria her.DAT worries
 “Maria worries her.”

⁴⁵Similar to the assumptions made in sections 4.1.2, 4.3.1, 5.1.2, and 5.2.1 with respect to compound tenses, there should probably be a functional projection in between TP and vP in (70) that determines the status of the main verb *stato* in (69) as a participle. This projection is suppressed here for expository reasons. Nothing hinges on its presence or absence in the present context.

⁴⁶One may imagine a derivation where the clitic does not move to Specv and which therefore manages to avoid a Principle C violation. I assume that there exists some principle of the grammar that requires *si* to undergo cliticization, and that this principle is fatally violated by such a derivation.

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Finally note that there is independent evidence that the ungrammaticality of (67) is somehow related to its involving cliticization. Namely, as noted in Sternefeld (1984; 1991: 75) (see also Müller 1995*b*: 191-193), in German, where a reflexive experiencer pronoun does not undergo cliticization, examples that are structurally comparable to (67) in other respects are grammatical, see (72-a,b).

- (72) a. Am Ende hat Arnim_i nur sich_i (selbst) *t* irritiert.
at end has Arnim only SELF SELF irritated
“In the end, Arnim irritated only himself.”
- b. dass alle_i sich_i *t* ziemlich unglücklich vorkamen
that all SELF quite unhappy strike.as.PAST
“that everybody struck themselves to be unhappy”

This suggests that cliticization is crucially involved in the explanation of (67).

6.6.4. Complications: Principle A

Belletti and Rizzi (1988: 312-316) also observe that psych-verbs in Italian allow for “backward” satisfaction (aka reconstruction) for the purpose of Principle A (see also Pesetsky 1987, 1995: 43-50 for related remarks on English and for further references). Illustrative examples for this are given in (73-a,b):

- (73) a. I propri_i sostenitori preoccupano Gianni_i *t*.
the own supporters worry Gianni
“His own supporters worry Gianni.”
- b. Questi pettegolezzi su di sé_i preoccupano Gianni_i *t* più ogni altra cosa.
these gossips about SELF worry Gianni more all other thing
“These gossips about himself worry Gianni more than anything else.”

In both (73-a,b), the raised theme argument contains an anaphor that is bound by the experiencer. The problem with this fact in the present context is analog to the one that already showed up with respect to raising to SpecT across an experiencer mentioned in section 6.2. Provided the analysis in section 6.6.2, the experiencer objects in (73-a,b) do not c-command the theme objects at any point of the (overt) derivation. But the objects contain the element that is subject to Principle A, and which ultimately is to be interpreted as a bound variable. Thus, Principle A, or the c-command condition on variable binding for that matter, should be violated, contrary to fact. Since the problem is the same as the one mentioned in section 6.2, the solution that I propose here is also the same: (73-a,b) involve literal LF-lowering of the theme to its base position.

6.6.5. Ditransitive unaccusatives in Georgian

I close this chapter with a brief discussion of a psych-verb construction in Georgian. In principle, this section does not much more than repeat various arguments that have been made in previous sections of this chapter. It is nevertheless contained here because

Georgian exemplifies many of these arguments for a non Indo-European language.

As reported in McGinnis (1998: 215-217) (citing Nash 1995), Georgian has ditransitive unaccusative predicates that take a dative experiencer and a nominative theme as arguments. In this construction, SpecT may be filled either by the nominative theme or by the dative experiencer, see (74-a,b), respectively (taken from McGinnis 1996):⁴⁷

- (74) a. $\overbrace{\text{Deideb-i Pata-s } t}$ da-e-karg-nen
 aunts-NOM Pata-DAT PREV-R-lose-NOM.PL
 “The aunts were lost to Pata.”
 b. Deideb-s t Gela da-e-karg-a-t.
 aunts-DAT Gela.NOM PREV-R-lose-3PRES-PL
 “The aunts had Gela lost on them.”

There is evidence that the dative experiencer indeed asymmetrically c-commands the nominative object, which comes from the agentive counterparts of these unaccusative predicates. With these, the nominative theme cannot bind the dative experiencer, see (75-a), but the experiencer can bind the theme, see (75-b).

- (75) a. $\overbrace{*Vano-m Nino_i \text{ tavis tav-}s_i t}$ da-u-mal-a.
 Vano.ERG Nino.NOM SELF’s SELF-DAT PREV-R-hide-AOR
 “Vano hid Nino from herself.”
 b. Vano-m Nino- s_i tavis tav- i_i da-u-mal-a.
 Vano.ERG Nino.DAT SELF’s SELF-NOM PREV-R-hide-AOR
 “Vano hid herself from Nino.”

Note that Georgian allows for A-scrambling. For instance, the dative object in (76) can bind a possessive anaphor within the nominative subject (from McGinnis 1998: 83-84; see also (31-b) in section 6.3.2):

- (76) $\overbrace{Nino-s_i \text{ tavis}_i \text{ deida } t}$ akeb-s.
 Nino-DAT SELF’s aunt.NOM praise-PRES
 “Her_i aunt is praising Nino_i.”

Thus, to account for the ungrammaticality of (75-a) it does not suffice to assume that the nominative theme object is merged in a position c-commanded by the dative experiencer. Under this assumption, (75-a) allows for an analysis where the theme object undergoes A-scrambling across the experiencer object. This, in turn, should enable the theme object to

⁴⁷According to McGinnis (1996; 1998), the difference between raising of a nominative vs. raising of a non-nominative argument is reflected by the difference in plural agreement on T: *-nen* in (74-a) vs. *-t* in (74-b). Compare (i), where *-t*-agreement is triggered by the dative subject of an agentive predicate:

- (i) Deideb-s Gela u-qvar-t.
 aunts-DAT Gela.NOM R-love.PL
 “The aunts love Gela.”

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bind an anaphoric experiencer, contrary to fact. The observation is particularly relevant here because it lends support to an explanation of the ungrammaticality of (75-a) in terms of a Principle C violation, which presupposes that one adopts the idea (assumed in the present study) that Principle C must be obeyed at every step of the derivation.

Coming back to (74), provided that the nominative theme is merged below the dative experiencer the possibility of raising the former across the latter in (74-a) should violate the MLC because the experiencer intervenes. The grammaticality of (74-a) is thus surprising. For instance, raising of a nominative object across a dative subject of an agentive predicate is impossible, as illustrated in (77) (McGinnis 1996).

- (77) $\overbrace{*Deideb-i \quad Pata-s \quad t} \quad u-qvar-an.$
 aunts-NOM Pata-DAT R-love-NOM.PL
 “Pata loves the aunts.”

An account of (77) in terms of the MLC suggests itself. Note that in the case of (74-a) no reference to *defective* intervention is necessary because the dative experiencer is able to satisfy the EPP on T itself (recall (74-b)).

An explanation for (74-a) is at hand if ditransitive unaccusatives in Georgian allow to procrastinate Merge of the dative experiencer in favor of Merge of *v* (presumably in contrast to their agentive counterparts, cf. (75-a)). Once little *v* is merged, it attracts the theme argument (by some EF) and places it in the WSP. The dative experiencer is merged once the *vP*-shell has temporarily vanished due to *V-to-v* movement, thus after the theme argument has been attracted. Consequently, the experiencer cannot prevent raising of the theme. See derivation (66) in section 6.6.2 for details.

Finally note that since, according to this analysis, at no point of the derivation the experiencer comes to *c-command* the nominative theme, it is expected that no Principle C violation arises if the experiencer is an anaphor that is bound by the raised nominative object. This prediction is borne out, see (78) (from McGinnis 1996).

- (78) $\overbrace{?Deideb-i \quad tavianti \quad tav-s \quad t} \quad da-e-mal-en.$
 aunts-NOM SELF’S SELF-DAT PREV-R-hide-NOM.PL
 “The aunts were hidden from themselves.”

To summarize, a non-monotonic analysis of raising in ditransitive unaccusatives in Georgian not only provides an explanation for why non-local raising of the lower nominative object argument is possible, but it also accounts for the lack of a Principle C effect in this context (which would otherwise be expected).⁴⁸

⁴⁸There remains an open problem: it turns out that the experiencer object of a non-agentive predicate also cannot bind an anaphoric theme object, see (i).

- (i) $*Deideb-s \quad tavianti \quad tav-i \quad da-e-mal-a-t.$
 aunt-DAT SELF’S SELF-NOM PREV-R-hide-3PRES-PL
 “The aunts had themselves hidden on them.”

The status of (i) is unaccounted for so far. McGinnis (1996) provides an explanation that involves

6.7. Summary

This chapter started with the claim that subject raising from an infinitive across an experiencer is possible in some languages because it may apply non-monotonically (section 6.1). Independent evidence for this claim was provided by the observation that such raising does not incur a Principle C violation in contexts where the crossed over experiencer is an anaphor bound by the raised subject (see section 6.2). In contrast, languages that were argued to not resort to non-monotonic raising exhibit Principle C effects (see section 6.3). The crucial background assumption of the argument is that Principle C must be fulfilled at every step of the derivation. If the anaphoric experiencer *c*-commanded the subject before raising, Principle C would be violated. From the fact that Principle C is not violated, I drew the conclusion that the experiencer does not *c*-command the subject before raising (or any time later). This follows without further ado from a non-monotonic derivation approach. Alternative approaches to the prohibition against raising across anaphors that are not based on Principle C were argued to be less attractive. A potential application of the argument to a restriction arising with *Pit-stop* reflexives in English was briefly discussed in section 6.4. In sections 6.5 and 6.6, I suggested that languages that allow to passivize the lower of two objects in a double object construction and languages that exhibit raising of the theme object across the experiencer object in psych-verb constructions also make use of a non-monotonic derivation. In some of these cases, supporting evidence in terms of lacking Principle C violations was provided.

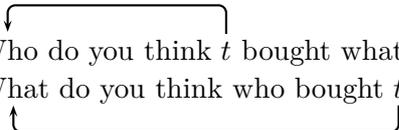
(local) movement of the nominative theme across the dative experiencer, plus (local) subsequent movement of the experiencer across the theme, plus raising of the experiencer to SpecT. Under this derivation, the ungrammaticality of (i) also follows from a derivational interpretation of Principle C. In contrast to McGinnis (1996), McGinnis (1998: 216) only considers a derivation of (i) involving A-movement of the experiencer with the nominative theme in SpecT, which is supposed to explain its ungrammaticality in terms of a violation of Principle A. It is unclear to me what, in the theory of McGinnis (1998), prevents a derivation with the experiencer raising to SpecT in this analysis.

7. \bar{A} -dependencies

This chapter is concerned with problems from the realm of \bar{A} -movement that can be argued to be treatable in terms of non-monotonic derivations. The types of phenomena discussed involve different types of \bar{A} -movement and their interactions. The discussion starts with a superiority effects, or, more precisely, the non-existence of such effects in some languages (section 7.1). In section 7.2, an asymmetry between \bar{A} -movement from clauses involving ordinary topicalization vs. clauses involving affective preposing in English is addressed. Section 7.3 reconsiders the Nested Dependency Condition, and, on the basis of this reconsideration, section 7.4 proposes a new analysis of complex noun phrase islands, also addressing the non-existence of these islands in Scandinavian languages.

7.1. Superiority

As mentioned in section 2.2, the phenomenon of superiority, i.e. the observation that in a multiple *wh*-question only the highest of several *wh*-phrases can be moved to the sentence initial position, lends itself naturally to a treatment in terms of the MLC. Relevant examples from English are repeated in (1).¹

- (1) a. Who do you think *t* bought what?
b. *What do you think who bought *t*?
- 

However, as also pointed out in section 2.3.1, many languages do not exhibit the same behavior, among them close relatives of English. For instance, German does not show superiority effects (as observed in Haider 1983; 1993; 2004, Grewendorf 1988; 2001, Bayer 1990). Representative examples are given in (2).

- (2) a. Was hat wer *t* gekauft?
what has who bought
“Who bought what?”
b. Wer hat *t* was gekauft?
who has what bought

Some Scandinavian languages do not seem to exhibit superiority effects either (see Haider 1993:187; 2004:166 on Icelandic, Fanselow 2004: 93 on Swedish and Icelandic, Erteschik-Shir 2007: 183 on Danish).² This is illustrated for Swedish and Icelandic in (3) and (4),

¹Here, I focus on superiority effects as they arise between subject and object. More research with respect to superiority as it arises between objects is required.

²But see Haider (1993: 188) for the opposite claim with respect to Swedish and Danish.

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- | | | | |
|-----|--|-----|---|
| (3) | a. Vad köpte vem <i>t</i> ?
what bought who
“Who bought what?” | (4) | a. Hvað keypti hver <i>t</i> ?
what bought who
“Who bought what?” |
| | b. Vem köpte <i>t</i> vad?
who bought what | | b. Hver keypti <i>t</i> hvað?
who bought what |

If the MLC is a general principle of grammar (as was assumed throughout the present study), then, all things equal, superiority effects are expected to show up in these languages, too. Thus, the question arises as to how the lack of superiority in German, Scandinavian, and other languages can be explained. Ultimately, the idea presented here is that things are not equal, and that some languages have properties that allow them to employ a non-monotonic derivation voiding superiority effects.

Before I come to this, let me mention that for German, one elegant way of accounting for the lack of superiority effects has been proposed in the literature (Haider 1981, Fanselow 1997, Bošković 1997, Grohmann 1997, Wiltschko 1997). Since German allows for scrambling, it is plausible to assume that the c-command relations between *wh*-phrases can be changed by scrambling before *wh*-movement applies (cf. also Grewendorf 1988 for a similar idea with respect to the lack of weak cross-over effects in German). Moreover, since scrambling applies optionally, both word orders in (2) can be derived.³ However, as Fanselow (2004: 104) notes, this explanation does not carry over to the examples in (3) and (4) because Scandinavian languages do not exhibit scrambling of the German type. Moreover, the Scandinavian kind of movement that comes closest to scrambling, object shift, cannot be responsible for the lack of superiority either: due to subject raising to SpecT the subject remains the highest argument even after OS has applied (see also sections 4.2 and 4.3 for discussion of Scandinavian OS).⁴

7.1.1. Non-embedded questions

Both German and the Scandinavian languages are V2 languages. The standard analysis for V2 is that some category moves to SpecC while the finite verb moves to C into second position. This suffices to make possible a non-monotonic derivation which, effectively, derives *wh*-movement of the object across the subject. The core idea of this derivation is that T triggers removal of the subject to the WSP. This frees up the way for the interrogative C-head to attract the object. For the subject to be raised cyclically to SpecT, the C-head must be temporarily removed. This is ensured by V-to-C movement.⁵

³See also Grewendorf (2001: 110, footnote 37) and Fanselow (2004: 102-104) for discussion.

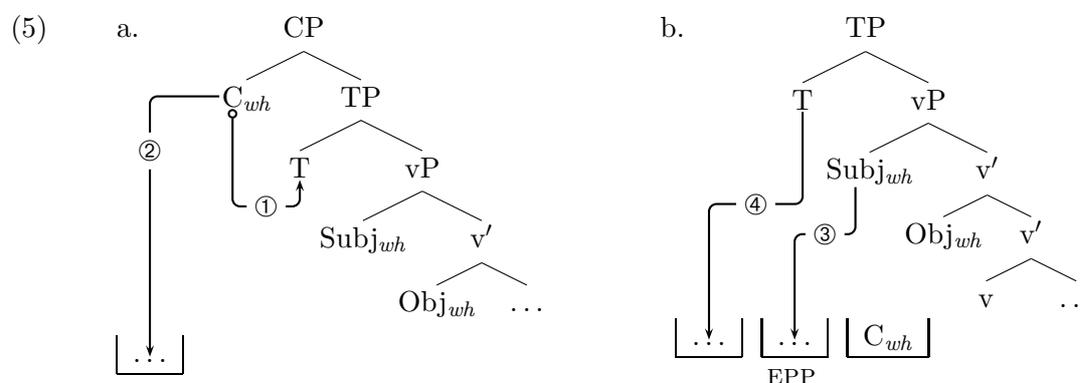
⁴Another argument against reducing the lack of superiority to OS is given by Fanselow (2004). It is based on the fact that OS is clause bound. If OS were responsible for the lack of superiority effects, then one would expect them to show up again if the two *wh*-phrases involved are not clause-mates. This is not correct for Swedish as shown by (i).

- (i) Vad tror vem [_{CP} att Johan gjorde *t*]?
what believes who that Johan did
“Who believes that Johan did what?”

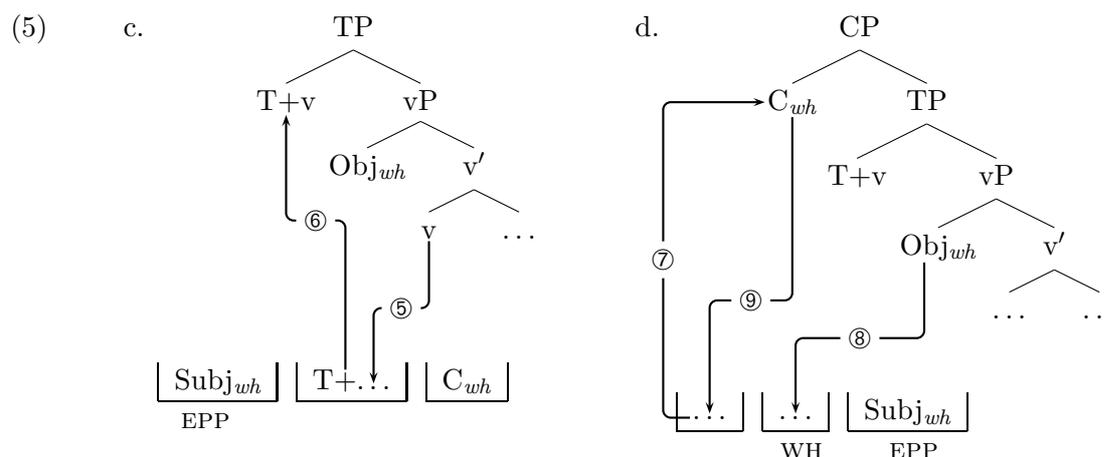
⁵Other proposals connecting the V2-property with the absence of superiority effects are Noonan (1988), Grebenyova (2004), and Frank (2007). See also Fanselow and Féry (2008) for pertinent remarks.

In fact, the derivation in question is slightly more complicated due to the assumption that T inherits its EPP from C (following Chomsky 2008, Richards 2007; see section 3.3). In principle, this assumption could be dispensed with for present purposes. But I include it here as it will figure prominently later on (see sections 7.1.3, 7.2, 7.3, and 7.4).

Turning to the details of the derivation, suppose that the object *wh*-phrase has undergone cyclic movement to an inner Specv and the subject has been merged in an outer Specv. Subject raising must await feature inheritance by T from C. This is where the derivation in (5-a) starts.⁶ In the first step in (5-a) feature inheritance by T from C applies. Next, (in step ②) the C-head is removed. This step is licensed by feature inheritance (see section 3.3 for details). Moreover, it is required in order for the subject to get removed in step ③. The reason is that subject removal is triggered by T. Thus, the SCC demands that T be the head of the root node at the point where this operation applies.



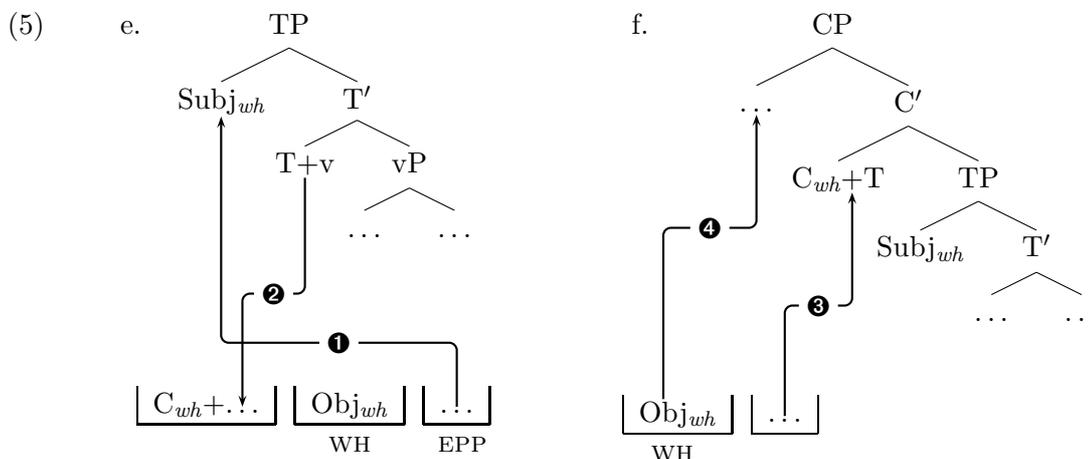
Once the subject is removed, v-to-T movement is initiated by placing T in the WSP, followed by the usual head-movement procedure (steps ④–⑥ in (5-b,c)). The C_{wh} -head is reintroduced into the structure (step ⑦ in (6-d)). Once back in position, it attracts the object and places it in the WSP (step ⑧). In the next step, C_{wh} is removed for the second time, initiating T-to-C movement (see step ⑨).



⁶The trees in (5) involve left-headed structures throughout. It goes without saying that the proposed mechanism is equally applicable to (partially) right-headed structures as they show up in German.

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At this point, the structure is, again, reduced to the size of a TP. Subject raising can now apply cyclically (step ① in (5-e)). Finally, T-to-C-movement reconstructs the CP-shell (steps ②–③ in (5-e,f)), and the object is merged in SpecC (step ④ in (5-f)).



As mentioned at the outset, the key to this derivation is that subject raising frees up the way for attraction of the object by C. Cyclic Merge of the removed subject requires T-to-C movement, which, in German and Scandinavian main clauses, is ensured by V-to-C movement (presupposing that V-to-C movement must pass via T, an assumption I have been making throughout this study). Note that feature inheritance by T from C alone (triggering removal of C, see step ② in (5-a)) does not make possible a derivation like the one in (5-a-f). The reason is that if T inherits its EPP-feature from C, then C must be removed twice: the first time to enable T to attract the subject to the WSP, and the second time (after C has attracted the object) to enable T to remerge the subject to SpecT. This explains the ungrammaticality of the English example (1-b): in the embedded declarative clause there is no movement to C.

There is more cross-linguistic evidence supporting the idea that verb movement is responsible for voiding superiority effects. To begin with, Rivero (1978: 516) claims that Spanish shows superiority effects. The relevant examples are given in (6-a,b).

- (6) a. *¿Qué dijiste que quién vio *t*?
 what said.2SG that who saw
 “What did you say that who saw?”
 b. *Me preguntaron qué quién vio *t*.
 me asked.3PL what who saw
 “They asked me what who saw.”

But there is another interpretation of (6-a,b). Torrego (1984) argues that *wh*-questions in Spanish require inversion of subject and verb, independent of whether the question is simple or multiple, and also independent of whether the subject or the object moves in a multiple *wh*-question. Thus, (6-a,b) are presumably ungrammatical because obligatory inversion has not applied in the embedded clauses. In fact, as Rivero (1978: 515) notes, there is no superiority effect in multiple questions with inversion, see (7).

- (7) a. ¿Qué dijiste que vio quién *t*?
 what said.2SG that saw who
 ‘‘What did you say that who saw?’’
 b. Me preguntaron (que) qué vio quién *t*.
 me asked.3PL that what saw who
 ‘‘They asked me what who saw.’’

If subject-verb inversion in Spanish *wh*-questions is analyzed as verb movement to C (see Torrego 1984), then the absence of any superiority effect in (7-a,b) follows from the present analysis.⁷ Note that the idea that V-to-C applies in (7-a,b) requires CP-recursion. But this seems to be necessary anyway, given that the complementizer *que* can optionally show up to the left of the *wh*-phrase *qué* in (7-b).⁸

In a similar vein, Fanselow (2004:111) reports that in Modern Hebrew, superiority violating configurations are only allowed if the verb intervenes in between the fronted object and the subject (see also Erteschik-Shir 2007: 179-181), see (8-b,c):

- (8) a. ma kana mi *t*?
 what bought who
 ‘‘Who bought what?’’
 b. *ma mi kana *t*?
 what who bought
 c. mi kana *t* ma?
 who bought what

Assuming that Hebrew is underlyingly SVO, (8-a) may be analyzed as involving V-to-C movement (see Shlonsky and Doron 1992, Shlonsky 1997).⁹ Then the contrast between (8-a,b) would support the idea that superiority effects vanish if the verb moves to C.

Turning to English, the idea that movement to C can cancel superiority effects encounters a problem. Consider (9-a-c). It is a common assumption in the literature (see Besten 1983, Koopman 1983, Rizzi 1996) that (9-b) involves T-to-C movement resulting in subject-auxiliary inversion. Rizzi (1996) calls this the ‘‘residual V2-effect’’ in English. This should also hold for (9-c). It would seem, then, that the derivation in (5) should also be available for (9-c), contrary to fact. In other words, it appears that superiority effects in English are persistent even in the presence of head-movement to C.

- (9) a. Who *t* will buy what?
 b. What will John buy *t*?

⁷See also Frank (2002: 188), who cites examples from Jaeggli (1982) to illustrate that Spanish does not exhibit superiority effects. Notably, these examples also involve subject-verb inversion.

⁸The analysis of V-to-C in Spanish *wh*-questions is complicated by the fact that in compound tenses with the auxiliaries *ser* ‘‘be’’ and *haber* ‘‘have’’ both auxiliary and participle appear to the left of the subject (Torrego 1984: 105). This can be analyzed as incorporation of the participle into the auxiliary. Interestingly, the auxiliary *estar* ‘‘be’’ can be separated from the participle by the subject (cf. the discussion of VOS in Spanish in section 4.1.1). See Suñer (1994) and Ordóñez (1997) for other arguments against a V-to-C analysis.

⁹But cf. Borer (1995) for another analysis of subject-verb inversion in Modern Hebrew.

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- c. *What will who buy *t*?

In what follows, I would like to propose that (9-b) obeys superiority despite T-to-C movement because there is no subject raising in (non-embedded) constituent questions in English. Consequently, an object *wh*-phrase never gets the chance to bypass the subject *wh*-phrase.

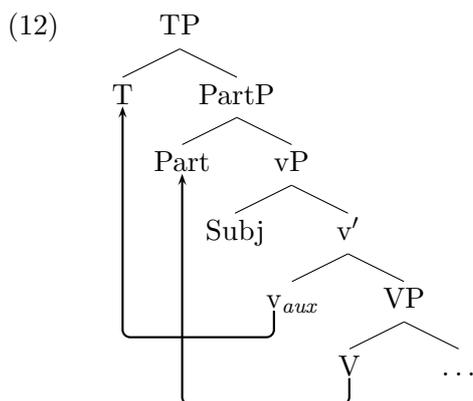
To motivate the assumption that the subject does not raise to SpecT in (non-embedded) questions in English, consider first the following observation about interrogatives in Italian. As Guasti (1996) and Rizzi (1996: 63, 78-80) note, matrix object *wh*-questions in Italian are only well-formed if the subject appears post-verbally. This is illustrated in (10-a,b).

- (10) a. ?*Cosa Gianni ha fatto?
 what Gianni has done
 ‘‘What has Gianni done?’’
 b. Cosa ha fatto Gianni?
 what has done Gianni

Note that post-verbal positioning of the subject is generally available in Italian, known as ‘‘free inversion,’’ see the declarative examples in (11).

- (11) Ha telefonato Gianni.
 has called Gianni
 ‘‘Gianni called.’’

Free inversion as in (11) may be analyzed as movement of the main verb (or auxiliary plus participle) out of vP across the subject, the latter remaining in Specv (see Pinto 1997, Alexiadou and Anagnostopoulou 1998). This is illustrated in (12).



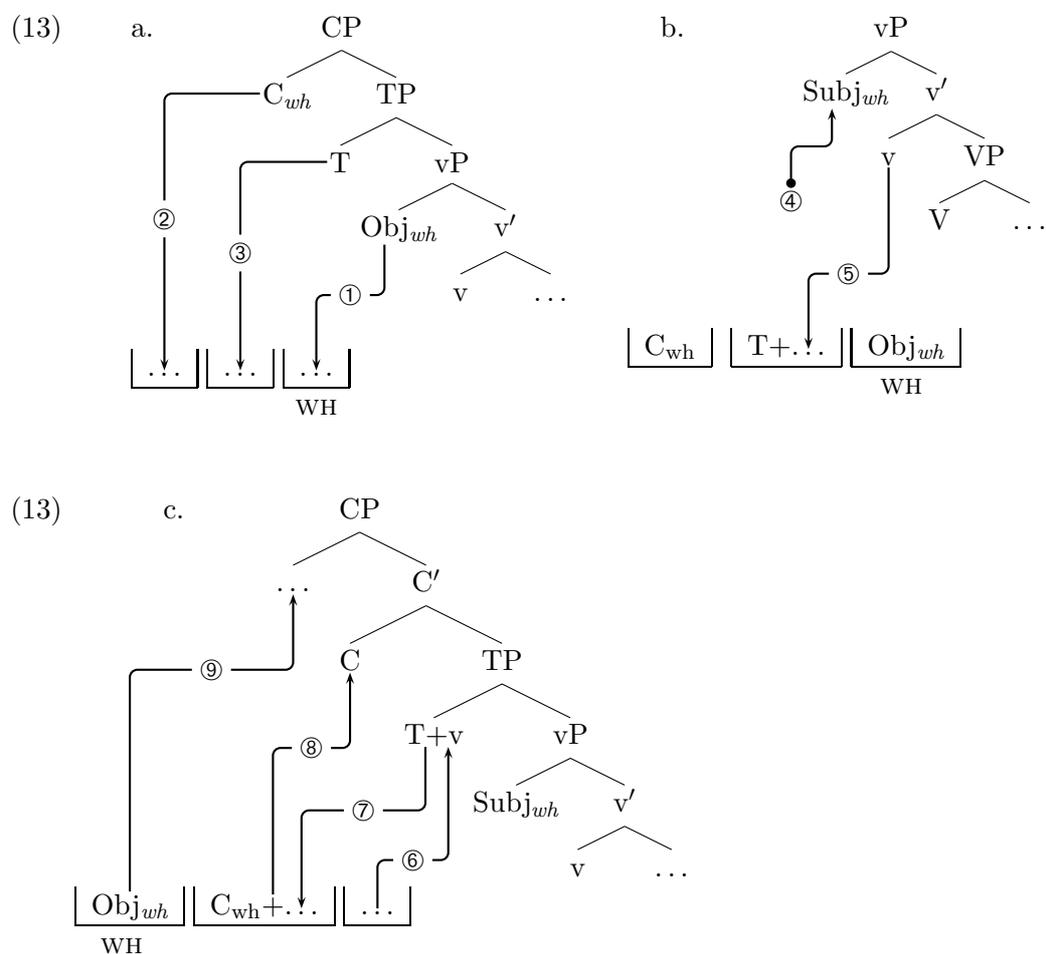
Suppose that this is the correct analysis of free inversion in Italian. Then, assuming that finite verb and participle always move out of vP in Italian (see Belletti 1990: 69), the facts in (10) can be captured by stipulating that a non-embedded interrogative C_{wh} head in Italian does not assign EPP to T.

I would like to suggest that something similar holds for (non-embedded) C_{wh} in English. Consequently, (9-c) is analyzed with the subject *who* remaining in Specv and

the auxiliary to its left.¹⁰ Crucially, if the subject in (9-c) does not undergo raising to SpecT, it follows that superiority cannot be voided by the non-monotonic derivation in (5) because this derivation presupposes subject raising to SpecT. Consequently, the ungrammaticality of (9-c) follows from the usual interaction of MLC and SCC.

7.1.2. Constraining procrastination

It turns out that there is yet another non-monotonic derivation that derives (9-c), and it does so independently of whether raising to SpecT applies or not. If such a derivation were possible, in principle, the question would arise as to why English does not make use of it. The idea underlying this derivation is that the subject is introduced very late into the structure, i.e., at a point where the object has already been attracted by C_{wh} . The derivation is given in (13).



¹⁰The learner may “find out” that the subject in English matrix questions remains in Specv if he never hypothesizes that T moves to C to begin with, unless there is unequivocal evidence for such an analysis (cf. Williams 1994: 200). Namely, if the auxiliary remained in T in (9-c), this would unambiguously indicate that the subject is in Specv.

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In step ①, C_{wh} attracts the object and places it in the WSP. Only after C and T have been removed (steps ② and ③) is the subject introduced to Specv (step ④). In the remaining steps ⑤–⑨, the CP-level is restored and the object is remerged to SpecC.

The derivation in (13) is able to derive superiority violating configurations without subject raising. What (13) requires is a trigger for removing C_{wh} (after attraction of the object *wh*-phrase) and T in order to enable Merge of the subject in Specv in accordance with the SCC. In (13), removal of C_{wh} and T was assumed to be triggered by T-to-C movement, which is what is usually assumed to take place in (9-c) (but cf. footnote 10). It would seem then that the problem posed by the ungrammaticality of (9-c) remains.

In fact, the problem is even more general because late Merge of the subject can equally lead to superiority violating configurations in the absence of T-to-C movement if, in addition, there is subject raising (which implies inheritance of an EPP-feature by T and thus provides a trigger for removing C) and V-to-T movement (which provides a trigger for removing T). The derivation in question is almost identical to the one in (13), except that there is feature inheritance plus subject raising but no T-to-C movement. It is deliberately left out here.

Take French as a case in point. French lacks T-to-C movement in (some types of) interrogative clauses. At the same time, it exhibits general V-to-T movement (Emonds 1976, Pollock 1989) and subject raising. Yet, as illustrated in (14-a,b), it shows superiority effects in the relevant construction (Christine Carrot, p.c.; cf. also Baunaz 2011: 60):

- (14) a.  Qui est-ce qui *t* disait quoi?
 who is=it that said what
 “Who said what?”
 b. *Qu'est-ce que qui disait *t*?
 what=is=it that who said

What enables these unwanted derivations to avoid superiority effects is procrastination of Merge of the subject. Therefore, one may conclude that this type of procrastination must be constrained. In fact, there are two phenomena in the present study for which I propose that they involve procrastination of Merge of the subject: quotative inversion in English and stylistic inversion in French (see sections 5.1 and 5.2, respectively). As proposed in section 5.2.2, both constructions involve a particular type of defective vP. I therefore assume that the possibility to procrastinate Merge of the subject is contingent on little *v* being defective in this sense (see also footnote 8 in chapter 5). Since neither (9-c) nor (14-b) involve such a defective *v*, it follows that superiority cannot be voided.¹¹

¹¹This predicts that superiority can be voided with stylistic inversion in French. The prediction is not borne out (Christine Carrot, p.c.). This is illustrated in (i):

- (i) *Que fait qui *t*?
 what does who
 “Who does what?”

As for now, I have to leave open what is responsible for the ill-formedness of (i) (cf. Fanselow 2004: 94).

7.1.3. Embedded questions

I next turn to embedded questions, starting again with English. As is evident from the relative order of subject and auxiliary in (15-a), embedded questions in English cannot possibly involve T-to-C movement. Accordingly, it follows that superiority effects show up in this context, too, see (15-b,c).

- (15) a. I wonder [_{CP} what John has bought *t*].
 b. I wonder [_{CP} who *t* bought what].
 c. *I wonder [_{CP} what who bought *t*].

Note in passing that (15-a) also illustrates that embedded interrogative C-heads in English assign EPP to T: the subject in (15-a) shows up to the left of the auxiliary and, therefore, must be in SpecT. This provides another hint that interrogative C-heads in English and Italian may indeed behave similarly with respect to feature inheritance (again, see section 7.1.1): as noted by Rizzi (1996: 79), *wh*-movement without subject-verb inversion in Italian is possible in embedded questions (in contrast to matrix questions), suggesting that embedded C-heads may assign EPP to T.

Turning to Scandinavian, embedded questions in MSc lack V-to-C movement (Vikner 1995: 73-80). Accordingly, superiority effects should emerge. The prediction is borne out for Danish.¹² As Erteschik-Shir (2007: 183) notes, (16-b) is better than (17-b).¹³

- (16) a. Hvem købte *t* hvad?
 who bought what
 “Who bought what?”
 b. ?Hvad købte hvem *t*?
 what bought who
- (17) a. Jeg ved ikke [_{CP} hvem købte *t* hvad].
 I know not who bought what
 “I don’t know who bought what.”
 b. *Jeg ved ikke [_{CP} hvad hvem købte *t*].
 I know not what who bought

A similar contrast between matrix questions and embedded questions with respect to superiority effects can be observed for Norwegian (Siri Gjersøe, p.c.).

As for German, the prediction for embedded questions is equally clear: superiority effects should re-emerge with full force in those cases where the embedded clause does not exhibit V2, which is transparently observable by the final position of the finite verb. The prediction is false, though. (18-a,b) are both equally fine.

¹²In contrast, subject-verb inversion in Spanish (here interpreted as V-to-C movement) is also required in embedded questions (Torrego 1984: 104). And, indeed, no superiority effects arise in this context, see (7-b).

¹³In fact, the superiority violating matrix question (16-b) is not perfect as indicated by the prefix “?”. According to Erteschik-Shir (2007), this effect is not as strong as an ordinary superiority violation in English; in any event, the contrast between (16-b) and (17-b) seems clear enough to assume that superiority effects arise in embedded questions in Danish but not in matrix questions.

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- (18) a. Karl möchte wissen [_{CP} was wer *t* gekauft hat].
 Karl wants know what who bought has
 “Karl wants to know who bought what.”
 b. Karl möchte wissen [_{CP} wer *t* was gekauft hat].
 Karl wants know who what bought has

Turning to Icelandic, the situation is similar to the one in German. The overall generalization seems to be that embedded questions are one of the few contexts where there is no V-to-C in Icelandic (Thráinsson 1986*b*: 174, Sigurðsson 1989: 12; see Vikner 1995: 73-80 for possible exceptions). Against this background, one would expect superiority effects to emerge again in embedded questions in Icelandic, just as in Danish and Norwegian. However, this does not seem to be the case. Halldór Sigurðsson (p.c.) informs me that (19-a) is acceptable.¹⁴

- (19) a. Jón veit ekki [_{CP} hverjum hver bauð *t* í veisluna].
 Jón knows not whom who invited in the.dinner
 “John does not know who invited whom for dinner.”
 b. Jón veit ekki [_{CP} hver bauð *t* hverjum í veisluna].
 Jón knows not who invited whom in the.dinner

In what follows, I tentatively suggest that the difference between Icelandic and German on the one hand and MSc on the other is reducible to another prominent difference between these languages: while Icelandic (and German) allow for TECs, MSc does not (Vikner 1990; 1995:189, Bures 1992, Bobaljik and Jonas 1996: 208-209). The contrast between Icelandic and Danish is illustrated in (20-a,b).

- (20) a. að það hefur *t* einhver borðað epli
 that there has someone eaten apple
 Lit: “that there has someone eaten an apple”
 b. *at der har *t* nogen spist et æble
 that there has someone eaten an apple

In section 2.4.3, the discussion about agreement in Icelandic presupposed that the subject remains in Spec_{CP} in a TEC while the expletive checks EPP on T. In principle, there are

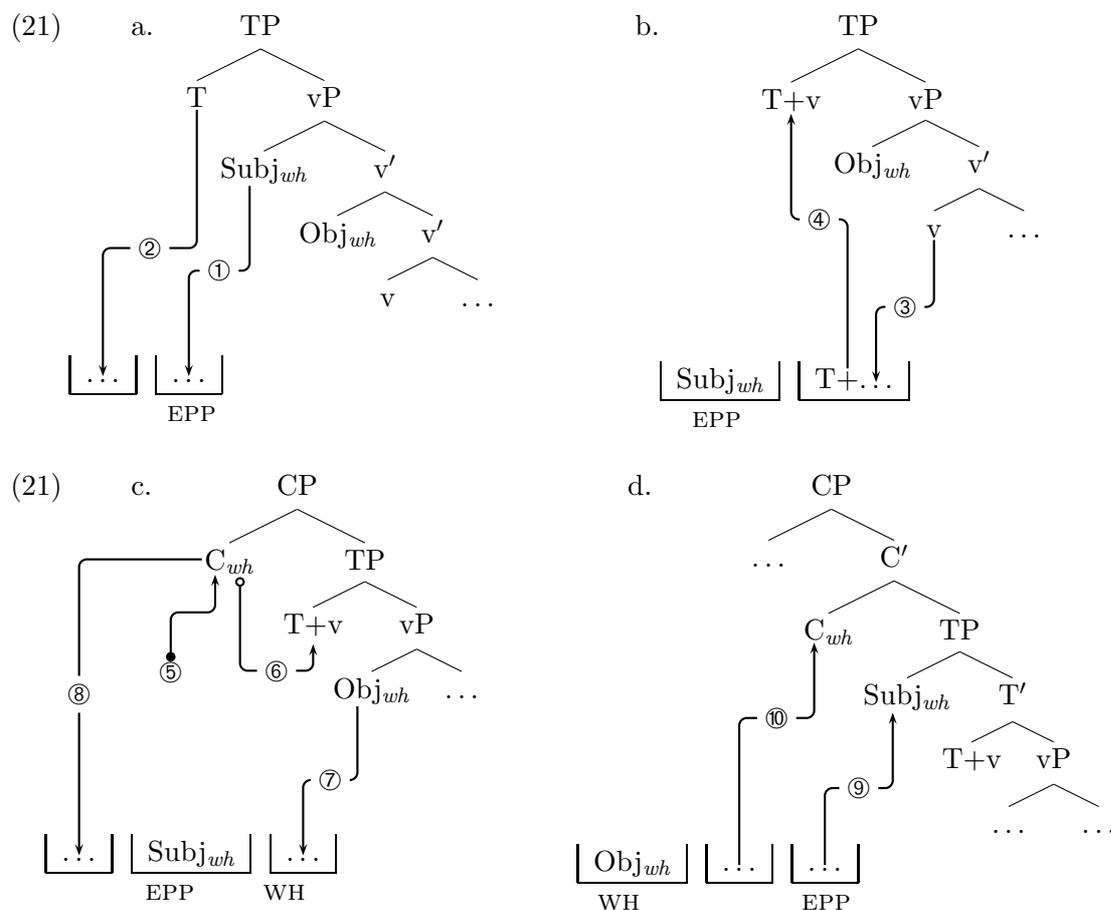
¹⁴Grebenyova (2004: 12-13) also claims that there are no superiority effects in embedded questions in Icelandic. To illustrate the claim, Grebenyova (2004) presents the examples in (i-a,b):

- (i) a. Jón veit ekki [_{CP} hver bauð hverjum í veisluna].
 Jón knows not who invited whom in the.dinner
 “John does not know who invited whom for dinner.”
 b. Jón veit ekki [_{CP} hverjum bauð hver í veisluna].
 Jón knows not whom invited who in the.dinner

(i-b) suggests that verb movement to C has taken place (in (i-a), the verb may as well remain in T). On the one hand, this is precisely the kind of structure that would license a superiority violation under the present account. On the other hand, the grammaticality of (i-b) is curious because V2 in embedded questions should not be possible to begin with (see the references in the main text). In fact, Halldór Sigurðsson (p.c.) tells me that for him (i-b) is ungrammatical. I therefore leave (i-b) as it is, concentrating on (19-a) instead.

two ways how this can be brought about. Either the expletive is merged in SpecT directly, or it is merged in vP and then undergoes raising to SpecT. Suppose now that the EPP-feature assigned by C to T can only be satisfied if it attracts a category it c-commands. Suppose further that Icelandic and German, but not MSc, have at their disposal another EPP-feature that can be satisfied by both external and internal merge, and that this EPP-feature is optionally present on T, as a lexical property. Finally, let me assume that a transitive v allows for only one specifier to be created by external Merge (in Icelandic, German, and MSc). As a consequence, Icelandic and German can generate a TEC by merging the expletive in SpecT directly. This is possible with both an intransitive and a transitive v-head. In contrast, MSc languages, due to lack of an inherent EPP on T, can only merge an expletive in Specv. By stipulation, Merging an expletive in Specv is only possible if v is intransitive, implying that MSc does not exhibit TECs. From Specv, the expletive is attracted by T to satisfy the EPP-feature T inherited from C.

As I illustrate now, the presence of an inherent EPP with the properties mentioned above also makes possible a non-monotonic derivation that leads to superiority violating configurations without head-movement to C. The derivation is very similar to the one in (5): the object can be attracted by C_{wh} because the subject has been removed by T. The crucial difference compared to the derivation in (5) is that T need not wait for C to assign EPP in order to attract the subject because T can bear EPP inherently. This renders head-movement to C superfluous. The derivation is given in (21-a-d).



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Since MSc languages do not exhibit an inherent EPP, it follows that they cannot make use of the derivation in (21), accounting for the difference between German and Icelandic on the one hand and Danish and Norwegian on the other hand with respect to superiority in embedded questions.^{15,16}

One may wonder about the fate of the EPP-feature inherited by T in step © of the derivation (21). Since subject raising satisfies the inherent EPP, it would seem as if T were left with its inherited EPP-feature unsatisfied. I stipulate here that the inherited EPP is satisfied as a reflex when Merge of the subject in SpecT is triggered by the inherent EPP. Thus, although the inherent EPP cannot trigger external Merge itself, it can be satisfied “parasitically” by a category that undergoes external Merge triggered by another feature.¹⁷

I close this section with a comment on what one might consider to be a simpler explanation for the lack of superiority effects. In section 3.5, the ISC (15) from Müller (2010a; 2011) was introduced, which stated that if intermediate (EF-driven) movement and criterial movement target the same specifier domain, then intermediate movement lands in an inner specifier. Müller (2010a; 2011) derives the ISC by assuming that the criterial movement step to SpecH deactivates H by consuming its last unsaturated feature, and that an inactive head is not open for EF-insertion. Suppose now that H remains active after criterial movement to SpecH because it bears the unsaturated feature [\mathfrak{R}], which triggers head-movement of H (see section 3.4). This means that in a language with V-to-T movement, intermediate movement to Specv triggered by an EF should be able to land in an *outer* Specv. Suppose further that, generally, there were no subject raising to SpecT in V-to-C contexts. (If low adverbs occupy an inner Specv it becomes possible to make the claim that in V-to-C contexts there is no subject raising to SpecT because there is no material, finite verb or a low adverb, that could possibly show that the subject has left Specv.) Then, the lack of superiority effects (with respect to the subject) in V2-contexts would follow (assuming that V-to-C involves V-to-T). The approach would also account for why MSc obeys superiority in embedded contexts that lack V-to-C movement (there is no V-to-T movement without V-to-C movement in MSc). However, it would fail for Icelandic because there is V-to-T movement in embedded contexts in Icelandic throughout, which means that one can tell that subject raising must have ap-

¹⁵Since the derivation in (21) is also available in matrix sentences, this means that superiority violating configurations in German and Icelandic matrix questions can be derived in two ways.

¹⁶Many complications remain, of which I mention only two here. First, although, by assumption, expletives in German and Icelandic are merged in SpecT they never show up overtly in this position. Rather, they must be separated from the subject by the finite verb (Vikner 1995: 184-185). To ensure this, I stipulate that expletives in German and Icelandic bear a feature to the effect that they are attracted to the specifier of a V2-clause (cf. Cardinaletti 1990, Vikner 1995: 186). Second, it remains unclear why in both Icelandic and Danish the subject of intransitive expletive constructions follows the main verb, even if it is a participle (Vikner 1995: 203).

¹⁷Frank (2002: 113-124) proposes (in another context) that an EPP-feature may be deleted as a last resort, i.e., if there is no alternative derivation that may satisfy the EPP. Presumably, this is not an option here because there *is* another derivation that makes satisfaction of the EPP possible, namely a variant of (21) that obeys superiority. Moreover, allowing for such an option would possibly lead to complications elsewhere, for instance, it would make possible the unwanted derivation (32) in section 7.2.2.

plied, which in turn would wrongly predict superiority effects in embedded questions in Icelandic. Moreover, the approach makes the wrong prediction for English: there is V-to-T movement of auxiliaries in English, i.e., English should lack superiority effects with compound tenses but not with non-compound tenses, contrary to fact.¹⁸

Finally, suppose that there were no ISC (see (15), section 3.5), i.e., intermediate *wh*-movement could generally land in an outer Specv. Then, if T inherits its EPP-feature from C, subject raising has to await Merge of C. Once C is present, it may as well attract an object *wh*-phrase from the outer Specv to the WSP. Due to inheritance, C can be removed, and subject raising applies in accordance with the SCC. After remerge of C with TP, the *wh*-object is remerged from the WSP to SpecC. This derivation would easily allow for generating anti-superiority configurations in English (assuming that English has intermediate movement to Specv and that there is feature inheritance). This suggests a theory comprising non-monotonic derivations and feature inheritance needs to be constrained by the ISC.

7.1.4. A note on long superiority

Cases where one *wh*-phrase moves across another *wh*-phrase that is not its clause-mate are sometimes referred to under the notion of “long” superiority. In the present theory, a language that derives a superiority violating configuration by invoking a non-monotonic derivation should, all things equal, also be able to employ such a derivation if the two *wh*-phrases involved originate in separate clauses. The reason is that the lower *wh*-phrase, once it has reached SpecC of the embedded clause, should be able to move cyclically to an inner Specv of the next higher clause. From then on, the starting configuration of an ordinary superiority violating derivation is given.

Against this background, it is not surprising that Fanselow and Féry (2008) report that there are speakers of Swedish who find (22-a) acceptable (alongside (22-b)),

- (22) a. Vad tror vem [CP t' att Johan gjorde t]?
 what believes who that Johan did
 “Who believes that Johan did what?”
 b. Vem tror t [CP att Johan gjorde vad]?
 who believes that Johan did what

Frank (2002: 188) reports the contrast in (23-a,b) from Spanish (see also Frank 2007). (23-a) looks like a case of long superiority. This is against the expectation just sketched because, as suggested in section 7.1.1, Spanish has the means to derive superiority violating configurations.

- (23) a. *¿Qué dijo quién [CP t' que Juan compra t]?
 what said who that Juan bought
 “Who said that Juan bought what?”

¹⁸This is another reason to not adopt the derivation of the ISC proposed in Müller (2010a; 2011) but rather stipulate the effects of the ISC (cf. the discussion in section 3.5).

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- b. ¿Quién dijo t [_{CP} que Juan compra qué]?
 who said that Juan bought what

Note that (23-a) lacks inversion of subject and verb in the embedded clause, which, as mentioned in section 7.1.1, is argued by Torrego (1984) to be obligatory. Hence, there appears to exist an independent explanation for the ungrammaticality of (23-a). (Inversion is not obligatory in the embedded clause in (23-b) because no *wh*-movement takes place within or out of this clause.) However, it turns out that (23-a) does not really improve if inversion applies to the embedded clause (Juan Cuartero, p.c.):

- (24) *¿Qué dijo quién [_{CP} t' que compra Juan t]?
 what said who that Juan bought
 “Who said that Juan bought what?”

For lack of a proper explanation, I simply assume that another factor is responsible for the degraded status of (23-a)/(24). In fact, a similar state of affairs holds in German. It has been noted repeatedly that German exhibits long superiority effects while, as already mentioned, no such effects show up with clause-mate *wh*-phrases (see Frey 1993, Buring and Hartmann 1994, Heck and Müller 2000*b*, among others):

- (25) a. *Wen glaubt wer [_{CP} t' dass Hans t gesehen hat]?
 whom believes who that Hans seen has
 b. Wer glaubt t [_{CP} dass Hans wen gesehen hat]?
 who believes that Hans whom seen has
 “Who believes that Hans saw whom?”

In a study that investigates long *wh*-movement out of infinitives and across an in-situ *wh*-phrase in an embedding clause in German, Fanselow and Féry (2008) argue that the markedness of long superiority arising in this context can be reduced to the usual markedness accompanying long *wh*-movement as such. Note that, in addition to this, (25-a) involves long movement from a finite clause, which arguably further decreases its acceptability.¹⁹ Presumably then, a similar processing effect may be responsible for the ill-formedness of (23-a)/(24).

The tentative conclusion that I would like to draw from all this is that the phenomenon of long superiority is not grammatical in nature, which is compatible with the present account of the absence of clause-bound superiority effects (but cf. Grewendorf 2005 for a recent grammatical account).

7.2. Topic islands in English

It has been observed repeatedly that ordinary topicalization in English creates islands for movement operations such as *wh*-movement (see Rochemont 1989 and Lasnik and

¹⁹See also Kim and Sternefeld (1997), who note differences among speakers when it comes to judging examples such as (25-a), in contrast to (2-a), which is generally accepted.

Saito 1992). Representative examples for topic islands are given in (26-a,b).

- (26) a. *[On which table] did Lee say that [these books] she will put *t t*?
 b. *[Which books] did Becky say that [to Aaron] she will give *t t*?
-

In contrast, according to Culicover (1991a;b), topicalization of monotone decreasing quantifiers, also called “affective preposing”, does not create islands.²⁰ This is illustrated in (27-a,b), where the affective category is created by adding the focus particle *only* (Culicover 1991b: 7; see also Koizumi 1995: 138-144 for discussion).

- (27) a. [On which table] did Lee say that [only these books] would she put *t t*?
 b. [Which books] did Becky say that [only to Aaron] will she give *t t*?
-

At the same time, affective preposing, but not ordinary topicalization, goes hand in hand with subject auxiliary inversion (SAI) in English, compare the embedded clauses in (26-a,b) with those in (27-a,b). SAI in English, in turn, is usually analyzed as T-to-C movement.

On the one hand, it is attractive to assume that topic islands reduce to the MLC. Concretely, if topics are interveners for *wh*-movement, then the ungrammaticality of (26-a,b) may be the result of the topicalized phrase blocking attraction of the embedded *wh*-phrase (see Koizumi 1995: 138-144): the movement path of the *wh*-phrase crosses the landing site of the topicalized category. On the other hand, given that topicalization and affective preposing are similar in many respects (see Hooper and Thompson 1973, Authier 1992: 332) such a view creates the puzzle as to why *wh*-movement across a category that has undergone affective preposing does not violate the MLC. This puzzle led Culicover (1991b) to the conclusion that an analysis of topic islands in terms of the MLC is to be abandoned.²¹

In contrast to Culicover (1991b), I suggest that an approach to topic islands in terms of the MLC is possible. To this end, I follow Koizumi (1995) in assuming that the MLC blocks *wh*-movement to the intermediate SpecC position across a topicalized (non-affective) category. Furthermore, I argue that the non island-like behavior of clauses involving affective preposing is the result of a non-monotonic derivation that relies on the interaction of SAI (present with affective preposing but absent with non-affective topicalization) and feature inheritance. To put it in a nutshell, the idea is the following. Due to SAI, derivations that involve *wh*-movement out of clauses with affective preposing (in contrast to those with non-affective topicalization) allow to attract the *wh*-phrase to the intermediate SpecC *before* the affected phrase has reached its target position. Thus, affective preposing, exceptionally, takes place after cyclic *wh*-movement although the former targets a lower position than the latter. This is illustrated in detail in the next section.

²⁰See Vikner (1995: 116) and Rizzi and Roberts (1996: 109) for judgments that diverge from this.

²¹As Culicover (1991b: 8, footnote 14) puts it: “The fact that it is possible to extract from a negative inversion sentence undermines the Relativized Minimality account of topic islands”.

7.2.1. Why affective preposing does not create islands

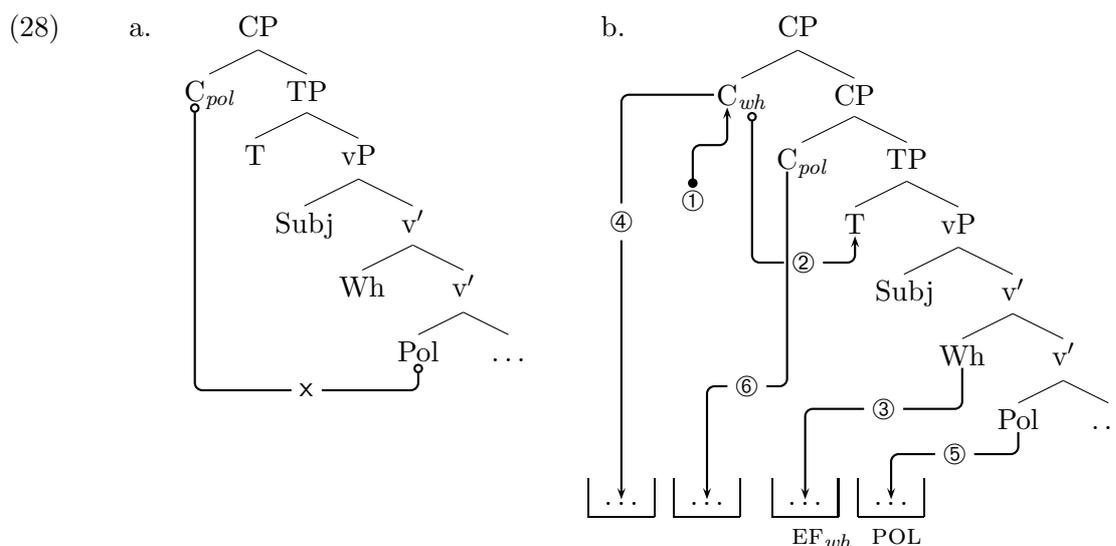
Let me begin by specifying some assumptions. First of all, intermediate *wh*-movement targets SpecC. I refer to the head of this projection as C_{wh} . Suppose now that (in English) topicalized categories and affectively preposed ones target specifiers of two further functional projections, Spec C_{top} and Spec C_{pol} , respectively. Both CP_{top} and CP_{pol} are located in between CP_{wh} and TP.²² Furthermore, I assume that topicalized elements (both affectively preposed ones and others) on the one hand and *wh*-elements on the other hand act as (defective) interveners for each other. As before, I assume that T inherits its EPP feature from a C-head (see section 3.3). In the constructions under investigation, two C-heads are present: C_{wh} plus C_{top} , or C_{wh} plus C_{pol} . Under these conditions, T can inherit its EPP from either C_{wh} or from $C_{top/pol}$. Crucially, I stipulate that T can and must inherit exactly one EPP feature.²³ Recall also the assumption that inherited EPP-features are not active before inheritance has taken place (see footnote 7, section 3.3).

With these assumptions in place, there is a non-monotonic derivation that explains why affective preposing does not create islands for *wh*-movement. In what follows, “Top” stands for the topicalized category, and “Pol” for the affectively preposed one. The discussion presupposes that neither the *wh*-phrase nor the Pol-phrase functions as the subject of the embedded clause. In fact, such a scenario raises a problem, which is addressed in section 7.2.3.

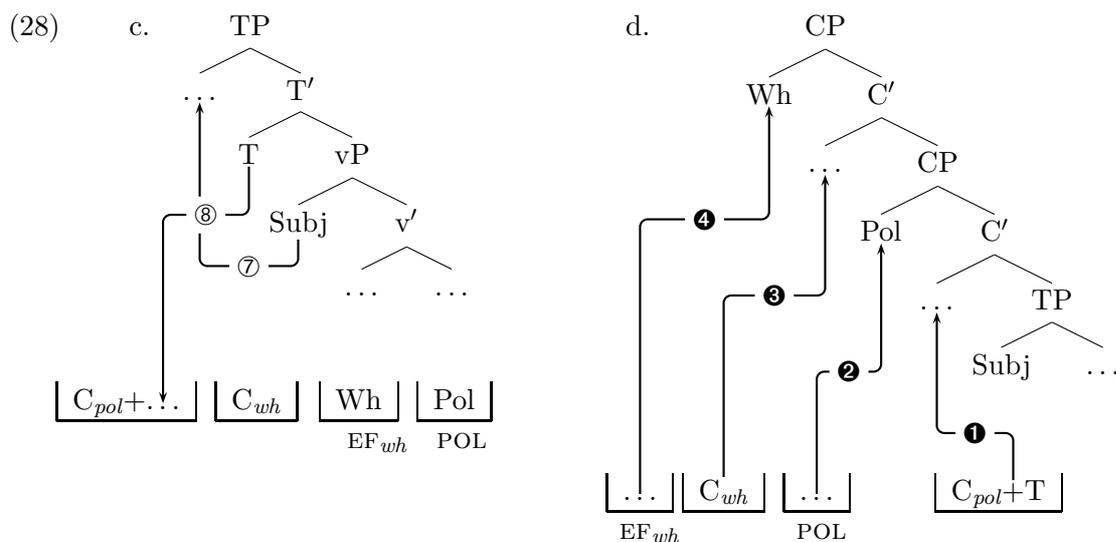
To begin with, since both the *wh*-phrase and Pol need to be PIC-accessible for movement to the C-domain, they undergo movement to inner specifiers of vP. Suppose that such movement has already applied. Suppose moreover that the *wh*-phrase targets a Specv-position above Pol. After the subject is merged to the outermost Specv, T is merged with vP. Since T acquires its EPP-feature from C, subject raising has to await merge of C. There are two possibilities: either T inherits its EPP from C_{pol} or from C_{wh} . Suppose the latter. When C_{pol} is merged, it cannot access Pol because the *wh*-phrase intervenes. This is shown in (28-a). As a consequence, the derivation continues with merging the C_{wh} -head (see step ① in (28-b)). In what follows, C_{wh} assigns EPP to T and attracts the *wh*-phrase, placing it into the WSP (steps ② and ③ in (28-b)). Previous feature inheritance triggers removal of C_{wh} to the WSP (see step ④). With the *wh*-phrase out of the way and the CP_{wh} removed, C_{pol} can now attract the Pol-phrase to the WSP before it is removed to the WSP itself preparing T-to- C_{pol} movement (which is part of SAI). This is illustrated in steps ⑤ and ⑥ in (28-b).

²²For the idea that there is an extra projection that hosts topicalized phrases, see Platzack (1986: 224–227), Authier (1992: 332), Müller and Sternefeld (1993), and Watanabe (1993). For the proposal that affective preposing also targets a projection of its own (which is overtly signaled by the co-occurrence of complementizer and SAI in (27)), see Culicover (1991a;b).

²³If feature inheritance is understood as an Agree-relation that “activates” a feature on the target head (Gereon Müller, p.c.), then it may follow that maximally one C-head is involved.



With both CP_{wh} and CP_{pol} removed, the tree in (28-c) has shrunk to the size of a TP. This enables cyclic subject raising to SpecT (step ⑦ in (28-c)). In step ⑧, T is removed and placed in the WSP, where it merges with C_{pol} (completing T-to- C_{pol} movement).



In the remaining steps, the heads $C_{pol}+T$ and C_{wh} are remerged with their complements. Moreover, Pol is remerged to Spec C_{pol} , and the *wh*-phrase is remerged in Spec C_{wh} (performing the intermediate step of *wh*-movement), from where it will undergo further movement (not shown in (28)). This is illustrated in steps ①–④ in (28-d). As the result of this derivation, Pol is in Spec $_{pol}$, and the *wh*-phrase is free to move to the matrix SpecC-position.

As noted above, the derivation in (28) starts from the assumption that the *wh*-phrase occupies an outer Specv while the affected phrase (Pol) occupies an inner Specv. This creates the problem that C_{pol} cannot attract Pol across the *wh*-phrase, which is then

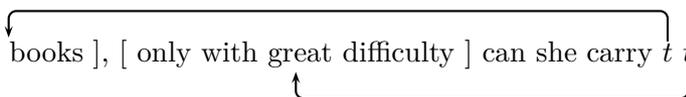
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resolved by having C_{wh} attract the *wh*-phrase first. The order in which *wh*-phrase and Pol-phrase show up in Specv reflects the order in which they are base generated: as discussed in section 3.6, multiple cyclic movement to the phase edge triggered by an EF applies in an order preserving fashion. In fact, the order assumed in (28) represents the base order of *wh*-phrase and Pol as it occurs in (27-b). Clearly, the success of the non-monotonic derivation in (28) should not depend on the relative order of these two phrases. Otherwise, example (27-a), which presumably involves the inverse order of *wh*-phrase and Pol-phrase, could not be derived. Suppose then that the *wh*-phrase and the affected phrase appear in the inverse order in the specifier domain of vP. In such a scenario, C_{pol} first attracts Pol. This frees up the way for attracting the *wh*-phrase after C_{wh} is merged. The rest of the derivation proceeds exactly as in (28). It follows, that the non-monotonic approach is not contingent on the relative order of *wh*-phrase and Pol-phrase.

It is important to note that the success of the derivation (28) is based on its capacity to remove C_{wh} and C_{pol} : both C-heads must first attract their respective goal category to the WSP and then get removed in order to enable subject raising to apply cyclically (i.e., in accordance with the SCC). In addition to this, C_{wh} needs also be removed to enable cyclic Merge of Pol in Spec C_{pol} . Under present assumptions, removal of a head is either triggered by head-movement or by feature inheritance. In (28-b), it was assumed that T inherits its EPP from C_{wh} , which thus licenses removal of the latter. Removal of C_{pol} in (28-b), in turn, is licensed by T-to- C_{pol} movement (SAI). From these considerations, two things follow for the derivation (28). First, T must inherit its EPP from C_{wh} . If it were C_{pol} that assigned EPP to T, then removal of C_{pol} would be licensed twice, but C_{wh} could not be removed, blocking (28).²⁴ Second, SAI, which provides the necessary trigger for removing C_{pol} , is a precondition for (28) to work out. And this is exactly where a derivation that involves *wh*-movement out of a clause involving topicalization fails (see section 7.2.2): Since ordinary topicalization does not involve SAI, C_{wh} and C_{top} cannot be removed both.

Before I turn to the details of a derivation involving *wh*-movement from a topic island, let me comment on some observations made in Koizumi (1995: 140), who in turn cites Kuwabara (1992). The first observation is that ordinary topicalization across an affectively preposed category leads to grammatical results in English, just like *wh*-movement across an affectively preposed category does, see (29). This is expected as (29) can be treated on a par with the examples in (27-a,b) and thus involves a derivation matching the one in (28) in all relevant respects.

(29) Becky said that [these books], [only with great difficulty] can she carry *t* *t*.



The second observation mentioned by Koizumi (1995) is that if ordinary topicalization and affective preposing co-occur in English, then CP_{top} must dominate CP_{pol} . Compare

²⁴If only phase heads may assign EPP, and if in a configuration where CP_{wh} embeds $CP_{pol/top}$ only CP_{wh} counts as a phase, then it follows automatically that T inherits exactly one EPP, and that this EPP comes from C_{wh} .

(29) with (30-a,b).

- (30) a. *Becky said that only with great difficulty can these books she carry *t t*.
 b. *Becky said that only with great difficulty these books can she carry *t t*.
-

The ungrammaticality of (30-a,b) follows from the assumption that C_{top} selects C_{pol} but not vice versa. The third observation is that *wh*-movement out of a clause that involves both ordinary topicalization and affective preposing leads to ungrammaticality in English, see (31).

- (31) *Where did Becky say that these books, only with great difficulty can she put *t t*?
-

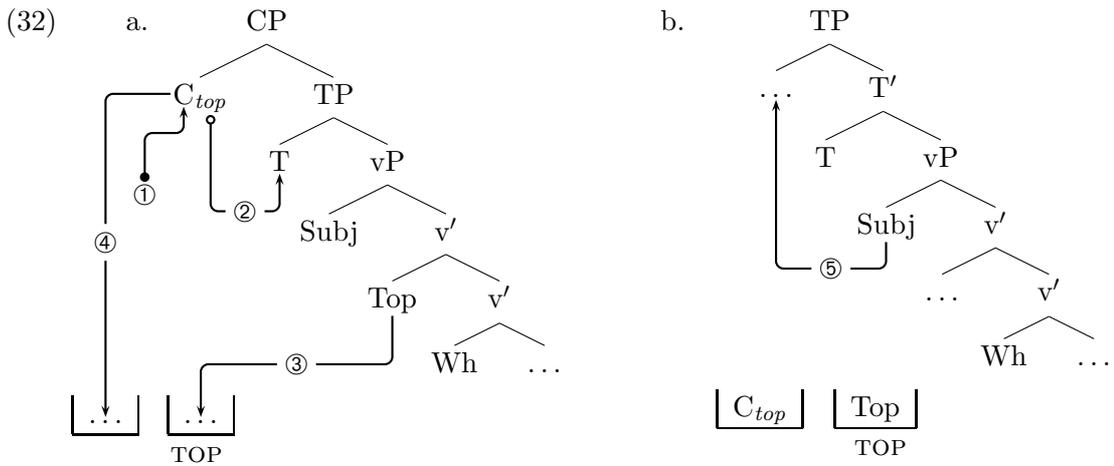
The ill-formedness of (31) receives the same treatment that I propose in the following section (7.2.2) for the examples (26). In other words, (31) is simply another instance of a topic island.

7.2.2. Why (non-affective) topicalization creates islands

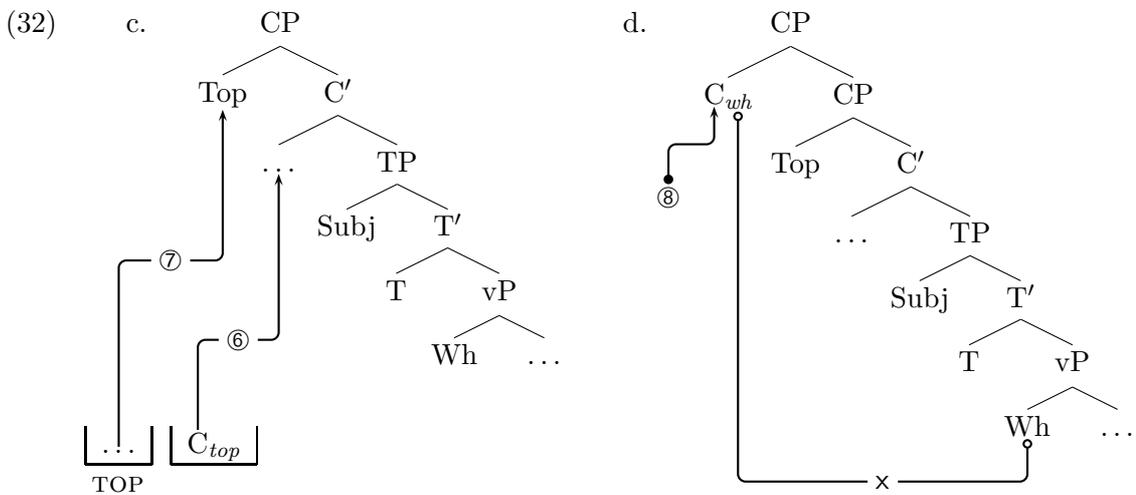
As pointed out in section 7.2.1, a central property of the derivation in (28) is that the EPP on T and [POL] on C_{pol} cannot be satisfied in accordance with the SCC unless C_{wh} is temporarily removed. In addition, the satisfaction of the EPP also requires removal of C_{pol} . The same holds for a derivation where CP_{top} replaces CP_{pol} . However, there is a crucial point where a derivation with intermediate CP_{top} diverges from the derivation in (28): due to lack of T-to- C_{top} movement, only either C_{top} or C_{wh} can be removed but not both because only one of them can assign EPP to T. This ensures island-hood of CP_{top} .

Again, the outcome of the derivation in question should not depend on the order in which *wh*-phrase and Top show up the specifier domain of the embedded vP. Since this time, the derivation is supposed to be blocked I consider in detail the scenario that seems more likely to lead to convergence. As is shown below, the derivation crashes even under these favoring circumstances. Thus consider a situation where the *wh*-phrase occupies the innermost Specv while Top occupies an intermediate Specv (in between subject and *wh*-phrase). Then, the Top-phrase will be directly accessible to C_{top} . Suppose furthermore that T inherits its EPP from C_{top} (see step ② in (32-a)). This happens right after C_{top} is merged (step ①). Since the Top-phrase in Specv is directly accessible, it is attracted by C_{top} and placed in the WSP (step ③). There are two options now. Either C_{wh} is merged and attracts the *wh*-phrase to the WSP. If this option is chosen, both C_{wh} and C_{top} have to be removed in order for subject raising to apply cyclically. Due to feature inheritance, C_{top} can be removed. However, there is no trigger to remove C_{wh} . But then subject raising violates the SCC (or the EPP is not saturated). Suppose then that, instead of merging C_{wh} , C_{top} is removed to the WSP (step ④), thereby feeding cyclic subject raising (step ⑤ in (32-b)).

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The derivation must now continue by remerging C_{top} (step ⑥ in (32-c)). After this, again two options arise. Either C_{wh} is merged and attracts the *wh*-phrase. If this option is chosen, the SCC prevents Top from being merged to Spec C_{top} because CP_{wh} cannot be removed (recall that there is not trigger to remove C_{wh}). Thus, either the SCC is violated, or [TOP] cannot be satisfied. In either case, the derivation fails. Alternatively, the Top-phrase is merged (see step ⑦ in (32-c)). But then the *wh*-phrase cannot be attracted after C_{wh} is merged (step ⑧ in (32-d)) because the Top-phrase intervenes.



In other words, extraction of a *wh*-phrase out of CP_{top} is blocked by the MLC because the topic is forced to reach Spec C_{top} before the *wh*-phrase can be attracted by C_{wh} . This derives the topic island effect.

Note that if the derivation starts with a configuration where the *wh*-phrase c-commands the Top-phrase in the specifier domain of vP, then it is necessary to merge C_{wh} to gain access to Top. But then, as in the failed scenarios above, CP_{wh} cannot be removed and therefore neither [TOP] nor the EPP on T can be checked without violating the SCC. Finally suppose a situation where T inherits its EPP from C_{wh} . Then CP_{wh}

can be removed (because feature inheritance now provides the trigger for removing C_{wh}), but CP_{top} cannot. Since CP_{wh} selects CP_{top} (and not vice versa), it follows that there must be a CP_{top} when TP receives its EPP. It follows that the EPP on T cannot be saturated without violating the SCC (because nothing triggers removal of C_{top}).

7.2.3. Trouble-shooting

As it stands, the theory both overgenerates and undergenerates. The present section discusses both problems and makes a proposal as to how they may be solved.

The first problem concerns an unwanted derivation that derives *wh*-extractions from topic islands. It builds on the idea that C_{wh} may merge with two different projections in the course of one derivation. Suppose a scenario where the order of *wh*-phrase and Top-phrase within the specifier domain of vP is such that the former c-commands the latter (as in (26-b)). Moreover, suppose that T inherits its EPP-feature from C_{wh} . Against this background, consider the following derivation. First, TP is constructed on top of vP. Then, C_{wh} merges with it. In this configuration, C_{wh} attracts the *wh*-phrase to the WSP, assigns EPP to T, and undergoes removal itself, which also removes CP_{wh} and leaves behind a TP. Next, C_{top} is merged with this TP. C_{top} can now attract the Top-phrase to its specifier. Finally, C_{wh} is remerged with CP_{top} , and the *wh*-phrase is remerged in $SpecC_{wh}$. This derives movement out of a topic island. Note, however, that the derivation violates the HPC, which was introduced in section 4.5.2 and which is repeated in (33).

(33) *Head Promiscuity Condition:*

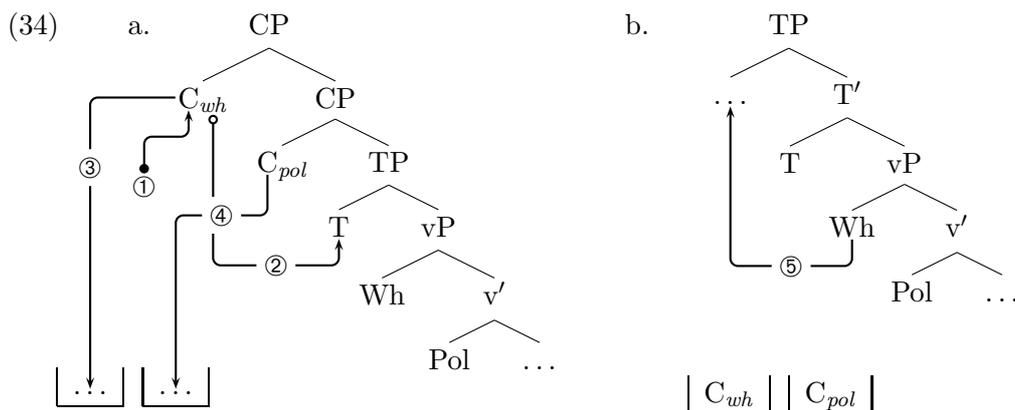
A removed head H can only remerge with the same category that H was merged with for the first time.

Thus, the overgeneration problem is solved by the HPC.

The undergeneration problem concerns *wh*-movement out of a clause involving affective preposing. It arises in contexts where either the *wh*-phrase or the affectively preposed category Pol function as the subject of the embedded clause. These scenarios were ignored so far. The problem comes about because such a subject must be removed by C_{wh} or C_{pol} , respectively, before T receives its EPP-feature by inheritance. But with the subject removed, the EPP-feature cannot be satisfied. Alternatively, the subject is not removed immediately. Then the EPP can be satisfied. But one of the C-heads needs to be removed twice although there is only one trigger that can initiate its removal. Let me illustrate this by means of an example where the *wh*-phrase is the subject.

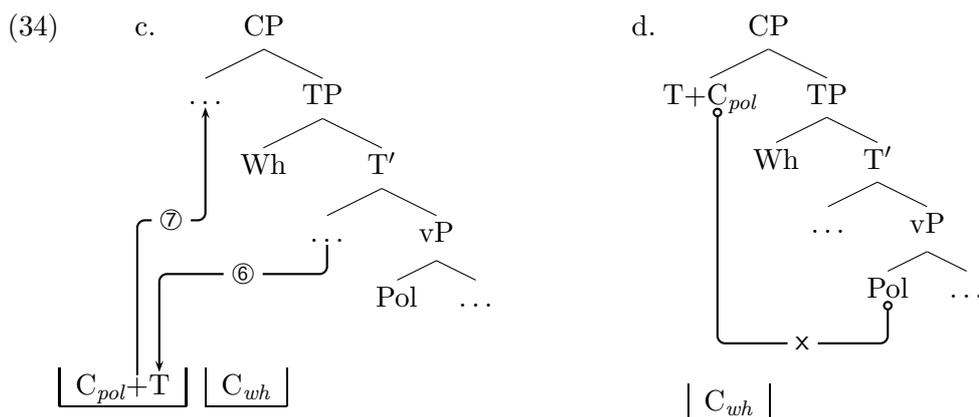
The derivation in (34) starts with merging the C_{wh} -head (step ① in (34-a)), which then assigns an EPP-feature to T (step ②). Both C-heads are then removed, C_{wh} due to feature inheritance and C_{pol} due to head-movement (steps ③ and ④). As a consequence, both CP-projections vanish, and subject raising can apply cyclically (see step ⑤ in (34-b)).

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At this point, I briefly leave the derivation in (34) and turn to a possible alternative. Namely, instead of removing C_{wh} in step ③ in (34-a), which finally leads to satisfaction of the EPP on T by subject raising (step ⑤ in (34-b)), the derivation could have proceeded via attracting the *wh*-phrase by C_{wh} , putting it in the WSP. This alternative derivation would then continue along the lines of derivation (28) in section 7.2.1, except that no subject raising to SpecT takes place. As a consequence, the EPP cannot be satisfied, and the derivation crashes.

This said, let me return to (34), which *does* involve satisfaction of the EPP. The next step in (34) necessarily remerges C_{pol} (step ⑦ in (34-c)), but only after T has been adjoined to C_{pol} in the WSP (see step ⑥). After C_{pol} is remerged, it is not able to access Pol because of the intervening *wh*-phrase in SpecT. This is illustrated in (34-d). The only way to gain access to Pol is by attracting the *wh*-phrase first. To this end, C_{wh} must be remerged. Once this is done, C_{wh} cannot be removed for a second time. But this would be necessary if attraction of Pol to Spec C_{pol} were to obey the SCC. To conclude, there is no way to access Pol if the subject *wh*-phrase is supposed to satisfy the EPP on T.



The consequence is that the present approach predicts examples to be ungrammatical in which a *wh*-phrase is moved out of a CP that involves affective preposing and in which the very same *wh*-phrase functions as the subject of the embedded CP. In other words, the topic island effect should return under these conditions, even with affective

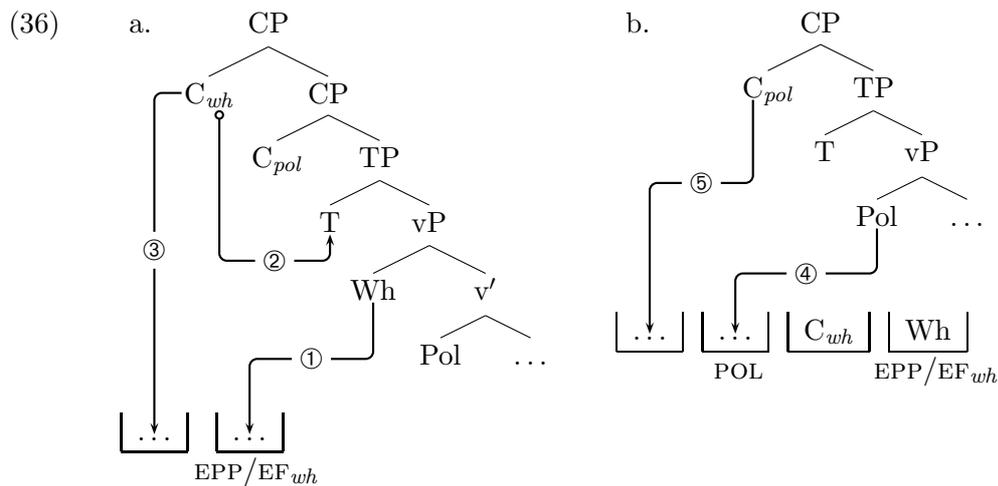
preposing. This prediction is wrong as the well-formedness of the examples in (35-a,b), from Culicover (1993: 558-559), shows:

- (35) a. Leslie is the person who I said [CP that [CP under no circumstances would *t* run for any public office *t*]].
- b. It was Leslie who I said [CP that [CP only on very few occasions had *t* given a damn about the budget *t*]].

Therefore, some additional assumption is needed in order to make a derivation possible that both satisfies the EPP and enables extraction of a subject *wh*-phrase from an embedded clause involving affective preposing.

To this end, consider the possibility that a WSP containing some category α may be associated with *two* movement inducing features, β and γ . This may come about if β and γ belong to the same head H, α is attracted by β , and α is also a possible target for γ . I assume that in such a case α (or the WSP occupied by it) may not only be associated with β but also, parasitically, with γ . As a consequence, α may first be taken from the WSP and be remerged to saturate γ , then put back to the WSP still associated with β , and finally remerged again to saturate β . In what follows, I illustrate that these assumptions make possible a variant of the derivation (34) in which *wh*-movement applies and the EPP is satisfied.

The idea is that C_{wh} attracts the *wh*-subject, and that this attraction is associated with both the EF_{wh} responsible for intermediate *wh*-movement and, parasitically, with the EPP on C (which ultimately ends up on T), see step ① in (36-a).²⁵ In step ②, T inherits the EPP from C_{wh} . As a consequence, the WSP that hosts the *wh*-phrase is now connected to both C_{wh} and T. Next, C_{wh} is removed due to feature inheritance (step ③).

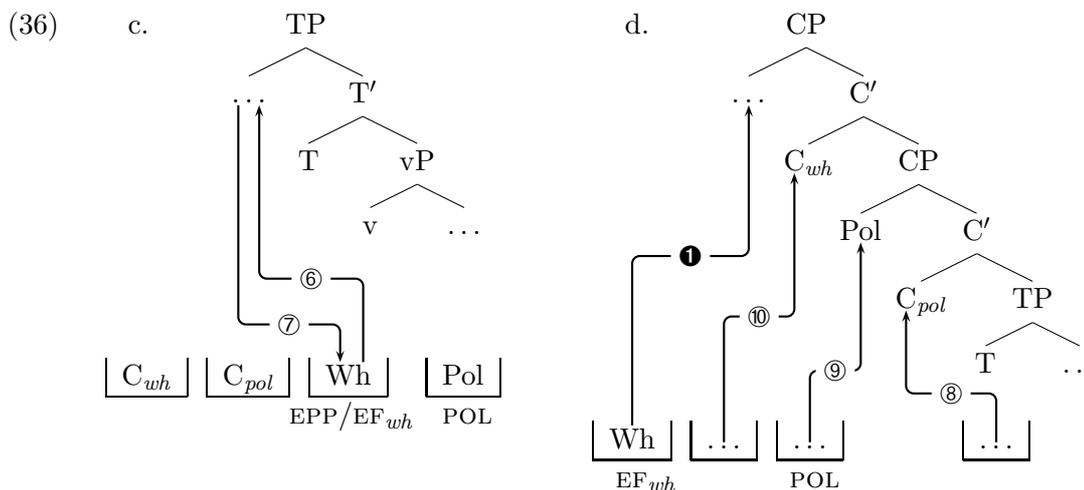


In step ④ (see (36-b)), Pol is attracted by C_{pol} , and then the latter is removed in order to

²⁵Since association with the EPP is only parasitic, it does not require the EPP to be active on C; cf. footnote 7, section 3.3.

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prepare T-to-Pol movement, not shown in (36), see step ⑤. With CP_{pol} gone, the subject can be remerged cyclically in SpecT, satisfying the EPP (step ⑥ in (36-c)). After this, by assumption, the subject is put right back to the WSP that is still associated with EF_{wh} (step ⑦). The remains of the derivation proceeds along the lines of derivation (28), section 7.2.1, see steps ⑧–⑩ plus ❶ in (36-d).



To summarize, the derivation in (36) avoids undergeneration for the case where the *wh*-phrase is the subject of the embedded clause. This becomes possible if a feature may associate parasitically with a WSP under certain conditions.

Next consider cases where Pol functions as the subject of the embedded clause. I will not illustrate this in detail here, but such cases raise almost the same undergeneration problem. (37), which is well-formed, is a case in point (Andrew McIntyre, p.c.).

(37)

Unfortunately, the derivation in (36) is not applicable to (37). The reason is that this would require the feature [POL] on C_{pol} to parasitically bind the EPP-feature that ultimately ends up on T. However, as discussed in section 7.2.1, a successful derivation must, for independent reasons, involve inheritance of the EPP-feature by T from C_{wh} , not from C_{pol} . Therefore, another account is needed.

The problem can be solved by noting that examples with an “affective” subject allow for an analysis where the subject does not undergo movement to Spec C_{pol} . In other words, the subject *only John* in (37) may as well be analyzed as remaining in SpecT, with the auxiliary in T. In such a case, I assume, the subject does not bear [POL] (accordingly, there is no C_{pol} either), and therefore it does not act as an intervener for *wh*-movement. It follows that the generation of (37) does not require a non-monotonic derivation, which trivially resolves the undergeneration problem.²⁶

²⁶One may think that this analysis predicts that a variant of (37) lacking a lexical auxiliary should not allow for *do*-insertion because, by hypothesis, no T-to-C movement takes place, which appears to be

7.2.4. A brief comparative view from Germanic

Another complication arises if one considers related languages from the Germanic family.²⁷ It has been observed (see Fanselow 1987, Bayer 1990, Fanselow 1991: 225, Müller and Sternefeld 1993, d’Avis 1996) that in German, similar to English, clauses that involve topicalization are strict islands, see (38-a). This is surprising against the present background, given that topicalization in German always involves V-to-C movement: a non-monotonic derivation along the lines of (28) in section 7.2.1 should be possible.

- (38) a. *Wen hast du gesagt ich soll *t t* einladen?
 who.ACC have you said I.NOM shall invite
 “Whom did you say that I shall invite?”
 b. Du hast gesagt [_{CP} ich soll jemanden einladen].
 you have said I shall someone invite
 “You said that I shall invite someone.”

A difference between (38-a) and cases of \bar{A} -movement out of a clause with affective preposing in English as in (27) is that the latter, but not the former, unequivocally involves CP-recursion. This may suggest that extraction of the *wh*-phrase in German must pass via the specifier domain that also hosts topicalization. One may assume further that cyclic *wh*-movement of the object in (38-a) targets an inner specifier (see section 3.5) while the topicalized subject in (38-a) occupies an outer SpecC. In this case, the latter would prevent further movement of the former due to the MLC.

However, there is reason to doubt that this is the correct explanation for the ungrammaticality of (38-a). Recall that it was alluded to in section 3.5 that criterial movement in embedded CPs may apply before intermediate movement. The complete argument for this assumption will be presented in section 7.3. But note that one may also make

correct (Andrew McIntyre, p.c.):

- (i) Which books did you say that only John (*did) *t* read *t*?

But there is a fact suggesting that under present assumptions the ungrammaticality of *do*-support in (i) must be irrelevant for the question whether there is T-to-C movement in (i). Namely, as Culicover (1991*b*) notes, *wh*-movement of a subject out of a clause involving affective preposing (also) does not allow *do*-support:

- (ii) Who did you say that never again (*did) want*(ed) to eat anchovies?

According to the present analysis, the derivation of (ii) proceeds as in (36). Thus, (ii) involves T-to-C movement. This raises the question as to why *do*-support in (ii) is blocked. A possible answer is that *do*-support (in the absence of a lexical auxiliary) in English is not a direct consequence of T-to-C movement as such but rather reflects the lack of PF-adjacency between T (which is adjoined to C) and the verb (see Bobaljik 1995*b*; 2002 in general, and Sobin 2003: 199-200 in the context of (ii)). Since PF-adjacency is fulfilled in (i) and (ii) because the subject has moved away from SpecT, *do*-support is blocked in both cases.

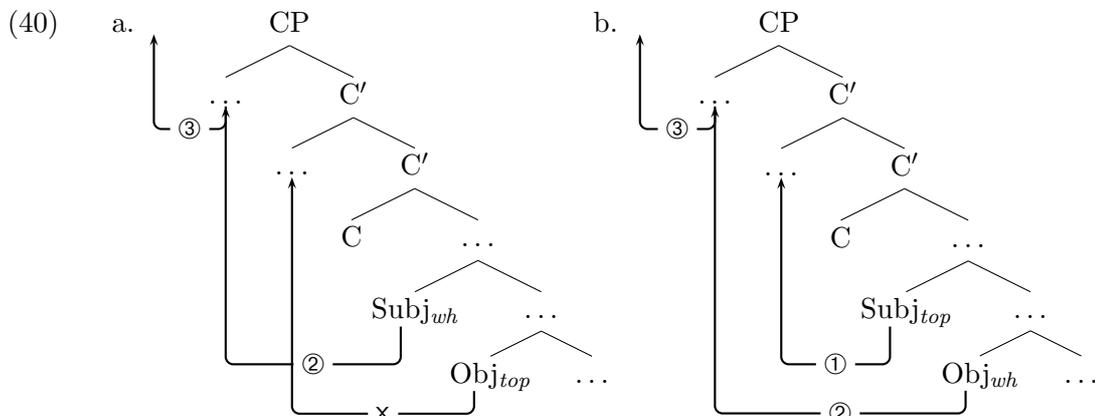
²⁷Facts from languages outside the Germanic family raise other questions. For instance, in Italian topicalization does not induce an island for *wh*-movement, despite the lack of overt head-movement to the C hosting the topicalized category, see Rizzi (2001; 2004). I will not go into this matter here.

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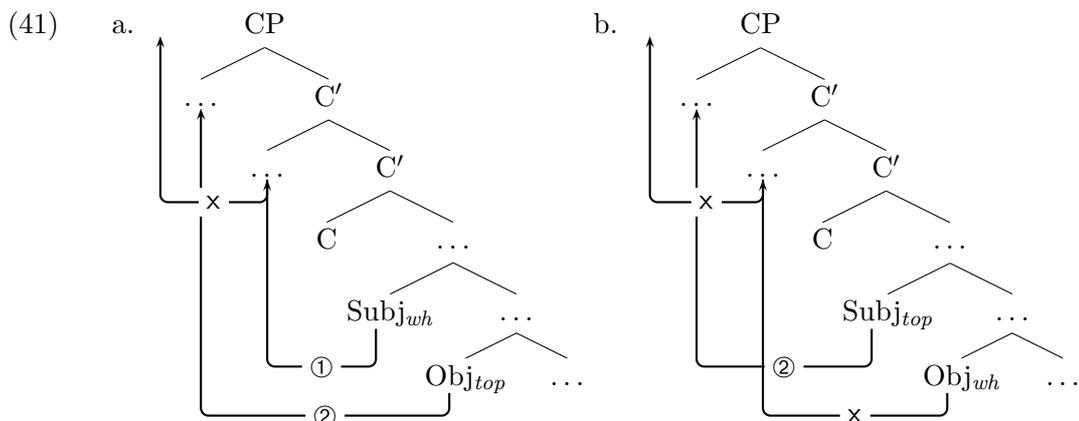
an argument on the premise that intermediate *wh*-movement and criterial topicalization in German target the same specifier domain. First, it can be observed that (39), where *wh*-movement targets the subject and embedded topicalization targets the object, is even worse than (38-a):

- (39) **Wer hast du gesagt dich soll *t t* einladen?
 who.NOM have you said you.ACC shall invite
 “Who did you say that shall invite you?”

This may be reflected by the analysis if criterial movement applies first, see (40-a,b). (40-a), which represents (39), incurs an MLC-violation in the first step. (40-b), which stands for (38-a), does not incur any MLC-violation. It is therefore not unexpected that (39) is worse than (38-a) if criterial movement applies first.



Contrast this with the assumption that intermediate movement applies first, see (41-a,b). (41-a) (the configuration of (39)) also incurs one MLC-violation in the third step, but (41-b) (the configuration of (38-a)) violates the MLC twice, namely in the first and in the last step. Thus, (38-a) should be worse than (39), contrary to fact.



But note in passing that by accepting that criterial movement must apply before intermediate movement in embedded CPs in German one does not have an account for

the absolute judgments involved in (38-a) and (39). It still remains to be explained why (38-a), which does not violate the MLC according to (40-b), is ungrammatical.

To conclude, assuming that both intermediate *wh*-movement and criterial topicalization target the same specifier domain in German does not seem to be the right way to account for the ill-formedness of (38-a)/(39).

Moreover, in Scandinavian, which arguably exhibits CP-recursion with embedded V2, *wh*-movement out of a V2-complement is also ungrammatical (see Vikner 1995: 115 on Danish, Faroese, and Icelandic).²⁸ (42-a), which is taken from Fanselow (1991: 223), who in turn cites Holmberg (1986), illustrates this for Swedish.

- (42) a. *Vilken fest sa hon att rolinga hattar skulle vi inte köpta *t* till *t*?
 which party said he that funny hats should we not buy for
 “Which party did he say that we should not buy funny hats for?”
 b. Hon sa [_{CP} att [_{CP} rolinga hattar skull vi inte köpa *t*]].
 he said that funny hats should we not buy
 “He said that we should not buy funny heads.”

If topic islands in German and Scandinavian are supposed to receive the same account, then this also suggests that the ungrammaticality of (38-a)/(39) in German is not the result of the lack of CP-recursion.

Finally note that the derivation in (28), section 7.2.1, should be available for (42-a), too, with C_{pol} in (28) being replaced by the C-head that hosts the phrase *rolinga hattar* “funny heads” (and the finite verb) in (42-a). Thus, the theory overgenerates with respect to Scandinavian, too.

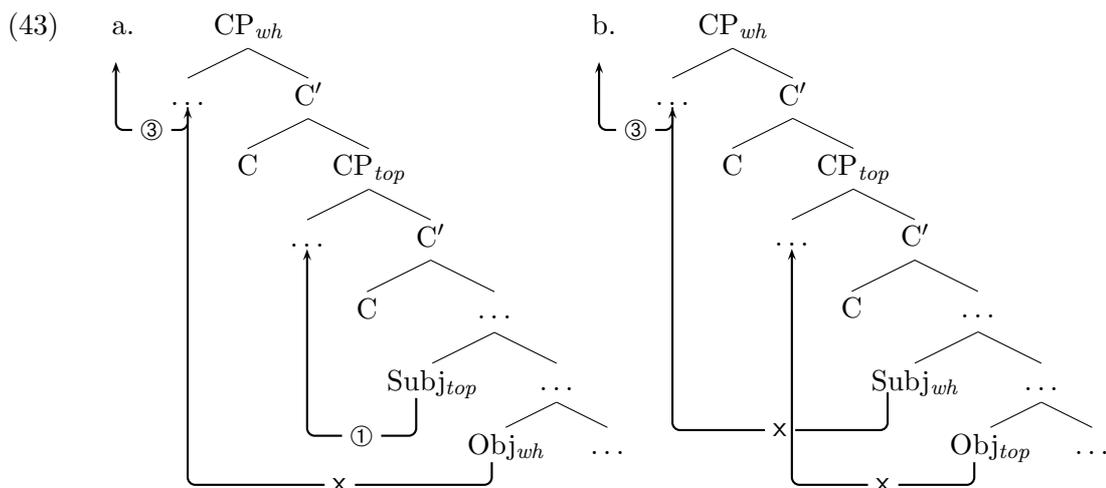
To avoid overgeneration, I tentatively suggest that there is a difference between a C-head that triggers generalized V2 (i.e., V2 generally affecting finite verbs in main clauses and clauses embedded under certain types of verbs, as in German and Scandinavian) and the C-head in English that triggers residual V2 in the context of affective preposing. Concretely, suppose that the C-head triggering generalized V2 always assigns EPP to T, with the consequence that the recursive C-head in (42-a) (realized by the complementizer) that embeds the V2 clause cannot assign an EPP. It then follows that a derivation of the type in (28) is not available for (42-a) because the upper CP-shell cannot be removed.²⁹

I assume that the same holds for German, meaning that there must be an empty complementizer heading a recursive CP-shell above CP_{top} (see Müller and Sternefeld 1993). Possible independent evidence for this may come from the fact that assuming CP-recursion for German, too, provides a handle for explaining the different shades of ungrammaticality shown by (38-a) and (39). The structure and derivation of these examples (under the CP-recursion hypothesis) is given in (43-a,b) respectively.

²⁸ According to Vikner (1995: 115), such structures are grammatical in Yiddish.

²⁹ Admittedly, this must be considered a purely technical solution as long as no independent evidence is provided.

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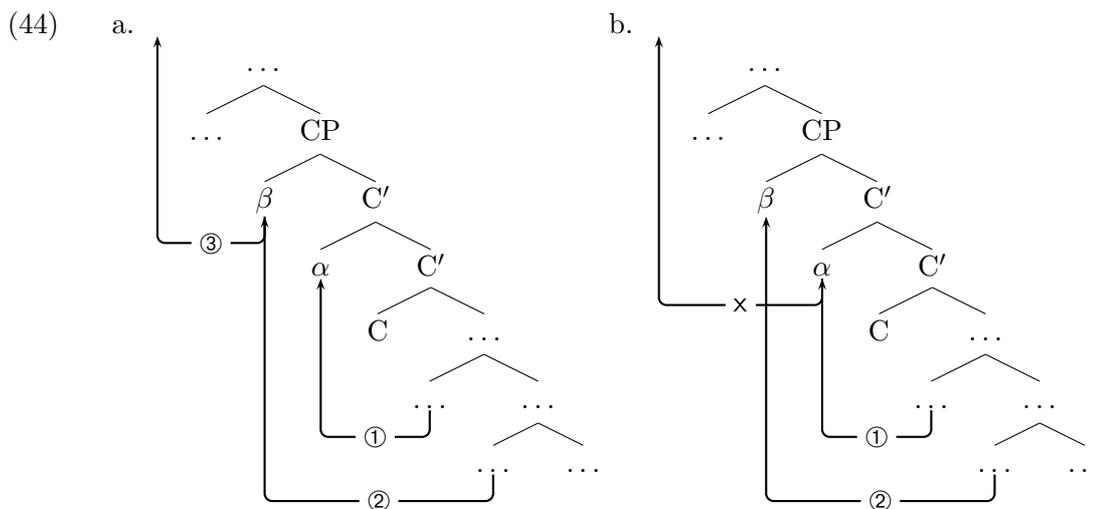


While (43-a) incurs only one violation of the MLC, (43-b) incurs two such violations. This may be seen as an explanation for why (39) is worse than (38-a).

7.3. Reconciling NDC and ISC

In section 2.3.1, I sketched Kitahara's (1994, 1997) idea to derive Fodor's (1978) Nested Dependency Condition (NDC) from the MLC. In the present section, I briefly illustrate that this derivation is incompatible with the spirit of the ISC (introduced in section 3.5). As a reaction to this, I offer a modification of the theory that confines the ISC to vP-phases, thereby freeing embedded CP-phases from it. This modification will then allow to maintain the derivation of the NDC from the MLC. In section 7.4, I suggest that it receives further support from the analysis of complex noun phrase islands.

Recall from section 3.5 that the idea of the ISC, in a nutshell, was that intermediate movement precedes criterial movement. Against this background, reconsider now the derivations in (44-a,b), which illustrate why the NDC follows from the MLC:

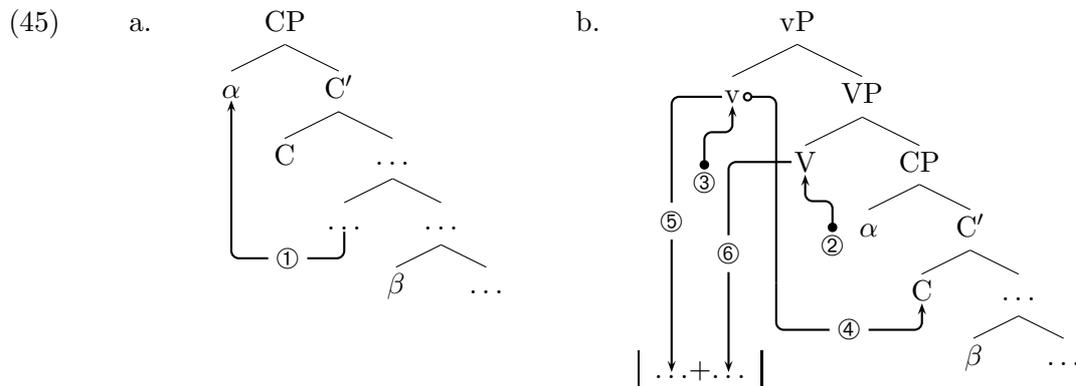


In (44-a), α undergoes criterial movement in a first step, followed by intermediate move-

ment of β in a second step. The result is a nested dependency. Since β occupies the outer specifier of the embedded CP, it can undergo further movement. In contrast, (44-b) involves intermediate movement of α as a first step followed by criterial movement of β in a second step. If α underwent further movement, the result would be a crossing dependency. Such a last step, however, is blocked by the MLC. Derivations that attract the lower category in the first step are excluded by the MLC right away.

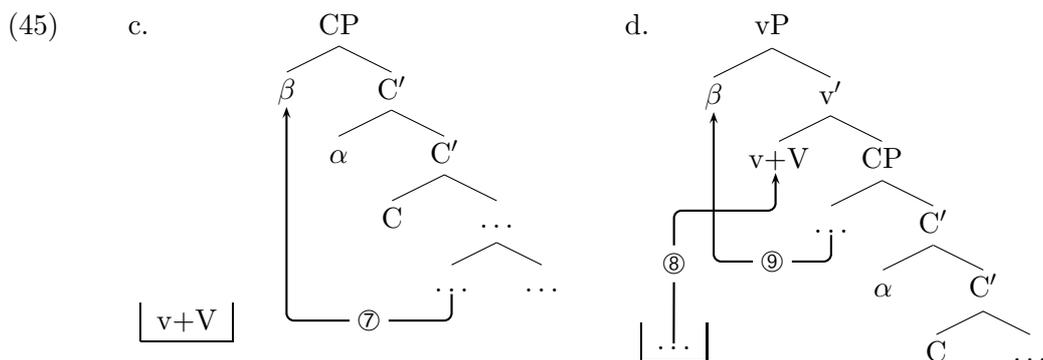
Note that (44-a) is not compatible with the ISC: the specifier resulting from intermediate movement (step ① in (44-a)) is created *after* the specifier that is the result of criterial movement (step ②). In order to maintain both the ISC and the idea that the NDC derives from the MLC, I suggest that embedded CPs need not obey the ISC. To this end, suppose that an embedded CP gets its EF assigned from the embedding v-head.³⁰ This assumption paves the way to an explanation as to why embedded CPs may void ISC effects. To illustrate, suppose that the derivation in (44-a) has reached a state where the embedded C-head was merged. At this point, this C-head, as a lexical property, bears a feature to trigger criterial \bar{A} -movement of α , but it does not yet bear the EF that is supposed to trigger intermediate movement of β . I take it that under these conditions criterial movement may apply before intermediate movement simply because there is no way that intermediate movement could possibly apply to begin with. In other words, I suggest that the ISC expresses a preference to apply intermediate movement before criterial movement that can only take effect if both options are locally available.

The derivation to illustrate this is given in (45-a-d). First, a criterial feature on C attracts α to SpecC (step ① in (45-a)). In the following steps, V and little v are merged, and v assigns its EF to C (steps ②–④ in (45-b)). At this point, intermediate movement to SpecC would violate the SCC. The derivation thus continues by successively removing v and V (due to the process of V-to-v movement, see steps ⑤ and ⑥ in (45-b)). Removal of the verbal heads also removes their projections. The tree is thus cut down to the size of the embedded CP again, see (45-c). As a consequence, the EF that C inherited from v can attract β to the outer SpecC-position, in accordance with the SCC (see step ⑦ in (45-c)). In the following steps, the v+V complex is remerged (step ⑧ in (45-d)) and triggers the next cyclic step of β to Specv (step ⑨).



³⁰See Rackowski and Richards (2005: 586) for potential evidence of such a v-C relation on the basis of extraction out of CP in Tagalog.

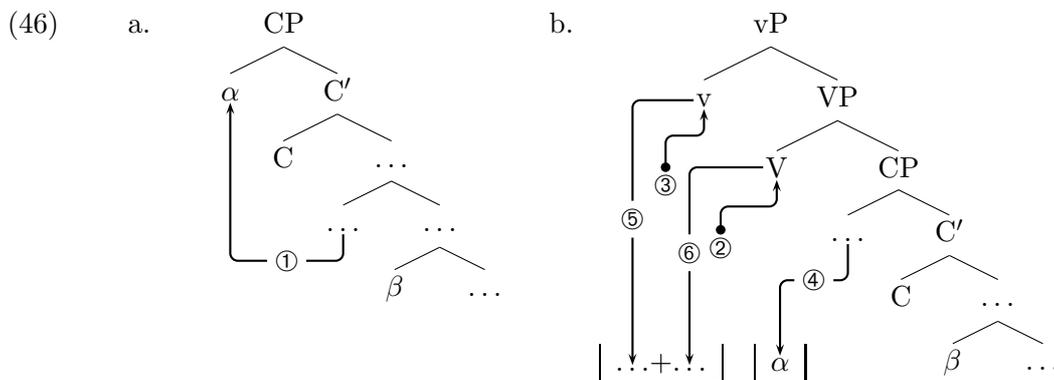
7. \bar{A} -dependencies

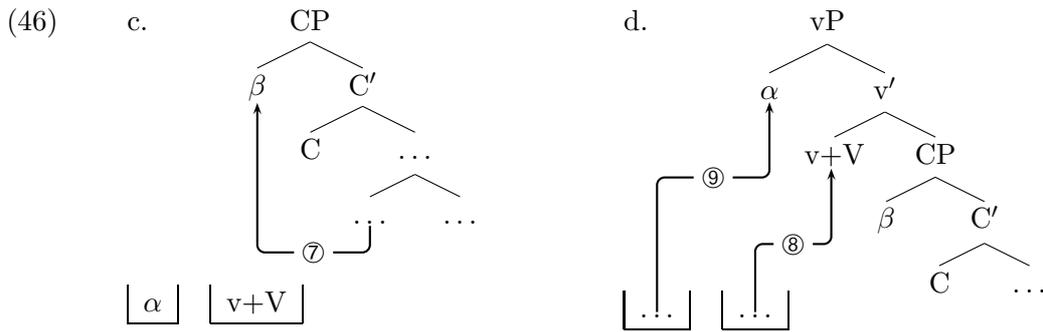


In what follows, I would like to briefly address three questions. First, why should an embedded C inherit its EF from a higher head (enabling it to avoid ISC-effects) while a v-head should not? Second, are there other reasons to assume that embedded Cs receives its EF via inheritance? And third, what about languages that do not obey the NDC (like, for instance, Norwegian, and certain dialects of Swedish, see section 2.3.1)?

As for the first question, I can hardly offer more than a speculation. One difference between vPs and CPs is that the latter also show up as roots while the former do not. A matrix CP will never be in need of an EF. It therefore does not seem unreasonable to assume that the syntactic context should decide whether a CP receives an EF or not. This is achieved if an embedded CP inherits its EF from the embedding v-head. A root CP then will never get an EF because there is no such head. In contrast, vPs are always embedded. Maybe it is for this reason that they always bear EFs a lexical property.

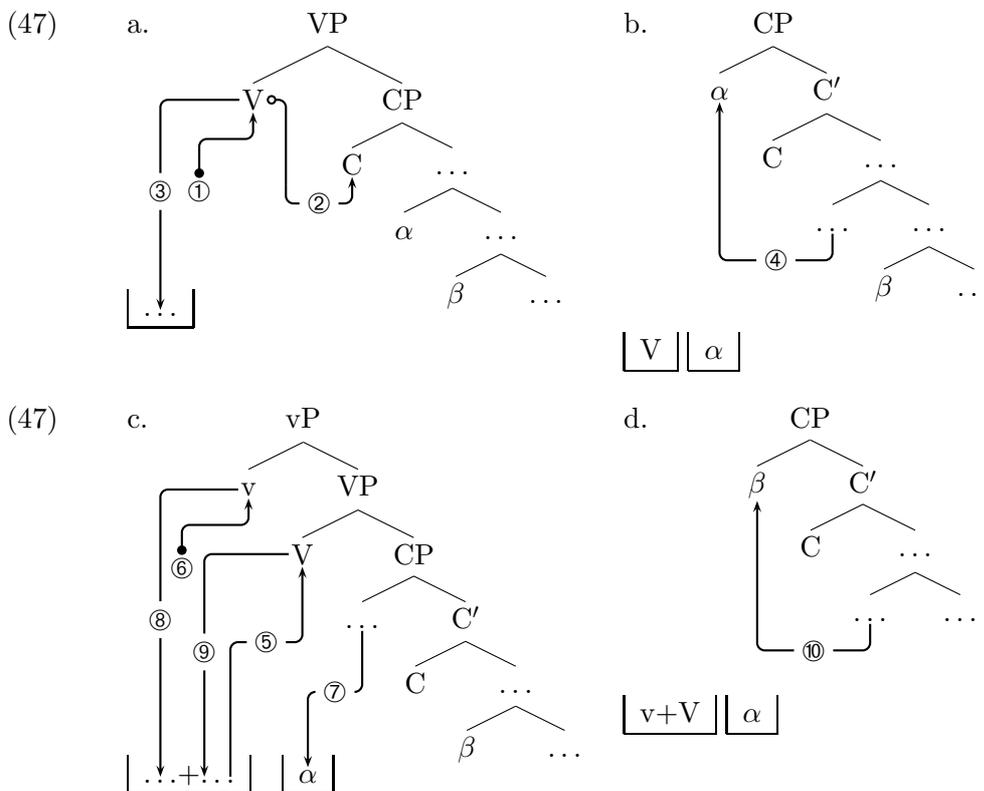
Turning to the second question, another theory-internal reason for assuming that an embedded C inherits its EF is that this assumption makes possible to block a non-monotonic derivation that would otherwise allow to derive crossing dependencies. (There is also an empirically motivated reason, which is discussed in section 7.4.) To illustrate, suppose that C bears an EF as a lexical property. Then the following derivation is conceivable. First, α , the higher of two categories, undergoes intermediate movement to SpecC (step ① in (46-a)). Attraction of β by C is procrastinated. Rather, V and v are merged, and v attracts α and places it in the WSP (steps ②–④ in (46-b)). After this, the verbal heads are removed to the WSP (in the process of V-to-v movement, see steps ⑤, ⑥), reducing the structure to the embedded CP. Next, β is attracted by the criterial \bar{A} -feature on the C-head (step ⑦ in (46-c)). Finally, the verbal complex is restored and remerges α from the WSP in Specv (steps ⑧, ⑨ in (46-d)).



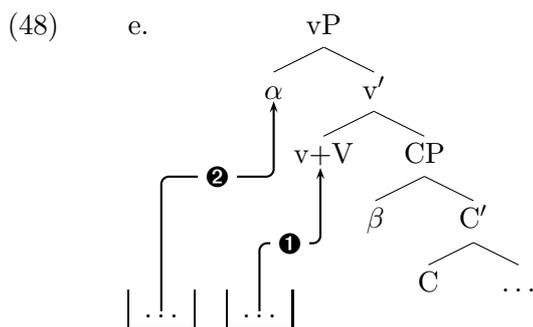


The result of (46-a-d) is a structure with crossing dependencies. The idea behind the derivation in (46), early intermediate movement plus late criterial movement, cannot be realized if C inherits its EF by v. This would require that v be removed twice, once when the EF has been assigned and once when β is attracted by C. But this is impossible by the following reasoning. Suppose that feature inheritance can only serve as a trigger for removal of a head H if the feature that was assigned by H has not yet been satisfied. When v is removed for the first time, this is triggered by V-to-v movement because V must be removed as well. Since the EF on C is satisfied directly after v was removed for the first time, feature inheritance cannot serve as a trigger for a second removal.

This brings us to the third question, how to explain the existence of languages that do exhibit crossing dependencies. Suppose that C inherits its EF not from v but from V. Then, as illustrated by (47-a-e), crossing dependencies can be generated, after all. The point is that in this case V *can* be removed twice, once as a result of feature inheritance (on its own), and once as the result of V-to-v-movement (together with v).



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It is, perhaps, not completely out of the question to suppose that there may be a parameter that regulates whether C inherits its EF from V or from v, thereby allowing for languages that exhibit crossing dependencies in the former case.³¹

I close this section noting that there is yet an alternative way to derive crossing dependencies in the present theory. It involves attraction of α to the WSP by an EF on C in a first step, followed by criterial movement of β to SpecC, followed by remerge of α to an outer SpecC and by subsequent movement of α . Since such a derivation would appear to be generally available (predicting crossing dependencies across the board), I conclude that it must be blocked. This may be done by assuming that the criterial feature on a phase head H cannot become active before the EF on H is saturated.

7.4. Complex noun phrase islands

The observation that extraction out of relative clauses and out of clausal complements to nouns is ungrammatical in English (and many other languages) goes back at least as far as Ross (1967: 118-119), who in turn cites Edward Klima. Representative examples for this observation from English are given in (49-a,b), which involve long relativization out of a relative clause and out of the clausal complement to a noun, respectively.

- (49) a. *The man who I read [_{NP} a statement [_{CP} which was about *t*]] is sick.
 b. *The money which I am discussing [_{NP} the claim [_{CP} that the company squandered *t*]] amounts to \$400,000.

Ross (1967: 127) himself proposed to account for the ungrammaticality of both (49-a,b) in terms of the constraint in (50).

- (50) *The Complex NP Constraint (CNPC):*
 No element contained in a sentence dominated by a noun phrase [...] may be moved out of that noun phrase by a transformation.

While (50) correctly and elegantly describes the facts in (49-a,b), it is hardly more than that: a description. Ideally, however, this description should follow from basic and independently motivated principles of syntax. In other words, an account of these facts should provide an answer to the question as to what the CNPC follows from. Moreover,

³¹Admittedly, in order for such a parameter to be learnable, it must have some other effects, too. It is unlikely that the learner has enough evidence coming from crossing dependencies in the input.

it should provide a handle to the observation that some languages, for instance MSc languages, do not seem to be subject to the CNPC. These two questions are addressed in section 7.4.1 and 7.4.2, respectively.

7.4.1. Deriving CNP islands

CNP island effects, such as the ones in (49-a,b), pose a theoretical challenge insofar as they do not seem to form a homogeneous class. Only those CNP islands that involve extraction from a relative clause are typical operator islands and thus explainable in terms of the MLC. In contrast, the complement clause to the noun in (49-b), as opposed to the relative clause in (49-a), does not host an operator in its edge domain that could act as an intervener for attraction of the second \bar{A} -operator (again, a relative pronoun in (49-a,b)) from within the complex noun phrase. Moreover, given that extraction from noun phrases, under the right conditions, is generally possible in English and also in other languages, one cannot reduce CNP islands to the presence of a nominal shell alone, which would be present in both (49-a,b). The conclusion to draw from this is that any account of CNP islands must make reference to the *simultaneous* presence of a CP and a nominal shell.³²

The present account of CNP islands exploits the idea that a head may, sometimes, not bear a feature as a lexical property but may rather receive it in the course of the syntactic derivation via feature inheritance (see section 3.3). In particular, I make use of the assumption briefly mentioned in section 3.5 and motivated in more detail in section 7.3 that the C-head of an embedded CP acquires its EF feature via feature inheritance from the embedding verb. The purpose of an EF assigned to an embedded CP is to trigger successive cyclic movement of a category α to the edge of this CP. This is necessary in order to guarantee α 's PIC-accessibility if α is supposed to ultimately move to a position outside of the embedded CP.

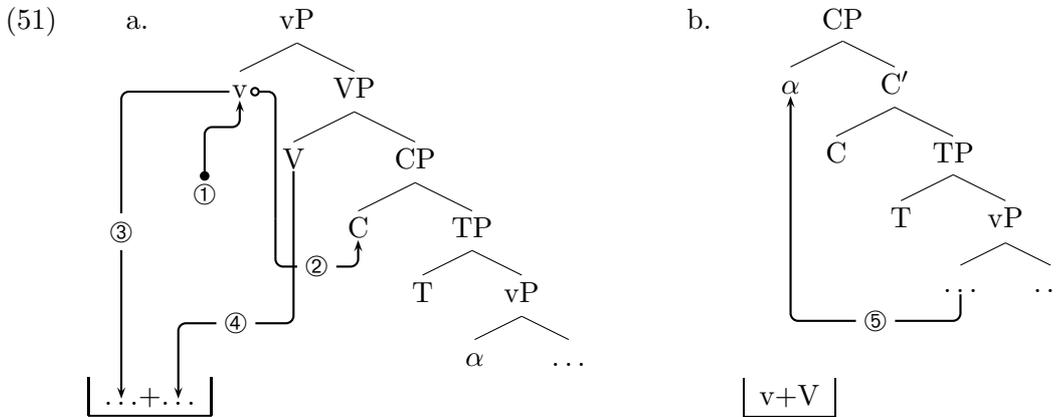
As discussed in section 3.3, feature inheritance requires that the feature-assigning head be removed temporarily in order for the head that inherits the feature to be able to make use of it in accordance with the SCC. Since the background assumption here is that there is always V-to-v movement (see section 3.1), and since this implies that both V and v be temporarily removed (see section 2.4.3), it is ensured that an embedded CP gets the chance to make use of its EF in a cyclic way (see section 7.3). But at the same time, it follows that if some projection γ intervenes in between V and CP, and γ cannot be removed (because there is no appropriate trigger available for removal of the head of γ), then the embedded CP will not be able to attract a category to its edge because of the SCC. As a consequence, the PIC (see (14) in section 3.5) derives that extraction out of such a CP is impossible. In what follows, I suggest that this is exactly what happens with complex noun phrases, effectively deriving both types of CNP islands.

Consider the derivation in (51-a-c), which illustrates how successive cyclic extraction from a CP that is *not* embedded under a nominal shell proceeds under these assumptions. In step ① in (51-a), V assigns an EF to C. When little v is merged (step ②), it triggers the

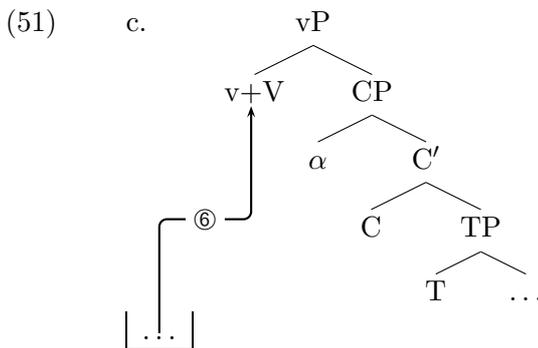
³²See, for instance, the account of CNP islands proposed in Müller (1995a: 56-59), in terms of the notion of “barrier” and a theory of abstract incorporation, which is based on the same conclusion.

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usual head-movement procedure, which involves removal of V and v to the WSP (steps ③ and ④). With both VP and vP gone, the EF on C can now attract some category α to SpecC, respecting the SCC (see step ⑤ in (51-b)).



After having formed the complex v+V-head in the WSP, the derivation continues by remerging this complex head with the CP in step ⑥ in (51-c).³³ In SpecC, α is PIC-accessible and can undergo further movement. In this way, the non-monotonic derivation in (51-a-c) enables extraction from CP.

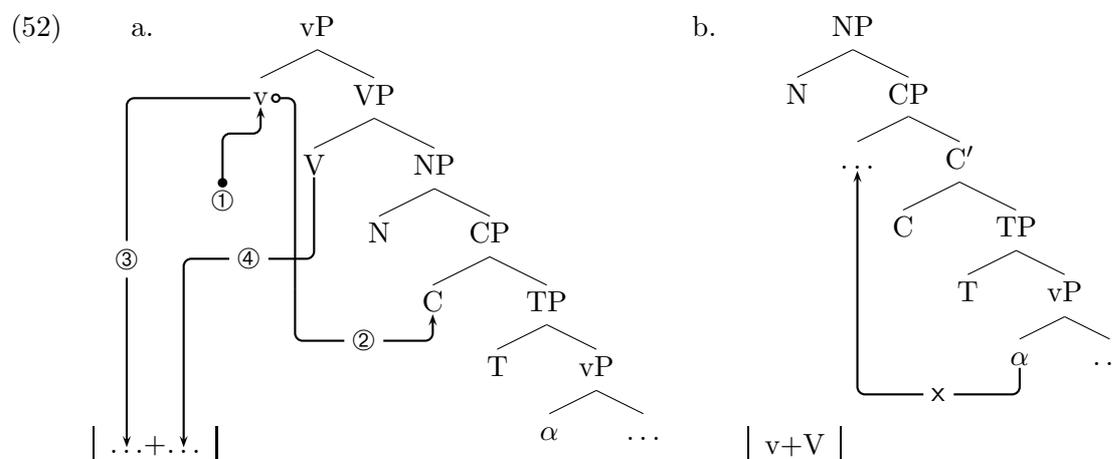


Of course, extraction from CP can also be explained without assuming feature inheritance by C from V (thereby dispensing with the necessity for a non-monotonic derivation). What the analysis in (51) provides, though, is a handle for explaining the existence of CNP islands. The analysis is as follows.

As mentioned above, a nominal shell that shows up in between V and CP effectively prohibits a derivation where C can make use of an EF it has inherited from the matrix verb. As a consequence, nothing can be extracted from such a CP due to the PIC. (52-a,b) illustrates in detail why extraction from a CNP island (in a language obeying

³³Step ⑥ in (51-c) may seem to contradict the HPC (see (69) in section 4.5.2, or (33) in section 7.2.3), which requires that a head must remerge with the projection it was merged with before being removed. I assume, however, that the HPC is fulfilled in (51-c). This is obvious for little v, which merges with V, the head of its former complement. As for V, I assume that the v+V complex inherits the properties of V and therefore fulfills the HPC when v+V remerges with CP, the former complement of V (cf. also footnote 9, section 5.2.2 about properties of complex heads).

the CNPC) cannot proceed without violating the SCC.³⁴



Steps ①–④ proceed as in (51-a). However, in (52-b), in contrast to (51-b), there remains an NP-shell above CP after vP and VP are removed. As a consequence, the EF on C cannot be made use of: movement of α to SpecC is blocked by the SCC. If extraction out of CP skips SpecC, then the PIC is violated. This derives the CNP island effect.³⁵

7.4.2. Extraction from CNPs in Scandinavian

It is a long-standing puzzle why MSc languages are not subject to the CNPC in (50). The empirical observation is often discussed and appears to be robust. It has been established for Danish (Erteschik-Shir 1973; 1982), Swedish (Allwood 1982; Engdahl 1982), and Norwegian (Taraldsen 1982); see also Engdahl (1997) and Heinat and Wiklund (2015) for overview and general discussion.

Illustrative examples from Danish (Erteschik-Shir 1982: 180), Swedish (Engdahl 1997: 52), and Norwegian (Taraldsen 1982: 106) are given in (54-a-c), respectively.

- (53) a. Det billede kender jeg ingen som har malet *t*.
 this picture know I no-one that has painted
 “I know no-one who has painted this picture.”
- b. De blommorna känner jag en man som säljer *t*.
 those flowers know I a man that sells
 “I know a man who sells those flowers.”
- c. Rødsprit slipper vi ingen inn som har drukket *t*.
 methylated spirit let we no-one in that has drunk
 “We don’t let anyone in who has drunk methylated spirit.”

³⁴I am assuming here that both relative clauses and complements to nouns are sisters of N. The same outcome is obtained if relative clauses (and noun “complements”) were, say, adjoined to NP.

³⁵The impossibility of extraction from subject clauses also follows, if such clauses are merged in Specv: in this position, they are too high to inherit an EF by the embedded *v*, and the PIC prevents them from inheriting an EF from the *v*-head of a higher clause. An account of the impossibility of extraction from clauses under non-bridge verbs may also be possible (similar to the proposal in Müller 1995a: 51-54).

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There are also other languages that allow for extraction from complex noun phrases. Nevertheless, it is a rather rare property, cross-linguistically, and the question is pressing why the Scandinavian languages (with the exception of Icelandic, see below) should differ rather sharply in this respect from, e.g., their West-Germanic cousins English, Dutch, and German. English examples illustrating the CNP island effects were illustrated in section 7.4.1. For Dutch and German, see (54) (from De Vries 2002: 258, 295) and (55), respectively.

- (54) a. *Wat heb je de man die *t* draagt gezien?
 what have you the man who wears seen
 “What did you see a man was wearing?”
 b. *Wat heb je de vraag of hij *t* deed gesteld?
 what have you the question if he did asked
 “What did you ask the question whether he had done?”
- (55) a. *Diese Farbe kenne ich niemanden dem *t* steht.
 this color know I no-one whom suits
 “I know no-one whom this color suits.”
 b. *Auf welchem Planet gibt es eine Vermutung dass Leben *t* möglich ist?
 on which planet is there a hunch that life possible is
 “On which planet is there a hunch that life could be possible?”

Against the background of the derivation of CNP islands presented in section 7.4.1, I now make a new proposal as to why MSc languages are capable to bypass the CNPC. The proposal is based on the existence of head-movement within the nominal domain in Scandinavian (as opposed to English, Dutch, and German).

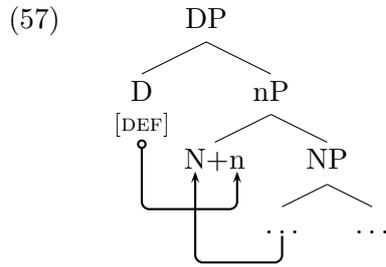
The idea that the Scandinavian noun phrase involves head movement is motivated by the fact that the definite article in Scandinavian can appear prenominally, as a free morpheme, or postnominally, as a suffix, see the Danish examples in (56-a,b), taken from Hankamer and Mikkelsen (2002).

- (56) a. hest-en
 horse-DEF
 “the horse”
 b. den gamle hest
 the old horse
 “the old horse”

The exact conditions for when definiteness is spelled out prenominally or postnominally are of no concern here. What is of interest, however, is how the alternation in (56) is interpreted. To this end, I make the following assumptions. First, the noun phrase consists of three projections: DP, nP, and NP, in this order. In MSc, N-to-n movement always applies (cf. Delsing 1993, Julien 2002). As a result, a [+DEF]-feature that is located on little *n* is spelled out as a postnominal “article” on *N* in contexts such as (56-a). Lexically, however, definiteness is a property of *D*. When it shows up on *n*, this is because *n* inherits a copy of the feature [\pm DEF] from *D*. In other contexts (such as (56-b)), definiteness is spelled out on *D*, surfacing as a prenominal determiner.³⁶ Head

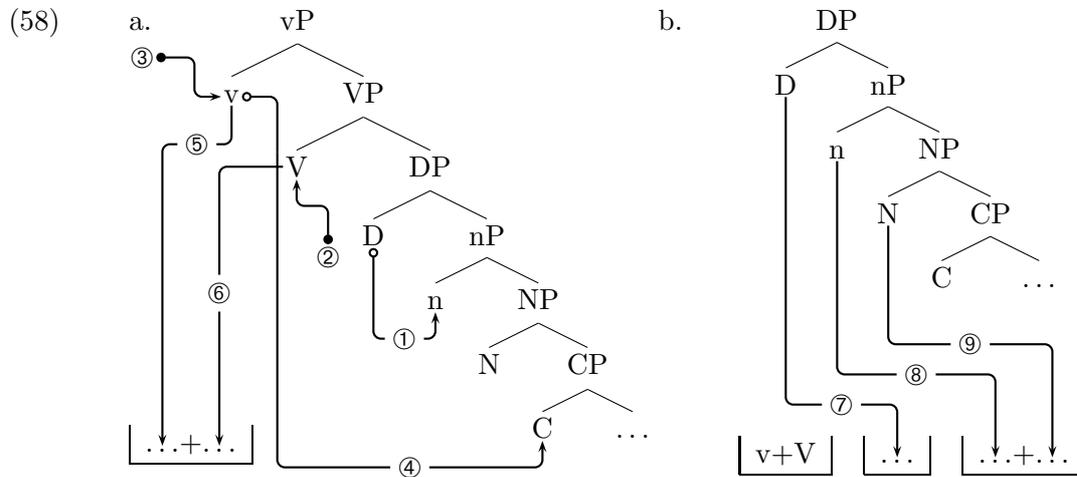
³⁶Norwegian, Swedish, and Faroese show the phenomenon of double definiteness, where both prenominal definite determiner and postnominal definite suffix may show up together. This supports the idea

movement and inheritance are illustrated in (57).



The consequence of these assumptions that is of interest here is the following. Due to N-to-n movement and feature inheritance from D, all three heads of the nominal domain, that is D, n, and N, are temporarily removed from the structure.³⁷ Once they are, a CP that is embedded by the noun phrase may make cyclic use of an EF it was assigned by the matrix V-head and attract some category to SpecC, which is then PIC-accessible for further movement. In this way, extraction from a complex noun phrase can proceed in a way that respects the SCC and the PIC.

The non-monotonic derivation that illustrates this is given in (58-a-e). First, D assigns $[\pm\text{DEF}]$ to n (step ① in (58-a)). In the following steps, V is merged and assigns an EF to C, and then v is merged and triggers head movement, leading to removal of both v and V (steps ②–⑥ in (58-a)). As a consequence, vP and VP vanish, too. Next, the cascade of nominal heads is removed (triggered by both feature inheritance and head-movement), see steps ⑦–⑨ in (58-b).

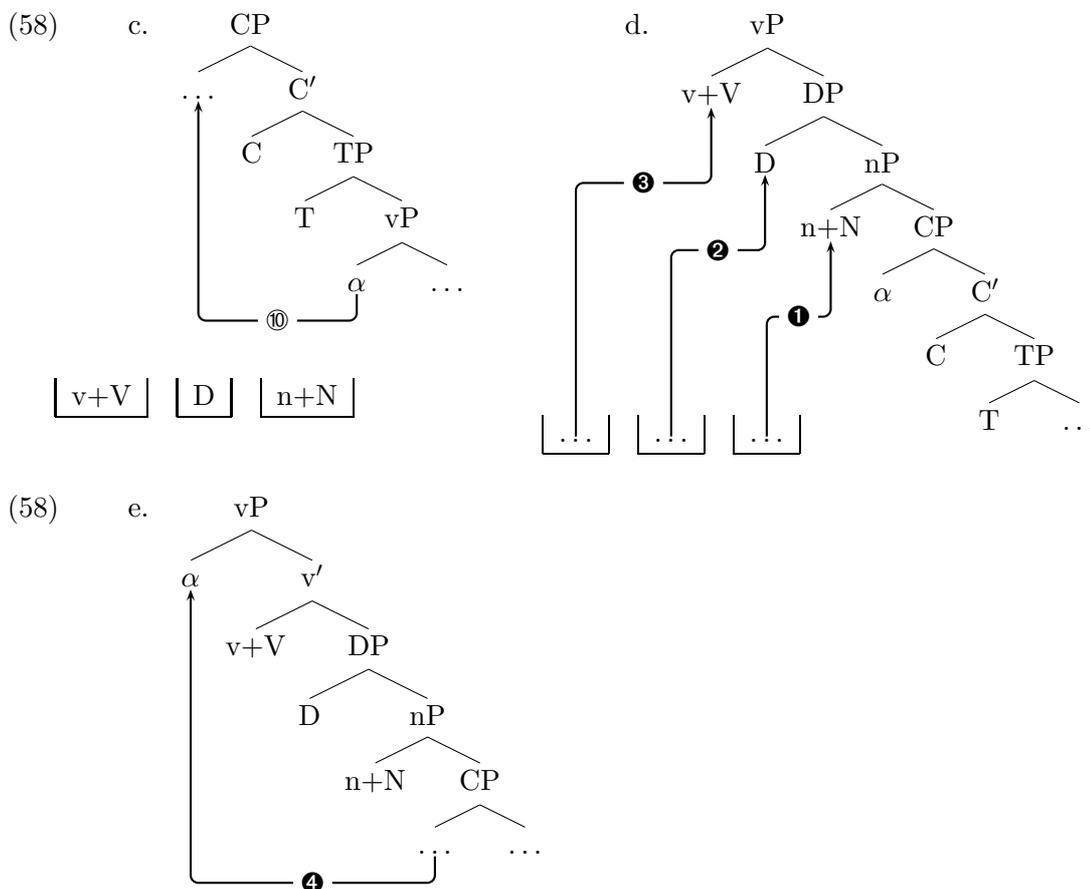


All nominal projections have been removed now. What is left, is the embedded CP-projection. The EF on C can now cyclically attract the category α to SpecC (step ⑩ in (58-c)), from where it is accessible for further movement. In steps ①–③ in (58-d), all

that both D and little n bear $[\pm\text{DEF}]$ (see Julien 2002).
³⁷In a sense, there is no rationale for removing D after inheritance of $[\pm\text{DEF}]$ if this feature does not trigger any syntactic operation of its own. I leave open here whether $[\pm\text{DEF}]$ does trigger some operation after all, or whether removal of the feature assigning head applies across-the-board in inheritance contexts, no matter whether motivated or not in a particular case.

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nominal and verbal projections are restored by remerging the removed (complex) heads from the WSPs. Finally, α is attracted to the vP-edge (see step ④ in (58-e)).



To summarize, (58-a-e) illustrates how extraction from complex noun phrases may proceed in languages where the heads of the nominal projection are removed temporarily. Since in, say, English, Dutch, and German, there is no comparable evidence for head-movement within the nominal domain, it does not come as a surprise that the CNPC cannot be bypassed in these languages.

While the hypothesized correlation between postnominal articles and CNPC-violations can, perhaps, explain some of the variation within the Germanic language family, it is far from perfect. For instance, Bulgarian also exhibits postnominal definite articles. Yet, it does obey the CNPC, as illustrated in (59) (from Richards 1998: 607):

- (59) *Koja kniga razprostranjavaše žurnalistât málvata če senatorât
 which book spread the.journalist the.rumor that the.senator
 iska da zabrani *t*
 wanted to ban
 “Which book did the journalist spread the rumor that the senator wanted to ban?”

For another thing, Fanselow (1991: 220) notes (citing Horrocks and Stavrou 1987) that

Greek does not obey the CNPC (60). Yet, Greek is special among the Balkan languages in that it does *not* exhibit postnominal articles.

- (60) Pyon akuses ti fimi oti apelisan *t*?
 who hear.2SG the story that fire.3PL
 “Who did you hear the story that they fired?”

Postnominal articles in Bulgarian may have a genesis that is different from the one active in Scandinavian, and that, as a consequence, the type of derivation sketched in (58) is not available in Bulgarian. As for Greek, on the background of the present proposal it must be concluded from the absence of evidence for head-movement in the nominal domain that Greek resorts to another strategy that allows it to escape CNPC-islands.

Perhaps the biggest worry is raised by Icelandic. Namely, although Icelandic is very close to the MSc languages, and although, in particular, it also exhibits postnominal definite articles, Maling and Zaenen (1982: 232) report that extractions from CNPs are ungrammatical in Icelandic. If this is correct, then Icelandic must have a property (which the MSc languages lack) that blocks a derivation such as (58). I leave open here what exactly the property is. A possibility would be to assume that the post-nominal definite determiner in Icelandic is the result of movement of nP to SpecD (see Julien 2002) rather than N-to-n movement (as in MSc).³⁸

7.5. Summary

Section 7.1 of the present chapter made a proposal as to why languages may lack the type of superiority effect that is familiar from English multiple *wh*-questions. I suggested that there are cases where the lack of superiority may be connected with head-movement to C, more concretely, V-to-C movement, via a non-monotonic derivation. In section 7.2, I offered an analysis of the asymmetry between clauses involving ordinary topicalization versus clauses involving affective preposing in English: while the former are islands for extraction, the latter have sometimes been claimed not to be. The idea is that this difference can be explained by means of a non-monotonic derivation once it is taken into account that affective preposing involves an instance of T-to-C movement that ordinary topicalization lacks. Section 7.3 discusses the idea that embedded CPs may receive their EF via feature inheritance from the next higher little *v* head. This allows one to exempt embedded CPs from the effects of the ISC, which is necessary in order to allow for the NDC to be derivable from the MLC, while at the same time maintaining the ISC for

³⁸In fact, the situation in Icelandic is more complicated: extraction from complement clauses to nominals is fine while extraction from relative clauses is ungrammatical (Maling and Zaenen 1982: 232-235), the latter observation holding despite the fact that Icelandic does not show *wh*-island effects otherwise. Moreover, Maling and Zaenen (1982) mention that one of their Icelandic speakers did accept extraction from a relative clause:

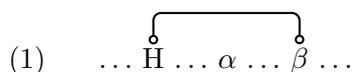
- (i) Kaffi þekki ég engan á íslandi sem ekki drekkur.
 Coffee know I no-one in Iceland that not drinks
 “Coffee, I know no one in Iceland who doesn’t drink.”

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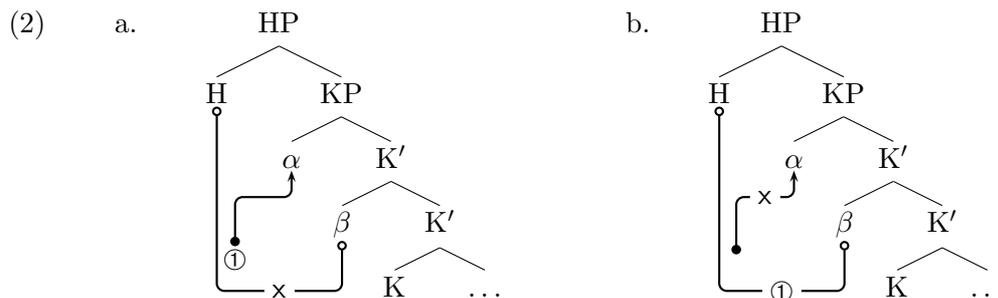
the vP-domain (where its effects are welcome). This idea also paves the way for a new analysis of complex noun phrase islands, which is proposed in section 7.4. This section closes with a non-monotonic explanation for why complex noun phrase islands do not take effect in Scandinavian, in contrast to other Germanic languages, which is based on the hypothesis that Scandinavian exhibits instances of head-movement in the nominal domain that its Germanic kin lacks.

8. Conclusion

In the preceding chapters, I went through a series of syntactic constructions from various languages that all involve the following configuration: there is a head H that entertains a grammatical relation Γ with a category β despite the fact that some other category α , which is also appropriate to entertain Γ with H, intervenes between H and β at the surface. This is illustrated in (1).



On the assumption that α in (1) is merged after β , such that α c-commands β , but before H, such that H c-commands α , the derivation (2-a) of (1) respects the Strict Cycle Condition (SCC), but its second step is blocked by the Minimal Link Condition (MLC).



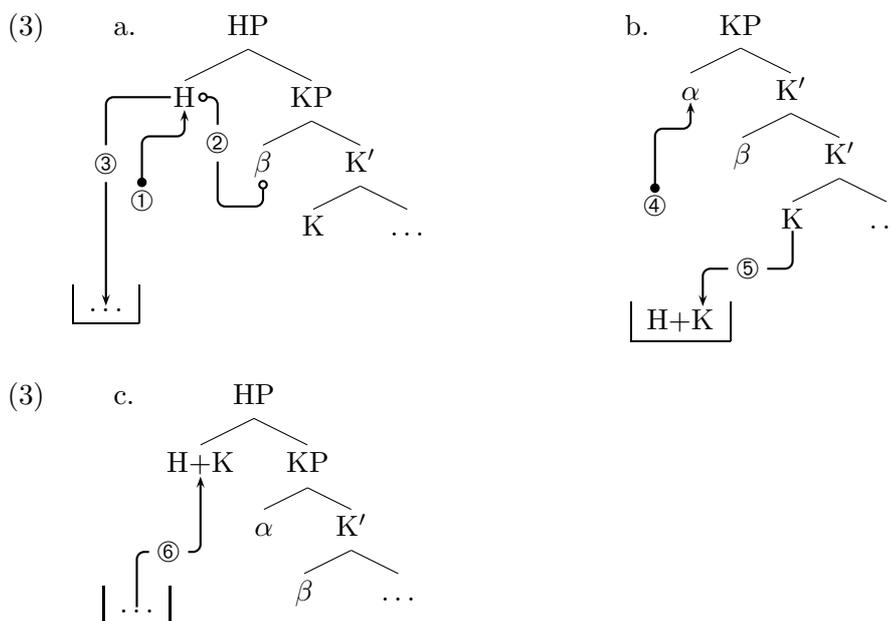
On the other hand, a derivation of (1) where α is merged after H but, at the same time, to a position c-commanded by H, as the one in (2-b), respects the MLC, but it is blocked by the SCC. Presupposing that the SCC and the MLC are well motivated principles of syntax, and assuming that the derivations in (2-a,b) are the only ones available to derive (1), it follows that it should be impossible to generate (1), i.e., to establish Γ between H and β . As a consequence, representations such as (1) should be ungrammatical. Although this is often the case (thus motivating MLC and SCC in the first place), it is not *always* the case.

I argued that while the first of the two premises of this conclusion is correct (i.e., both SCC and MLC are justified), the second premise is not. In other words, I suggested that there exists a third derivation for (1), which violates neither SCC nor MLC. The main ingredient for this derivation is the idea that syntactic derivations may be *non-monotonic* in the sense that they need not to form sequences of continuously growing objects.

A non-monotonic derivation requires the procrastination of a particular operation (typically Merge of the apparently intervening category) in favor of Merge of a higher head H that triggers the operation that is otherwise blocked due to the MLC. The SCC in turn requires that H be removed itself at some later step (to catch up on the

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procrastinated operation). Concretely, a non-monotonic derivation that generates the configuration in (1) procrastinates Merge of α in favor of Merge of H, just as what was the case with the SCC-violating derivation in (2-b). In order to avoid a violation of the SCC, the derivation continues by removing the HP-shell. Technically, this is achieved by removing HP's head H, which gets temporarily stored in some workspace (a notion that was argued to be necessary on independent grounds). Removal of H is triggered by head-movement of a lower head to H, for instance the head K of the complement of H, KP. Once HP is removed, α can be merged cyclically to SpecK. Finally, HP is restored by remerging H with its former complement (now enriched by α). This derivation is illustrated in (3-a-c).



The individual analyses presented in the preceding chapters all follow the abstract pattern in (3-a-c). The pattern itself is based on very general principles, among them MLC and SCC, and certain premises that are derived from these principles: the existence of workspaces and a particular theory of head-movement.

Since removal of H in (3-a) requires a trigger, it follows that non-monotonic derivations are contingent on head-movement (or some equivalent operation such as cliticization or feature inheritance). Overt evidence for head-movement accompanying the generation of configurations such as (1) comes from object shift (see sections 4.1–4.4), from inversion phenomena (sections 5.1 and 5.2), from the lack of superiority (section 7.1), the lack of topic islands (section 7.2), and finally, in a slightly different form, from missing complex noun phrase islands (section 7.4). In other words, the theory of non-monotonic derivations derives equidistance effects in the sense of Chomsky (1993) and their dependency on head-movement, but notably it does so without invoking notions such as equidistance or minimal domain as primitives of the theory.

In addition to that, I argued that there is indirect evidence for non-monotonic derivations coming from the idea that procrastination of Merge of α in (3) can be detected if

β is moved out of α 's *c*-command domain before α is introduced into the structure. In this case, no interaction between α and β is expected that relies on α asymmetrically *c*-commanding β . I presented evidence involving (the lack of) Principle C effects from the realm of experiencer constructions and various other contexts involving A-raising (sections 6.2 and 6.3), from pit-stop reflexives (section 6.4), double object passives (section 6.5), and psych-verbs (section 6.6).

Alternative theories have been proposed to account for (1). Mostly, they introduce concepts whose purpose it is to weaken the SCC or the MLC, such as late merger, the activity condition, constraint evaluation at the phase level, or the theory of equidistance. Confining the following brief comparison with the present approach to the phenomena that were discussed in the previous chapters, the following picture emerges. To begin with, it would seem that the theory of late merger can approach any of the problems discussed in the present study. In this theory, the element α that allegedly acts as an intervener is simply merged too late into the structure to have any blocking effect. What a bare account of late merger is lacking to date, though, is a theory that specifies under which conditions the type of late merger that should be applied here is legitimate. Also, late merger has nothing to say about a potential correlation between the configuration in (1) and the application of head-movement. In a sense, the present approach may be considered a variant of the late merger approach that attempts to remedy both of its shortcomings by restricting the contexts under which the intervener can be merged late to those that exhibit head-movement.

The activity condition also has certain deficits as compared to the present approach. On the one hand, it does not account for any possible correlation between the lack of activity and head-movement. Nor does it say anything about the lack of Principle C effects that shows up if the intervener α is an anaphor and the target β , which is coreferent with α , undergoes raising (see sections 6.2, 6.3, and 6.5.4). Importantly, α *does* trigger Principle C effects if no raising applies, and thus α must be active for the purpose of Principle C. Finally, the activity theory does not seem to be able to account for all the phenomena under investigation here. For instance, it can hardly distinguish grammatical raising across an indirect object in passivized double object constructions in Swedish from ungrammatical object shift across an indirect object in active double object constructions in the same language (see sections 6.5.2 and 6.5.3): the indirect object should either be active or inactive in both cases. Also, it is unclear whether the activity approach has anything to say about instances of (1) where the grammatical relation is some kind of \bar{A} -dependency (see sections 7.1 and 7.2).

An approach in terms of constraint evaluation at the phase level suffers from similar problems. It does not account for the hypothesized correlation between the existence of configurations such as (1) on the one hand and head-movement or the absence of Principle C effects (in case α in (1) is an anaphor) on the other hand. Moreover, it has nothing to say about cases where the intervener α does not undergo further movement. In other words, the idea that α does not count as an intervener for a grammatical relation between H and β in (1) because the MLC is evaluated at a later point of the derivation (the phase level) can only be exploited if movement of α applies before that level is reached, thereby feeding the formation of this relation. This is, for instance, not the

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case with the constructions involving object shift discussed in chapter 4, which becomes particularly clear in those cases where the subject remains in a position below the shifted object (see sections 4.1.1, 4.1.3, and 4.1.5).

As pointed out at the end of section 4.3.1, the “second theory” of equidistance proposed by Chomsky (1993) (see section 2.3.3) has problems accounting for why Scandinavian object shift is not possible with compound tenses (this was referred to in section 2.3.3 as the “remaining third” of Holmberg’s 1986 generalization). Similarly, it is not clear whether equidistance has anything to say about why in French stylistic inversion with compound tenses both auxiliary and participle move to a position to the left of the subject because movement of the auxiliary alone should be sufficient to create equidistance. Also, the theory of equidistance cannot explain why raising of the subject from an infinitive across an experiencer and raising of the theme object with psych-verbs is possible in some languages because subject and theme object on the one hand and the experiencer on the other hand are not part of the same minimal domain of any head chain. Finally, equidistance is silent on the lack of Principle C effects in cases where raising crosses an anaphor.

I conclude that the theory of non-monotonic derivations fares rather better than existing alternatives that have been proposed as a reaction to the problem posed by (1), both in terms of conceptual attractiveness and in terms of empirical coverage.

Of course, the present account also has some drawbacks of its own. For one thing, some of the analyses that were presented required recourse to special assumptions to cover the empirical facts under consideration. For instance, approaching reconstruction effects in terms of a derivational evaluation of grammatical principles seems attractive. Ultimately, however, it seems that this approach falls short of accounting for all instances of reconstruction, which lead to postulating an additional rule of LF-lowering (see the discussion in sections 6.2, 6.4, and 6.6). For another thing, there remain some open issues. Perhaps the most pressing questions are related to the idea that syntactic operations may be procrastinated. First, there is the question whether and to what extent this involves weakening of the Earliness Requirement (see (7) in section 4.1.2, and the brief discussion below (7)). Second, it appears that procrastination must be constrained. Answering the question what exactly the constraints on procrastination should look like requires further inquiry. In the present study, I confined myself to some speculations that related the possibility of procrastination to case defectivity and to the idea that the application of different types of operations might be ordered by preference principles, see footnote 5 in section 5.1.2, footnote 8 in section 5.2.2, section 6.5.3, and section 7.1.2. Whether these problems can be addressed successfully remains to be seen.

I close with the remark that non-monotonic derivations can be put to use in ways that have not been addressed here so far. For instance, one might employ them to analyze “regeneration” phenomena (van Riemsdijk 1989) or to account for exceptions to the Freezing Principle (Ross 1967, Wexler and Culicover 1980).

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