THE DEPENDENCY AXIOM AND THE RELATION BETWEEN AGREEMENT AND

MOVEMENT

by

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ABSTRACT OF THE DISSERTATION

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Dissertation Director: Mark C. Baker

Agreement and movement go hand in hand in a number of constructions across languages, and this correlation has played an important role in syntactic theory. The current standard approach to this *movement-agreement connection* is the Agree+EPP model, whose EPP component has often been questioned on conceptual grounds. The goal of this dissertation is to develop an alternative model of the movement-agreement connection that derives it from an independently motivated principle of grammar, the Dependency Axiom (DA), which regulates the way in which grammatical dependencies of different sorts are encoded syntactically. In particular, the DA prohibits configurations in which the dominant element of a dependency is asymmetrically c-commanded by the element that depends on it. In the domain of agreement, this rules out configurations in which the target of agreement (the probe) c-commands the controller of agreement (the goal). Such configurations can be repaired, however, by moving the goal outside the c-command domain of the probe: this would be the core mechanism underlying the relation between agreement and movement. Furthermore, evidence from Swedish and Hindi is discussed, which suggests that this movement does not have to target the specifier of the probe, as long as the goal escapes the c-command domain of the latter – a state of affairs incompatible with the Agree+EPP model, but expected under the DA. The dissertation also addresses the main empirical problem of the DA theory, which is the existence of several kinds of constructions in which the goal seems never to escape the c-command domain of the probe. I show that in these construction types, agreement often obtains in violation of syntactic locality principles, and seems instead sensitive to linear adjacency. This leads to the conclusion that the relevant forms of agreement obtain at PF, and thus it not expected for them to be subject to syntactic conditions such as the DA.

Acknowledgements

"Bran Stark: Can a man still be brave if he's afraid?
Ned Stark: That is the only moment a man can be brave."
George. R. R. Martin, 'A Game of Thrones', Chap. 1

Mark C. Baker, my advisor, might recognize the text above as yet another variation on the theme that came back recurrently in our many - many - conversations on this dissertation project. Needless to say, I would normally play Bran's part. Since the start, Mark has been patient, open-minded, encouraging, generous and demanding – in short, he has been a mentor. As if his immense knowledge and amazing knack for finding the right angle were not sufficient, he proved a terrific pep-talker. More importantly, however, he is adept at building bridges between very different territories and very different people. That is a lesson I hope I learned well. And if I didn't, or if I ever forget anything about it, I know I just have to cross the bridge back. Thank you, Mark.

When Ken Safir was not playing his co-mentor role, he was busy being a friend. I owe him many things, including some of the fundamental ideas this dissertation was built on, as well as the discovery of potential directions when everything seemed lost. I owe him the opportunity of working with wonderful people in the Afranaph project, which was also the perfect excuse to learn about questionnaire writing, data gathering, php and African politics. Above all, I owe him a fascinating chat over a sandwich at the Dish Café in Highland Park. Thank you, Ken. Next time is on me.

José Camacho has been there since I started linguistics a long time ago, and he has been amazingly supportive ever since – through a licentiate thesis, a graduate admission procedure, and two qualifying papers, among other rituals. I didn't meet him as much as my other committee members, but that might also be because, over the years, I have trained myself to answer the question "how

would José do this *differently*?" I never achieve the results he would, but thanks to his help, I think I have improved a great deal. Thank you, José.

Jonathan Bobaljik became my external member at the beginning of the last semester of the project. His comments, always detailed, insightful, and fast, have been a learning experience by themselves. He has been a driving, relentless force that pushed me to improve the analysis, challenge my own theory, and keep my feet on the ground. By doing that job so well (I don't think he knows any other way), he helped me realize that this dissertation is not so much an end as it should be a start. Thank you, Jonathan.

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Thanks also to Veneeta Dayal for coping with my endless questions, and providing a paradoxical sense of comfort in thorny situations, both semantic and not. Thanks to Jane Grismhaw for believing in me despite my hopeless inability for OT-based thinking. Thanks to Bruce Tesar for teaching me, with great kindness and dedication, the right way to write for a non-linguist audience. Thanks to Paul de Lacy for valuable and honest advice all along. Thanks to Viviane Déprez, Alan Prince, Liliana Sánchez and Akinbiyi Akinlabi, for extra-curricular lessons on many topics, including the ways of the world.

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Mirando más atrás, hay dos razones fundamentales que me trajeron hasta aquí, hasta escribir estos agradecimientos que siento excesivamente cortos. Una de ellas es el apoyo de Héctor Velásquez y Jorge Pérez-Silva, mis mentores originales en la PUCP. Por todo lo enseñado, les doy gracias a ambos de corazón. La otra razón es el apoyo de la familia. En particular, no existe forma adecuada de agradecer a Huguette, Lisette, Franca y Mario, por siempre estar presentes, más allá de la distancia.

Al final, le debo todo a Alexandra y a Catalina, las luces de mi vida, por acompañarme en esta aventura. Y más aún, por dejarme acompañarlas en las suyas. Esta tesis, y todo lo que soy, está dedicado a ellas.

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Introduction

1. The movement-agreement connection in Generative Syntax

In many constructions across many languages, the occurrence of agreement correlates with the displacement of the agreed-with category. In Trentino, for example, subjects do not trigger gender agreement on the verb unless they precede it. This is illustrated in (1): in (1a), the gender of the postverbal DP subject *la Maria* 'Mary' is not cross-referenced on the unaccusative verb (more precisely, it *cannot* be cross-referenced on the verb), but gender agreement obtains between the verb and the constituent *la Maria* if the latter moves to preverbal position (cf. 1b).

(1)   a. E' vegnu   (* l'   è vegnuda)   la Maria

          is come.3M   CL.3 is come.3F   the Mary

          'Maria came.'

        b. La   Maria l'   è   vegnuda

          the Mary CL.3 is   come.3F

          'Maria came.'

This dissertation is, first and foremost, a proposal concerning the conditions that regulate the connection between agreement and movement, as exemplified in (1). The main idea that will be put forward is that this connection is the result of a <u>conflict</u> between two distinct elements of syntax. One source of the conflict is *Agree*, a specialized operation in charge of establishing agreement relations in syntax. In this thesis I will adopt, to a fair extent, the definition of the

operation given in Chomsky (2000, 2001) (cf. also chapter 2, section 3). Under this definition, it is possible for a functional head H to agree with some NP/DP in its c-command domain, as illustrated in (2). That such configurations exist at some stage of the derivation is widely accepted in the minimalist literature, and I will share that view.

(2)

```
              H'
           ／    ＼
        H          XP
      [+α]        ／＼
                …DP…
                [+α]
```

Agree(H, DP)
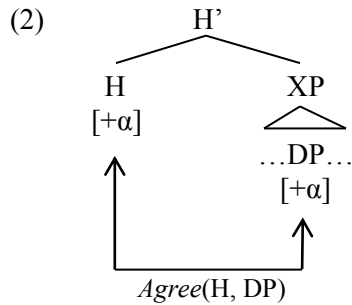
The fact that Agree can create such configurations in the course of the derivation is one of the elements that create the abovementioned conflict. The other element is a general principle that dictates how grammatical dependencies (asymmetric relations between two grammatical terms) should be encoded in syntax: I will refer to this principle as the Dependency Axiom [DA]. In a nutshell, the DA rules out configurations in which the dependent term of a grammatical dependency c-commands the term it depends upon. But this, I will argue, is exactly what happens in (2). This is because agreement is a grammatical dependency, in which the values of the features of one of the terms (the probe) depend, in a functional sense, on the values of the features of the other (the goal). The DA therefore prohibits configurations in which the probe c-commands the goal. However, this is the state of affairs we observe in (2).

This summarizes the essence of the conflict under consideration. My proposal is that the agreement-movement connection is the way the grammar solves this conflict. The mechanics are straightforward: given that the presence of the goal inside the c-command domain of the probe poses a problem, moving it outside the relevant domain solves the problem. One possible target for this movement is the specifier of the probe, as in (3). However, this does not need to be the

only target position. Any position outside the c-command of the probe will fit the bill. This seems to be a welcome result, for a number of reasons.

(3)

```
                    H'
           _____/_____
          DP                 H'
         [+α]          _____/_____
           ↖          H              XP
             \       [+α]           /\
              \                  ...(D̶P̶)...
               \                    [+α]
                \                   /
                 _____/
```
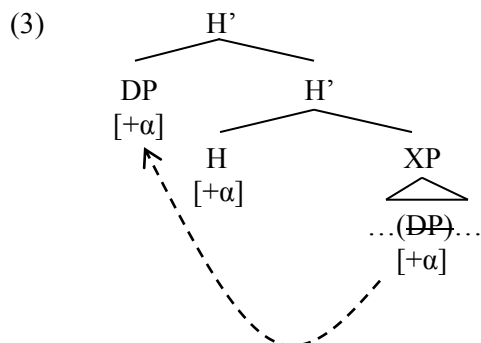
The mechanism just described is the central idea of this thesis. Now, while the study of the connection between agreement and movement is interesting in itself, the proposed theory of the conditions that regulate it has broader implications. First of all, it derives the fact that movement should obtain without appealing to EPP features or triggers of some sort. If such features are not needed in the relevant context, we might wonder if they are necessary at all in other contexts. This is not a trivial result, because EPP features have often been questioned for lacking explanatory force (cf. chapter 1, section 1). Second, and more generally, the theory provides a motivation for the occurrence of movement in a particular syntactic context, thereby contributing to the understanding of Internal Merge procedures. If the proposed theory is on the right track, movement obtains (at least in the relevant domain) because it helps solve potential conflicting requirements introduced by the forces at play in syntactic derivations.

The following section spells out the building blocks of the theory in more detail.

2. The structure of the theory

The theory of the DA derives the agreement-movement connection from the potential conflict between the kind of configurations Agree can generate, and the conditions language imposes on the syntactic encoding of grammatical dependencies. The elements of the theory are the following:

1. A definition of *grammatical dependency*, which includes agreement relations.
2. The *Dependency Axiom*, a family of principles that restrict the way in which particular dependencies can be mapped onto syntactic structure.
3. The *delayed evaluation hypothesis*, which states that compliance to the DA is not evaluated at each step of the derivation.

The movement-agreement connection follows logically from these elements and the assumption that movement can apply freely at any point during the derivation (even though such operations are presumably subject to global economy conditions).

2.1 Grammatical dependencies

A grammatical dependency will be defined here as an antisymmetrical relation R such that

(4)   R<A, B> iff a set of features β belonging to B is a function of a set of features α belonging to A.

I will call A the *controller* of the dependency, and B the *target* of the dependency. These labels are not coincidental, as they make direct reference to the functional-typological terminology for the grammatical terms involved in an agreement relation. In the context of the theory proposed

here, however, the labels *controller* and *target* have a more general meaning: they refer to the terms of a dependency as defined in (4). The controller is the dominant element in a dependency, the target is the dominated element.

With this in mind, let us get back to (4). This broad definition covers dependencies of very different sorts, including selection, anaphoric relations, NPI licensing, theta-assignment, Case assignment, and the like. Thus, the semantic role of a DP is determined by the head that denotes the function it saturates; the class of a syntactic category in a given syntactic domain depends on the head that selects it; the reference of an anaphoric item depends on its antecedent; etc. Agreement is one such relation, in which the values of the phi-features of one of the items (the *target of agreement*) depend on the values of the phi-features of some other item (the *controller of agreement*). More precisely, agreement can be defined as a particular case of (4), as follows (IH = inflectional head).

(5)   Agreement<DP, IH> iff a set of features β belonging to IH is a function of a set of features α belonging to DP, such that β ≡ α.

This characterization of agreement based on the identity function will work for most agreement types. In a residue of cases it falls short of the mark (e.g. the superclassing language Jingulu, cf. Corbett 2006:151-154), but the relevant patterns can still be dealt with in terms of a functional relation between the phi-features of the controller and those of the target (which properly includes identity relations, incidentally - cf. section 4.1 of chapter 2).

2.2 The Dependency Axiom protocols

The Dependency Axiom dictates that grammatical dependencies, if they are to be syntactically represented, must be mapped onto configurations of two possible kinds: c-command

configurations or anti-c-command configurations. Which kind of configuration is to be targeted varies with the dependency. Some dependencies (such as that existing between an anaphor and its antecedent in the context of condition A) must be mapped onto configurations in which the controller of the dependency c-commands its target. I will say that these dependencies are subject to the familiar *C-command Licensing Principle* (CLP), the *strong* form of the DA. Other dependencies (such as the anaphoric relation between a quantifier and the variable it binds) must be mapped onto configurations in which the target does not c-command the controller. I will say that these dependencies are subject to the *Independence Principle* (INP) (cf. in particular Safir 2004), the *weak* form of the DA.[1]

The picture thus far is summarized in (6).

(6)   *The Dependency Axiom*

Map dependency relations onto c-command configurations or anti-c-command configurations.

i.   The C-Command Licensing Principle [CLP]

The controller of a dependency must c-command its target.

ii.   The Independence Principle [INP]
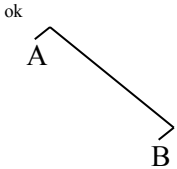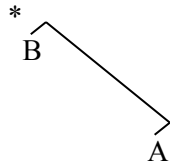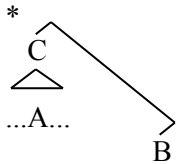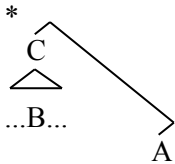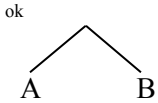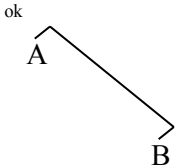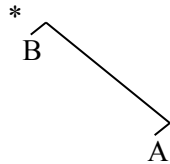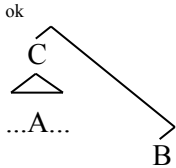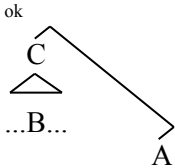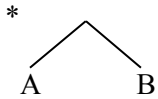
The target of a dependency cannot c-command its controller.

---

[1] That some grammatical dependencies are subject to the CLP and others to the INP is an observable fact (cf. chapter 2, section 2), and the proposed theory is built on it. Note, however, that I will not try to provide an explanation for it in this dissertation, nor will I try to explain why grammatical dependencies should be mapped onto c-command-defined configuration types in the first place. These are important questions, and the proposed theory might help addressing them in future research, but they fall beyond the particular intent of this thesis, which is to derive the occurrence of movement in presence of agreement and consider the implications of the resulting theory concerning the architecture of the grammar.

The CLP and the INP partially overlap in what they allow and what they rule out. They both allow structures in which the controller of a dependency c-commands its target, and they both rule out structures in which the target of a dependency c-commands its controller. On the other hand, they diverge in how they tolerate the absence of c-command between the terms of a dependency, as well as the possibility that the terms are mapped onto sister nodes. A synopsis of this behavior is given in (7).

(7)   The CLP and the INP define different potential mappings for grammatical dependencies.

[Note: B depends on A]

	CLP and INP converge			CLP and INP diverge	

CLP and INP converge — CLP and INP diverge

Compliance to either form of the DA is evaluated in terms of the *Dependency Axiom protocols*. These protocols must provide a criterion of well-formedness for syntactically encoded dependencies without neglecting the fact that, under the copy theory of movement (implicit in my view of movement as an Internal Merge procedure), a syntactic object can appear in different positions simultaneously. This is relevant, as it means that the terms of a dependency may appear in different positions simultaneously, and we should make explicit whether all copies, or only a subset thereof, are to be included with respect to DA-related evaluation. The formulation I propose for the DA protocols is given in (8). It essentially states that a syntactically encoded dependency is well-formed if one copy of the controller and one copy of the target stand in the c-command or anti-c-command configuration required by the form of the DA the dependency is subject to.

(8)   DA evaluation protocols

[In the ordered pair <A, B>, A is the controller of the dependency, while B is its target.]

a. *Strong DA (DA-CLP) evaluation*

The DA-CLP is satisfied at the point of evaluation K iff for each dependency <A, B> in K such that it is subject to the CLP, there is a copy of B within the c-command domain of a copy of A.

b. *Weak DA (DA-INP) evaluation*

The DA-INP is satisfied at the point of evaluation K iff for each dependency <A, B> in K such that it is subject to the INP, there is a copy of A outside the c-command domain of a copy of B.

Consider then the creation of agreement relations in syntax under Agree. In the archetypical Agree configuration, an inflectional head P agrees with a nominal category G in its c-command domain.

(9)

Agree(P, G)
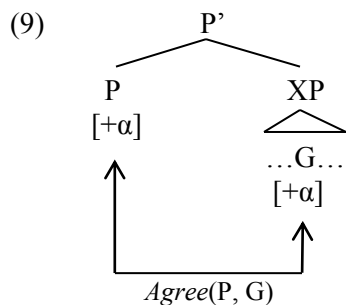
Now, given the definition of agreement as a grammatical dependency (cf. 5), G is the controller of the dependency, while P is its target. It follows that in (9), the single copy of the controller is located within the c-command domain of the single copy of the target. This configuration fails to satisfy either protocol in (8): there is no copy of the target within the c-command domain of a copy of the controller (which would satisfy protocol 8a), nor is there a copy of the controller outside the c-command domain of a copy of the target (which would satisfy protocol 8b). As a result, the configuration in (9) is a violation of the DA, irrespective of whether agreement relations are subject to the CLP or the INP.

2.3 The delayed evaluation hypothesis

The last ingredient of the DA theory of the movement-agreement connection is the *delayed evaluation hypothesis*, which states that compliance to the DA is not assessed at every step of the derivation. Put another way, the point of evaluation K mentioned in the DA protocols in (8) is not just *any* node. Assume then that compliance to the DA is not evaluated at the P' level in (9), but at some higher level of the structure. If so, the derivation can still be saved by Internal Merge of

G to some position where the requirements of the DA are met. Suppose, for example, that we move G to [Spec, P], as in (10).

(10)

```
                P'
         _____/_____
        G              P'
      [+α]        ____/\____
        ↖        P          XP
         \     [+α]        /\
          \              ...(G)...
           \              [+α]
            _____/
```
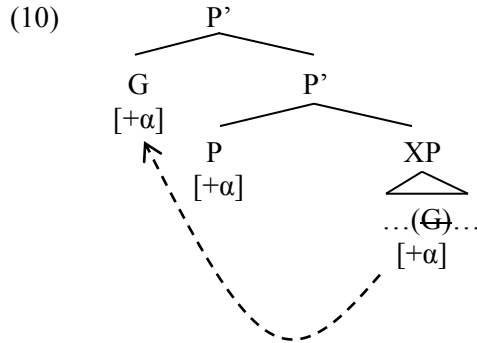
In this new configuration, the single copy of the target P is located within the c-command domain of a copy of G, which satisfies protocol (8a). It is also the case that there is a copy of G outside the c-command domain of the single copy of P, thus satisfying protocol (8b). It follows that this new configuration satisfies the DA, irrespective of which form of the DA agreement dependencies are subject to. More generally, it follows that syntactic movement can salvage potential violations of the DA, or, looking from a different a different angle, that a potential violation of the DA licenses an Internal Merge operation.

The adoption of the delayed evaluation hypothesis makes the DA theory of the agreement connection a *generate-and-filter* type theory, rather than a strongly derivational one. This theoretical option, which admits the occurrence of conflict between grammatical components as a driving force in the derivation of linguistic expressions, is defended in chapter 3, section 2.1.

Now, which form of the DA are agreement dependencies subject to? In this dissertation, I will defend the idea that agreement dependencies are subject to the INP, a point heavily developed in chapters 1 and 2. The evidence is subtle, but a case can be built and I will attempt to do so. Note, however, that the conceptual consistency of the DA theory of the movement-agreement connection is independent of whether agreement is subject to the CLP or the INP. The main result of this thesis is that the correlation between agreement and movement can be derived from

independently motivated principles and operations. The question of which form of the DA agreement relations are subject to is itself important, and will provide us with a coherent narrative thread, but it is ultimately secondary to the abovementioned result.[2]

3. On agreement out of syntax

The DA theory of the agreement-movement connection yields a fundamental prediction, irrespective of whether agreement dependencies are subject to the CLP or the INP. The prediction can be stated as follows: for any agreement dependency X with controller A and target B, X can only take place in the syntactic component if there is copy of A outside the c-command domain of a copy of B. Put another way, if a form of agreement seems to obtain without ever satisfying the DA at any point during the derivation, then this agreement is not taking place in syntax: it is not created via an Agree operation.

There are in fact many forms of agreement that seem to violate the DA, at least superficially. Some of these apparent violations can be straightforwardly explained in derivational terms: for example, head-movement of the target H across the derived position of its controller DP could obscure the fact that the DA was satisfied before head-movement would take place (cf. 11). Such configurations are familiar from subject-auxiliary inversion constructions such as (12), in which the auxiliary raises from T to C across the derived position of the subject.

---

[2] Another legitimate question concerns the exact identity of the point of evaluation K (cf. the protocols in 8) in the context of the delayed evaluation hypothesis. There are some candidates, but the evidence I have gathered thus far is rather fragmentary. The issue is left to future research.

(11)


```
                    YP
           ┌────────┴────────┐
      H  +  Y               HP
      [α phi]        ┌───────┴───────┐
                    DP              H'
                   [α phi]    ┌──────┴──────┐
              ②            (H)            XP
                          [α phi]      ┌────┴────┐
                       ①             …(DP)…
                                      [α phi]
```

Agree(H, DP)
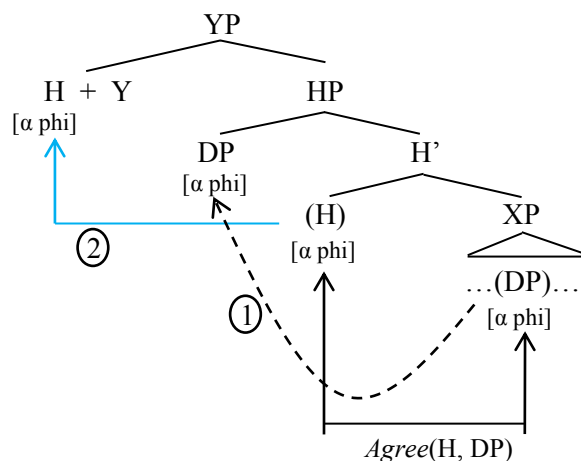
> ① Movement of the controller DP to [Spec, H] creates a configuration that satisfies both DA evaluation protocols.

> ② Subsequent movement from H to Y could obscure the fact that the DA is satisfied at the HP stage of the derivation.

> Movement of the external argument to [Spec, T] satisfies the DA.

(12)   [CP Has [TP [DP that linguist] (has) [vP ([DP that linguist]) visited the pyramid]]]?

Agree(T, [DP that linguist])

> T-to-C movement superficially masks the previous stage of the derivation at which the DA was satisfied.

Some other apparent DA violations, however, resist a derivational explanation, leaving little or no reason to think that the controller of agreement ever escapes the c-command domain of the target at any point during the derivation: this set includes existential constructions in English and Spanish, nominative object agreement in Icelandic and Hindi dative/ergative constructions, long-distance agreement in Hindi and Tsez, prepositional agreement in Welsh, complementizer agreement in some Dutch dialects, and similar constructions crosslinguistically (cf. chapter 3,

section 3.1). In such cases, the premises of the DA theory lead to the conclusion that the relevant forms of agreement probably do not obtain in the syntactic component.

This conclusion runs against standard views, but it is supported by the fact that agreement in the relevant constructions can violate syntactic minimality and exhibit otherwise unexpected adjacency effects. In Hindi nominative object agreement constructions, for example (cf. Benmamoun, Bhatia and Polinsky 2009, Bhatt and Walkow 2012), T agrees with the last DP conjunct of a coordinated structure [&P] in object position, irrespective of potential interveners (cf. 13).

(13)   a. main-ne [&P ek chaataa   aur ek saaRii]   kharid-ii

I-ERG   one umbrella.MSG and one dress.**F**   buy-PFV.**FSG**

'I bought an umbrella and a dress.'   (Benmamoun, Bhatia and Polinsky 2009)

b.

Agreement between T and the lower conjunct skips both the &P and the higher conjunct. The external argument does not disrupt it.

Number and gender agreement
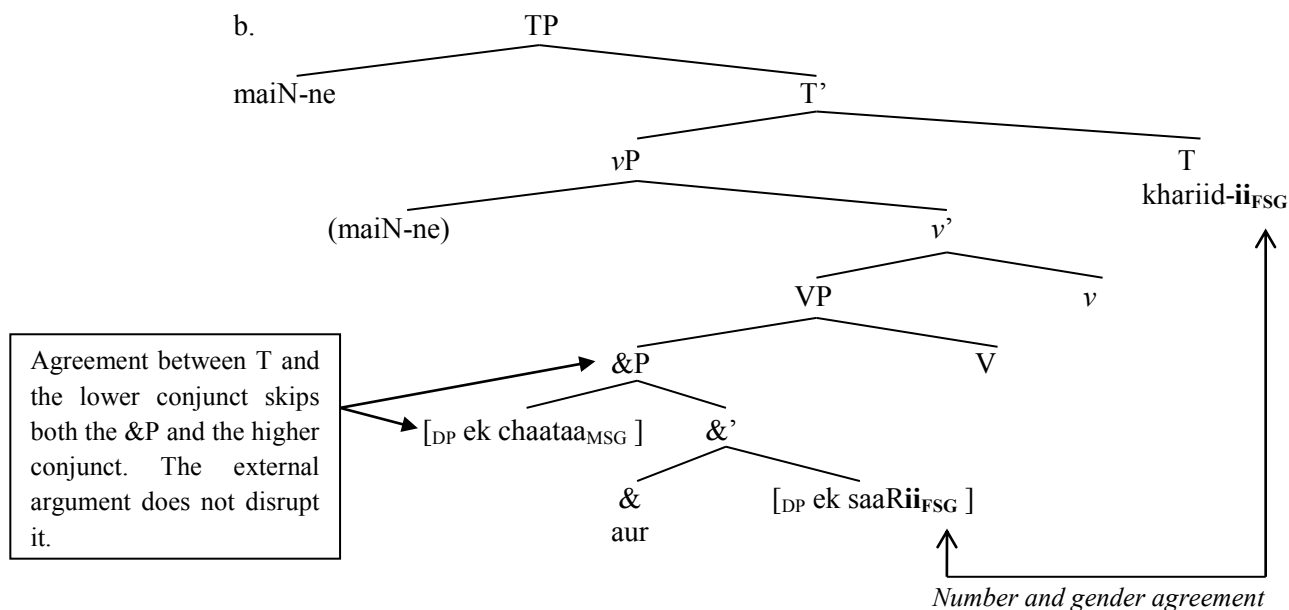
The opposite picture obtains in case the object &P right-adjoins to TP, yielding an SVO order: in this situation, T agrees with the first conjunct only (cf. 14), thus suggesting that the relevant form of agreement is sensitive to the linear order of the elements rather than their position on the tree. I accordingly assume this form of agreement to arise in the *post*-syntactic component PF. This *PF-agreement*, by definition, is not subject to the DA.

(14)   [TP [TP Ram-ne __ khariid-ii   ] [&P ek kitaab   aur ek akhbaar]]

Ram-ERG   buy-PFV.**FSG**   one book.**FSG** and one newspaper.MSG

'Ram bought a book and a newspaper.'   (adapted from Bhatt and Walkow 2011)

More generally, it is remarkable that all the construction types in which the DA seems to be violated tolerate agreement with one or the other conjunct rather than with the &P containing them (henceforth *conjunct agreement*; cf. chapter 3, section 3.3 for the relevant examples). This fact is most likely not coincidental. Thus, the languages that allow conjunct agreement are split into two groups: (i) languages in which conjunct agreement can only arise when the controller seems to remain within the c-command domain of the probe in a way that should induce a violation of the DA (chapter 3 focuses on a subset of these languages), and (ii) languages in which conjunct agreement can take place whether the controller is outside or inside the c-command of the probe (these patterns are found in languages such as Swahili or Serbo-Croatian, cf. inter alia Krifka 1995, Corbett 2006, Bošković 2009, Riedel 2009). A third class is conceivable which would only allow conjunct agreement in case the controller is outside the c-command domain of the probe (thus satisfying the DA via protocol 8b, which is consistent with the hypothesis that agreement relations are subject to the INP). However, no language seems to behave this way. In other words, if a language allows conjunct agreement, it allows it at least in apparent violation of the DA.

These observations suggest a deeper connection between conjunct agreement and apparent violations of the DA. My particular proposal is that the occurrence of conjunct agreement signals a PF-agreement procedure (as it is typically associated to adjacency effects), very much as apparent DA violations do. In order to make this result follow from syntactic design, I will assume a dominance-based definition of syntactic locality, as follows.

(15)   *Dominance-based metric of locality*

Given a probe P and two goals G_1 and G_2 in the c-command domain of P, G_1 is closer to

P than G_2 iff there is a node X such that X is a maximal projection and

(a) X dominates G_2;

(b) X does not dominate G_1;

(c) every node that dominates G_1 also dominates G_2.

I refer the reader to chapter 3, section 3.3.1.2 for discussion on this definition and its various implications. With respect to the immediate matter at hand, (15) makes a category A closer than B to a c-commanding probe P if A is a suitable goal for P and contains B. As a result, an &P (if it is a suitable goal) is always closer to a c-commanding probe than any of its conjuncts, including its specifier, and thus conjunct agreement cannot obtain in syntax if &Ps are suitable goals.

On these grounds, I will propose that the occurrence of conjunct agreement, at least in languages such as Hindi or English, reflects a strategy adopted by the grammar to handle the failure of agreement in syntax. Suppose, for example, that T probes its sister for an available goal, but that the closest nominal is opaque to agreement and furthermore induces a defective intervention effect, preventing T from probing further down. This is observed in Hindi perfective sentences, in which a potential Agree operation holding between T and an unmarked &P in object position is disrupted by the ergative external argument in [Spec, *v*].[3]

(16)   [$_{T'}$ [$_{vP}$ DP$_{ERG}$ [$_{v'}$ [$_{VP}$ [$_{\&P}$ DP$_1$ [& DP$_2$]] V] *v*]] T]

---
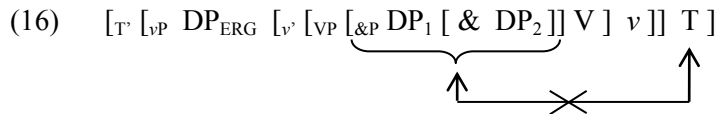
[3] The Phase Impenetrability Condition in its strong version (Chomsky 2000:108) also predicts disruption of T-agreement in this context.

In this particular language, the resulting failure of agreement in syntax triggers a PF response: the post-syntactic component assigns a controller to T based on linear adjacency, in such a way that the closest unmarked constituent carrying appropriate features becomes the controller. Now, the &P and DP_2 are equidistant to T in linear terms, given that their left edges are aligned.[4] This theoretically gives the language the option of making either category the controller of agreement on T. Hindi strongly prefers conjunct agreement in such cases, however, suggesting that a parameter is at play which tips the balance in favor of the smallest prosodic unit. Other languages may settle the issue in different ways, but always in morphophonological terms (Tegelen Dutch, for example, privileges the controller yielding the most specified form of agreement, cf. van Koppen 2007). No such choice exists, on the other hand, if agreement does obtain in syntax. In contexts such as (17), for example, no intervening DP disrupts the possibility of agreement between T and the &P in [Spec, v]. Assuming the &P is a suitable goal for T, conjunct agreement between the latter and one of the conjuncts is excluded by virtue of locality principle (15).

(17) $[_{T'}$ T $[_{vP}$ $[_{\&P}$ DP_1 $[$ & DP_2 $]]$ $[_{v'}$ VP v $]]]$

Agree (T, &P)
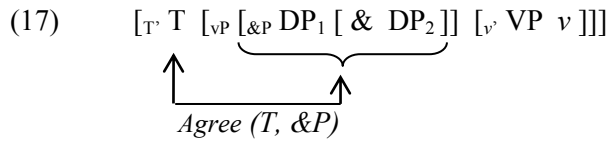
Now, by hypothesis, agreement between T and the &P yields a potential violation of the DA, which must be repaired via movement, as in (18).

(18) $[_{TP}$ $[_{\&P}$ DP_1 $[$ & DP_2 $]]$ $[_{T'}$ T $[_{vP}$ ___ $[_{v'}$ VP v $]]]]$

---
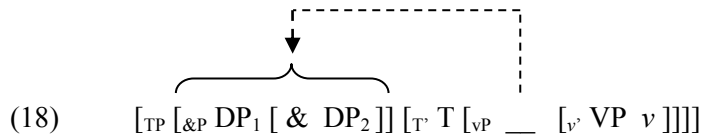
[4] This can be easily restated in terms of ordering relations holding between nodes: the &P and DP_2 are not ordered, since the former contains the latter, and there is no node such that it is contained in the object &P and follows DP_2. They are therefore linearly equidistant from any node to their right.

The pattern illustrated in (17, 18) can be observed in nominative subject constructions in Hindi, where conjunct agreement is ruled out: T always agrees with the whole &P in subject position, not with one of its conjuncts (cf. 19).

(19)   Ram   aur Sita   gaa rahe   h   / *rahii   hai.

       Ram.M   and Sita.F sing PROG.M.PL be.PRS.**PL** / *PROG.F be.PRS.SG

       'Ram and Sita are singing.'   (Bhatt and Walkow 2011)

To summarize, I will propose in this dissertation that the constructions in which agreement takes place in apparent violation of the DA are to be interpreted as evidence of the occurrence of non-syntactic agreement, more specifically, PF-agreement. This proposal is backed up by several indications, some of them compelling, that agreement in the relevant constructions violates syntactic locality principles, and obeys instead a strictly linear definition of closeness. A theory of PF-agreement emerges, which, in combination with the DA theory of agreement, helps explain the fact that if a language allows conjunct agreement, it allows it at least in apparent violation of the DA.

4. General overview of the thesis

4.1 First section: an INP-based theory of the movement-agreement connection

This dissertation is conceptually divided in two sections. The first section, which consists of chapters 1 and 2, develops the idea that agreement relations are subject to the INP version of the DA, that is, that agreement must satisfy protocol (8b), repeated here in (21).

(21)   *Weak DA (DA-INP) evaluation*

> The DA-INP is satisfied at the point of evaluation K iff for each dependency <A, B> in K
>
> such that it is subject to the INP, there is a copy of A outside the c-command domain of a
>
> copy of B.

As previously mentioned, the evidence for this version of the DA theory of the movement-agreement connection is subtle, and requires a sometimes complex argumentation. However, it does exist, and I found it worthwhile to develop this particular version of the theory, as it leads to what I found more interesting questions. Even if it proves ultimately wrong, it still showcases the conceptual advantages of the DA theory in general over EPP-feature-based alternatives. As will be shown in chapter 1, it is in fact relatively easy to replicate the empirical results of the Agree+EPP model of the movement-agreement connection under a particular version of the DA theory of agreement that combines the CLP and economy conditions on the timing of operations. The empirical span of the Agree+EPP model can therefore be derived without stipulations of any kind. There are nonetheless some indices that the INP is the real actor at play behind the connection between agreement and movement, and that is consequently the path I will follow in these two chapters, as follows.

In chapter 1, I will point out empirical patterns that (i) cannot be explained via the Agree+EPP model of the relation between agreement and movement, and (ii) suggest that there is a more flexible principle at play behind this relation. The main point of the chapter is to argue in favor of the existence of a *c-command restriction* holding between the terms of agreement, which prohibits the probe from c-commanding its goal. This restriction not only accommodates those patterns that can be comfortably analyzed in terms of the Agree+EPP model, but also captures phenomena that the latter model cannot account for. The existence of such a restriction calls for explanation, thus preparing the ground for the implementation of the DA theory of the movement-agreement connection, which will be the subject matter of chapter 2.

Chapter 1 builds its argument for the c-command restriction by presenting two separate case studies bearing on object movement: the first case study concerns *ko*-marked direct objects in Hindi; the second case study involves pronominal Object Shift in Swedish. In either language there are a number of reasons to think that a covert form of agreement underlies the movement of objects out of VP, arguably to the specifier of an agreeing functional head *v*. The picture lends itself straightforwardly to an Agree+EPP analysis, but both languages additionally exhibit VP-movement patterns that introduce complications. In these patterns, a VP containing an object that controls agreement on *v* moves to the edge of the clause, at a considerable structural distance from the agreeing functional head - a configuration incompatible with an Agree+EPP analysis. Hence, while agreement seems to play a fundamental role in the movement of the object (either alone or as part of a larger category), this movement does not necessarily target the specifier of the probe. On these grounds, I will propose a preliminary characterization of the condition regulating the distribution of the terms of agreement as a restriction on certain c-command configurations: specifically, the probe is not allowed to c-command its goal. This accounts for both the simple object shift configurations as well as for the VP-movement patterns, and motivates the development of the theory of the DA.

Chapter 2 is an attempt to derive the c-command restriction from independent principles – that is, it follows a top-bottom strategy. The chapter is divided in three sections. In a first step, it presents the conceptual and empirical foundations of the theory of the DA, thus developing to a fair extent the ideas presented in section 1 of this introduction, though no mention of their application to agreement will be made at this stage of the exposition. In a second step, I will focus on providing a critical, detailed background on the operation Agree, the other major player in the particular version of the DA theory to be developed. In a third and final step, I will examine how the theory of the DA interacts with the creation of agreement relations in syntax, yielding the DA theory of the movement-agreement connection, as described in section 2 of this introduction (at this stage, the DA protocols will be introduced only informally, however; a rigorous formulation of these

protocols will be one of the topics of chapter 3). The chapter closes with the proposal that the movement-agreement connection is regulated by the INP-based version of the theory of the DA, based on the phenomena studied in chapter 1, which effectively derives the abovementioned c-command restriction.

4.2 Second section: the challenges

The second section of the thesis is chapter 3, which focuses on the challenges the DA theory of the movement-agreement connection has to face. These include conceivable conceptual objections I will defend the theory against - for example, the possibility that there could be an architectural inconsistency in allowing Agree to generate structures that the DA will subsequently rule out. The chapter also devotes some space to the relation between the DA theory and case theory, which will offer us the opportunity to introduce the DA protocols (cf. 8, 20), and examine how they are supposed to work in the evaluation of structures that encode complex networks of dependencies.

The real focus of this chapter, however, is the existence of constructions in which agreement seems to obtain in violation of the DA, which was discussed in section 3 above. These constructions are rather obvious counterexamples to the theory, *at least in appearance*. In this chapter I will first show that there is in fact much precedent in the literature which supports alternative analyses of the relevant constructions such that the DA could in fact have been satisfied in most of these constructions. Some of these analyses are compelling (for example the string vacuous movement analysis of Hindi long-distance agreement constructions, cf. Chandra 2007), others less so, but overall, they serve the purpose of showing that it is not so obvious that the apparent violations of the DA under consideration are, in fact, *actual* violations of the DA. I will then show that it is possible to push the study of these constructions even further in terms of their status within the theory of the DA, and depart from isolated analyses of each particular

construction in order to reach a unified approach. The basis for this approach is the observation that the theory of the DA does *not* exclude the possibility that the controller of agreement could be located within what seems to be the c-command domain of its target: what it excludes is the possibility that such forms of agreement could arise *in syntax*. As discussed in section 3, there seems to be significant empirical support for this prediction. After discussing the implications of this evidence and putting forward some arguments in favor of a dominance-based view of syntactic locality (thus developing the ideas introduced in the previous section), the chapter closes by laying down the rudiments of a theory of PF-agreement.

Chapter 1

Motivating a new theory of the relation between agreement and movement

1. Introduction

Agreement and movement go hand in hand in a number of constructions across languages. Some well-known examples of this correlation include the following.

(1)   **Passive movement in French**: agreement with the internal argument obtains iff the latter moves to subject position (examples modeled after Deprez 1998).

a. No participle agreement with an in situ internal argument in regular transitives (participle agreement surfaces as default 3SG)

J'ai   pris   / *prises   ces photos   avec un zoom.

I have.**1SG** taken.**MSG**   taken.FPL   those photos.**FPL**   with a   zoom

'I took those pictures with a zoom.'

b. No participle agreement with an in situ internal agreement in impersonal passives

Il   a   été   pris   / *prises   quelques photos   avec un zoom.

EXPL has.3SG been taken.MSG   taken.FPL some   pictures with a zoom

'Some pictures have been taken with a zoom.'

c. Participle agreement obtains obligatorily when the internal argument surfaces in the

derived   subject position

Ces   photos   ont   été   *pris   / prises   (ces photos)   avec un zoom.

those pictures.**F.PL** have.**3PL** been   taken.M.SG   taken.**F.PL**   with   a   zoom

'Those pictures have been taken with a zoom.'

(2)   **Wh-fronting in Kilega**: wh-fronting iff the wh-phrase agrees with the main verb,

potentially overriding subject agreement (all examples from Carstens 2005)

a. No wh-agreement if the wh-phrase stays in situ. The verb cross-references the noun

class of the subject instead.

Bábo   bíkulu   **b**- á- kás -íl -é   mwámí **bikí**   mu-mwílo?

2.that 2.woman **2SA**-A-give-PFV-FV   1.chief   **8.what** 18-3.village

'What did those women give the chief in the village?'

b. Wh-agreement obtains if the wh-phrase is fronted. The verb does not cross-reference

the subject anymore.

Bikí   bábo bíkulu   **bi**- á- kás -íl -é   mwámí (**bikí**) mu-mwílo?

8.what 2.that 2.woman **8CA**-A-give-PFV-FV   1.chief   18-3.village

'What did those women give the chief in the village?'

(3)   **Preverbal versus postverbal subjects in Arabic**: Only preverbal subject (full) DPs can

trigger number agreement on the verb (examples from Miyagawa 2010).

a. No number agreement between the verb and postverbal DP subjects

qadim-a   (/ *qadim-uu   )   al-ʔawlaadu

came-**3MSG**   came-**3MPL**   the-boys.**3MPL**

'The boys came.'

b. Preverbal DP subjects trigger number agreement in addition to person and gender

agreement.

al-ʔawlaadu   qadim-uu   (/*qadim-a   )

the-boys.**3MPL** came-**3MPL**   came-**3MSG**

'The boys came.'

(4)   **Preverbal versus postverbal subjects in Trentino**: Only preverbal subjects trigger full

agreement on the verb (examples adapted from Brandi and Cordin 1989).

a. Postverbal DP do not trigger agreement. The verb surfaces as default 3M.

E' vegnu   (* l'   è vegnuda) la Maria

is come.3M   CL.3 is come.3F   the Mary

'Maria came'

b. Preverbal DP subjects trigger full person and gender agreement.

La Maria l'   è   vegnuda

the Mary CL.3 is come.3F

'Maria came'

The topic of this dissertation is the way in which agreement and movement interact. The question on the conditions under which this interaction takes place has played an important role in the evolution of syntactic theory during the last twenty-five years or so (cf. Kayne 1989; Rizzi 1990; Chomsky 1986, 1995, 2000, 2001, 2004, 2008; Richards 2001; Carstens 2001, 2005; Baker and Collins 2003; Bošković 2007; Baker 2008; Sigurdsson 2010, among many others). A recurrent intuition in the literature is that agreement can trigger the movement of the phrase that is agreed with, which then surfaces outside its theta-position. When agreement is absent, no such movement takes place. This may be directly observed in examples such as (1-4), but it is very often assumed that such relations can obtain without being directly observable, in particular because the agreement could take place covertly (cf. for example Miyagawa 2010 for an analysis of A-movement in apparently agreement-less languages as induced by abstract agreement procedures).

The question arises as to why agreement and movement should interact as they do. The current standard view of the connection between agreement and movement is the Agree+EPP model (Chomsky 2000, 2001). In this model, movement procedures may feed on preliminary agreement relations. Let us illustrate the relevant mechanism by taking the configuration in (5) as our starting point. In this configuration, P is a functional head bearing an unvalued feature [uα], and G is the most prominent active nominal in the c-command domain of P, such that it bears the feature [+α].

(5)

```
            P'
          /    \
         P      XP
        [uα]    /\
              …G…
              [+α]
```
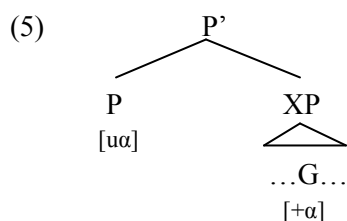
Always in this scenario, Agree obtains between P and G. The α feature of P receives a specified value - as shown in (6) - and can be deleted from syntax at the next Spell-Out cycle.

(6)

```
            P'
          /    \
         P      XP
        [+α]    /\
         ↑    …G…
         │    [+α]
         │     ↑
         └─────┘
        Agree(P, G)
```
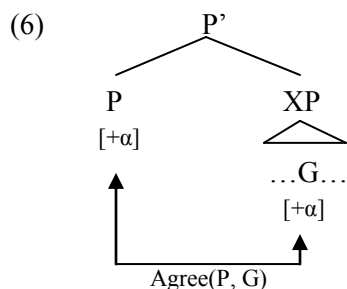
The controller of agreement G will subsequently undergo movement if the probe P bears an EPP-feature. This kind of feature (which is most often assumed to be the same property that, in many languages, enforces the generation of a derived subject position in [Spec, T]) requires P to project a non-thematic specifier position. In the most straightforward cases, the designated filler of this position is G,[1] and thus the typical outcome of an Agree+EPP sequence of operations looks as in (7).

---

[1] Some constructions allow for an expletive to be inserted in this position, while in other cases a larger category containing G is pied-piped to the relevant position. Which mechanisms underlie the availability of these procedures in some contexts but not others is not well understood.

(7)

```
                    P'
             _____/_____
            /              \
           G                P'
          [+α]          ___/\___
           ▲           /        \
           ┆          P          XP
           ┆        [+α]        /\
           ┆        E̶P̶P̶      ...G̶...
           ┆                   [+α]
            ┆_____,
```
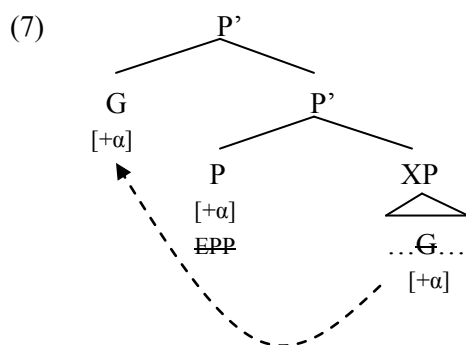
The Agree+EPP model provides us with a basis to capture phenomena such as (1-4). In all the relevant cases where agreement obtains and its controller appears in a non-thematic position, the model predicts that the latter position is either the specifier of the probe, or an even higher position the controller reaches after a preliminary landing in [Spec, P].

The Agree+EPP model is descriptively efficient, and thus it is widely used in current syntactic analysis. However, the status of its EPP component has often been a subject of debate since EPP-features were introduced in Chomsky (2000). The reason is that, ultimately, EPP features do not help us understand why movement should obtain in the first place. Unless these features are derived from more general principles, it is not clear that the Agree+EPP theory of the relation between agreement and movement could be anything else than a restatement of the observation that agreed-with nominals are often found in displaced positions. The goal of deriving EPP features from deeper principles (in some sense, eliminating them) has been pursued now in one way or another for more than a decade (cf. Martin 1999, Boeckx 2000, Grohmann, Drury and Castillo 2000, Bobaljik 2002, Epstein and Seely 2002, Bošković 2002, 2007, Landau 2007, Sigurdsson 2010, among others). However, the current lack of a standard approach to the deep nature of the EPP or EPP features, if anything, bears witness to the fact that this is not an easy task. Given this state of affairs, it is legitimate to explore the alternative view that the agreement-movement connection is regulated by a different mechanism than the one that requires the subject

position to be filled (in Zeljko Bošković's words, a 'filled Spec condition'), even though both might overlap in some significant cases. That is the path I will be taking here.

In this chapter, I will discuss two cases of Object Shift in different languages (Hindi and Swedish), both of which seem to be induced by a form of covert agreement, in such a way that the object *must* move if it is agreed with. Interestingly, the target of such movement need not be the specifier of the probe, and there are reasons to think that the relevant position is not an intermediary landing site either (in other words, alternatives to Object Shift are possible, as long as the object escapes its original position). This is significant, because the Agree+EPP model cannot help capture these patterns. Once we are aware of those cases, a new generalization arises, which might be better understood in terms of a c-command restriction on probe-goal relations, and, I claim, paves the way for a better understanding of the connection between agreement and movement.

The body of this chapter consists of two sections that follow the same roadmap. They both focus on a form of object movement in a given language (section 2 bears on Hindi and section 3 on Swedish). In both sections I will first have to show that the relevant kinds of object movement are connected to agreement between the object and a higher inflectional category, which I take to be small *v*, usually identified as the locus of object agreement. The task is not straightforward, because in both languages this kind of agreement is covert, and language-particular considerations arise – in Swedish in particular -, which further obscure the underlying patterns. Because of these difficulties, some space has to be devoted in each section to show that object movement only takes place if a preliminary agreement relation is established between *v* and this object – if anything, a state of affairs consistent with the Agree+EPP model. Once these difficulties are overcome, I will point out in each of these sections some intriguing patterns which suggest that, in either language, an agreed-with object does indeed move, but need not target the specifier of the head it controls agreement on (even though it *can*). These patterns can no longer be adequately captured in an Agree+EPP model of the movement/agreement connection, at least

not under the common understanding of an EPP feature as a 'filled-Spec condition'. I will instead propose to describe the relevant phenomenon as a c-command restriction on whatever sort of agreement is involved: *the goal cannot be c-commanded by the probe*. As a result of this condition, the goal must move to some position out of the probe's c-command domain. This potentially includes, but is not limited to, the specifier of the probe.

Section 4 then concludes the chapter, and provides the starting point for the rest of the dissertation.

2. Object shift and agreement in Hindi

The purpose of this section is to show that Hindi direct objects must escape VP whenever they control (covert) agreement on v, and that this movement is not always consistent with the predictions of the Agree+EPP model. Sections 2.1-2.5 establish the correlation between object agreement and obligatory leftward object movement (which I label Object Shift following Bhatt and Anagnostopoulou 1996 to distinguish it from scrambling, which is typically optional). Next, sections 2.6-2.8 discuss instances of rightward object movement, showing that in those cases an agreed-with object need not target [Spec, v] as a preliminary landing position.

2.1 ko-marked direct objects sit in a derived position

Hindi exhibits a phenomenon known as Differential Object Marking (Comrie 1979, Bossong 1985, Aissen 2003, inter alia), whereby specific and/or animate direct objects display overt case marking (instantiated as the postposition –*ko*), while non-specific, inanimate objects remain unmarked. It turns out that this morphological alternation has a syntactic correlate, as there is considerable evidence that marked objects, contrary to unmarked ones, are found in derived positions outside VP (Mahajan 1990, Bhatt and Anagnostopoulou 1996).

A first argument in favor of this claim comes from the distribution of direct objects in ditransitive environments. As shown in (8), a non-specific, unmarked object will follow the indirect object, while a specific, marked object will precede it.

(8) a. Ram-ne   Anita-ko   chitthii   bhej-ii   (Bhatt and Anagnostopoulou 1996)

    Ram-ERG   Anita-KO   letter.F   send-Pfv.F

    'Ram sent some letter to Anita.'
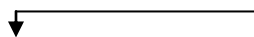
   b. Ram-ne   chitthii-ko   Anita-ko   _   bhej-aa

    Ram-ERG   letter-KO   Anita-KO   send-Pfv

    'Ram sent the letter to Anita.'

Interestingly, goal objects are also marked with the postposition –*ko*, although this marking is not differential: -*ko* marking is obligatory on indirect objects irrespective of their intrinsic or discourse-related properties (put another way, ko-marking is an inherent property of indirect objects in Hindi).[2] A sequence of –*ko* marked objects is never ambiguous, however, but always gives rise to a DO IO reading, even though the IO precedes the DO in the neutral declarative order. This appears to confirm that the ko-marked DO is in a derived position.

(9)   Ram-ne   Bill-ko   Lila-ko   di-yaa   (Bhatt and Anagnostopoulou 1996)

    Ram-ERG   Bill-KO   Lila-KO   give-PFV

    'Ram gave Bill to Lila/*Ram gave Lila to Bill'

---

[2] It is not infrequent for DOM languages to mark specific/animate DOs with the 'dative' particle. It happens in Spanish (Rodriguez-Mondonedo 2008), Miskitu and Chaha (Richards 2010), among others. But it is not an absolute either: other DOM languages such as Sakha (Baker and Vinokurova 2010) or Amharic (Leslau 1995), for example, use different particles for IOs and marked DOs.

A second piece of evidence pointing to marked objects occupying a shifted position involves the possibility of control in gerundival adjuncts. While it is generally possible for the subject to be understood as the implicit argument in such adjuncts (up to semantic consistency), the possibility of object control correlates with the morphological marking of the object. Thus, as shown in (10a), it is not possible for an unmarked object to control the PRO subject of the gerund. An ambiguity between subject and object control arises, however, if the object is marked (cf. 10b).

(10) a. John-ne$_i$ baččaa$_j$ [PRO$_{i/*j}$ sote hue] dek^{h}aa

    John-ERG   child   sleeping   see.PFV.DEF

    'John saw some child while he (=John, not the child) was sleeping.'

   b. John-ne$_i$ bačče-ko$_j$ [PRO$_{i/j}$ sote hue] dek^{h}aa

    John-ERG   child   sleeping   see.PFV.DEF

    'John saw some child while he/she (=John or the child) was sleeping.' (e.g. in a dream)

These control patterns follow if the marked object in (10b) occupies a higher position than that of the gerundival adjunct, while the unmarked object in (10a) stays below the point of adjunction, so that marked objects, contrary to unmarked ones, c-command PRO in the secondary predicate. The relevant configuration is given in (11), where I assume (i) that unmarked DOs remain VP-internal, and (ii) that the kind of gerundival adjunct found in (10) is right-adjoined to the VP.

(11)   XP

                    {bačče-ko}

                                                      VP   X

Position of marked DOs.
From this position, the DO
c-commands PRO in the
gerundival adjunct.   VP   [PRO sote hue]

                              {baččaa}   V

Position of unmarked DOs.
From this position, the DO
does not c-command PRO in
the gerundival adjunct.
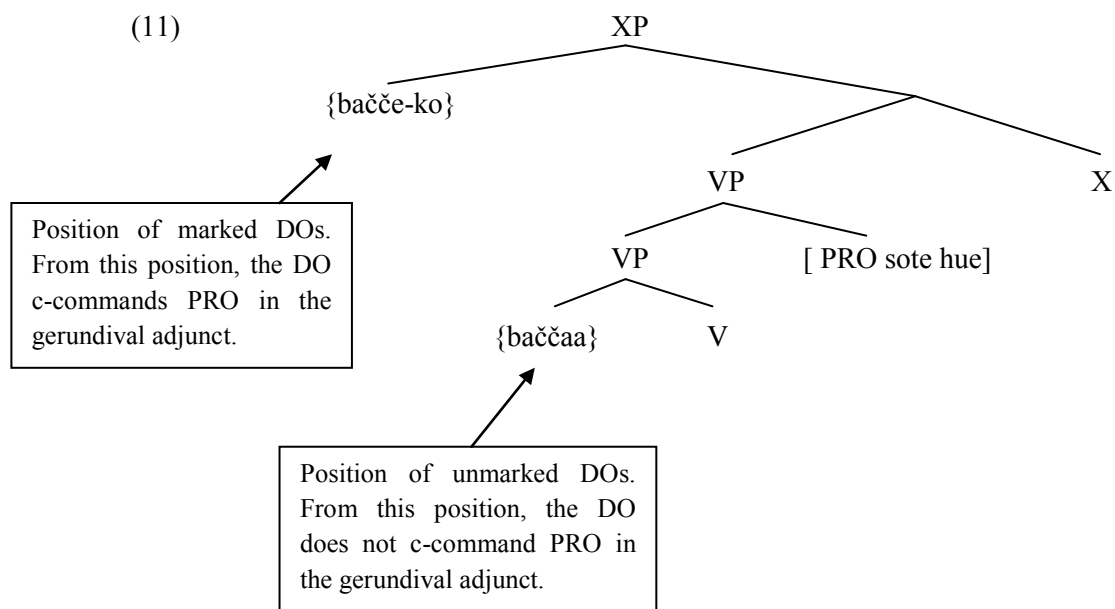
Under this view, object control would crucially depend on particular structural configurations (arguably involving a c-command condition on control), rather than, say, semantic or discourse-related properties of the object nominal. Support for this idea comes from examples in which the gerundival adjunct is found in sentence-initial position, as in (12). In those cases, object control becomes impossible, whether the object is marked or not – the external argument can still control PRO, however, suggesting that subject control is essentially a semantic procedure.

(12)   [PRO$_{i/*j}$ sote hue]   John-ne$_i$ bačče(-ko)$_j$ dek^{h}aa

                   sleeping   John-ERG   child   see.PFV.DEF

        'While he (John) was sleeping, John saw a/the child.'

Finally, while it is true that many Hindi speakers find adverb placement to be relatively free (cf. Bhatt and Anagnostopoulou 1996), some speakers seem to be more sensitive to the relative distribution of marked/unmarked objects and event-modifying adverbs. A subset of my informants expressed a clear preference for *ko*-marked indefinite objects to appear to the left of a

VP-adverb, (cf. 13a, b). Although unmarked indefinite objects exhibit a less restricted distribution, there is a slight preference for them to appear to the right of the relevant VP-adverb (cf. 13c, d). The contrasts naturally follow if *ko*-marking is associated to a derived object position. Notice that the objects under consideration are full DPs, thereby ruling out the possibility of pseudo-incorporation (cf. Dayal 2011).

(13)　　a. John-ne　　ek kʰilone-ko　zara-saa　　toRaa　　　hai

　　　　　John-ERG　one　toy-KO　　a.little.bit　broken.PFV　AUX

　　　　　'John has broken a toy a little bit.'

　　　　b. ??John-ne　　zara-saa　ek kʰilone-ko　toRaa　　　hai

　　　　　　John-ERG　a.little.bit　one　toy-KO　　broken.PFV　AUX

　　　　c. John-ne　　zara-saa　　ek kʰilona toRaa　　　hai.

　　　　　John-ERG　a.little.bit　one　toy　broken.PFV　AUX

　　　　d. ? John-ne　　　ek　kʰilona zara-saa　　toRaa　　　hai

　　　　　　John-ERG　one　toy　a.little.bit　broken.PFV　AUX

This paradigm is consistent in those speakers who are sensitive to adverb placement. This will turn out to be an important point in later sections.

Summing up, it seems plausible to assume that marked objects have escaped VP, whereas unmarked objects typically stay in situ. If *ko*-marking is a form of case-marking, as is often assumed, we might identify ko-marking on direct objects as structural *ko*-case (as it depends on the DO's position), while ko-marking on indirect objects is inherent *ko*-case.

2.2 Obligatory Object Shift is not a Mapping Hypothesis effect

Now, the existence of such DO movement may seem unsurprising, since Hindi is a scrambling language, after all. It is nonetheless interesting to note that highly specific objects such as proper nouns *must* be marked in monotransitive environments, suggesting that the relevant kind of nominal obligatorily moves out of VP in the relevant configuration.

(14)   John-ne   Bill-**ko**   / *Bill-Ø   piiTaa   hai.

John-ERG   Bill-KO / Bill   beat-PFV   be

'John has beaten Bill.'

Since scrambling is typically optional, we might wonder what forces obligatory object movement in (14). As Bhatt and Anagnostopoulou (1996) observe, the pattern is consistent with Diesing (1992, 1997)'s Mapping Hypothesis: presuppositional objects must leave the VP (which is mapped into the nuclear scope) in order to be mapped into the restrictive clause. However, this picture is complicated by the fact that proper noun direct objects *can*, but *need not*, be marked in double object constructions. As could be expected, such marking correlates with the position of the DO to the left or right of the indirect object.

(15) a. John-ne   Mary-ko   Bill(*-ko)   diyaa.

John-ERG   Mary-KO   Bill   give.PFV

'John gave Bill to Mary.'

   b. John-ne   Bill-ko   Mary-ko   diyaa.

John-ERG   Bill-KO   Mary-KO   give.PFV

'John gave Bill to Mary.'

These patterns are highly problematic for an approach to object movement in terms of the Mapping Hypothesis. If this movement was triggered by a property of the object itself (for example, if highly presuppositional objects needed to be licensed in a derived position), we would expect it to take place in a systematic way. This is true to some extent, as (14) reveals. However, we observe in example (15a) that the relevant movement does not have to obtain if an indirect object is present, *even though* it is still possible for the DO to move in that environment, as (15b) illustrates. It seems therefore legitimate to assume that the kind of obligatory object movement observed in (14) and apparently absent from (15) does not follow from an intrinsic requirement of specific objects. Rather, it appears to follow from some other requirement, which has not been properly identified in the literature.

2.3 An Agree+EPP analysis: the applied argument disrupts Agree (*v*, DO)

We can implement a preliminary analysis of these facts within an Agree+EPP model. I would like to emphasize the word *preliminary* here, since it will not be possible to extend such an analysis to related phenomena to be discussed in section 2.7 (where we will have to reject the EPP part of the analysis). The Agree+EPP model is nonetheless sufficient for the purposes at hand, and proceeding this way will allow us to better ascertain the disadvantages of this model once we move to more complex data in section 2.7.

Let us then spell out three basic assumptions. (**a**) First of all, let us assume that Object Shift follows from an EPP feature parasitic on agreement between *v* and the highest available object in the VP domain (Baker 2003a, Carstens 2005). This would be the reason Object Shift takes place in (14), and the reason why it is obligatory in a language otherwise well-known for its word order flexibility. (**b**) Second, concerning the identity of the feature(s) involved in the agreement procedure, I will assume that *v* bears (at least) an uninterpretable specificity feature [uSP] (cf.

Mykhaylik and Ko 2008), which must be valued via Agree with a nominal in the VP domain. It is reasonable to assume that the feature [SP] is the one involved in the relevant procedure, insofar as it provides a direct characterization of the class of objects which must undergo Object Shift in monotransitive environments, i.e. specific nominals (Mohanan 1994).[3] Note that this does not mean that [uSP] is the *only* feature carried by *v*. It might carry others, and one such feature will in fact be discussed in the next subsection. (**c**) Finally, I will explicitly assume that the feature under consideration is privative. The reason is that only specific nominals undergo Object Shift in monotransitive contexts, whereas non-specific nominals are not subject to the relevant procedure (Mohanan 1994, Montaut 2004). If, according to our first assumption, Object Shift is triggered by agreement, it is plausible to assume that no agreement obtains between *v* and non-specific nominals. This makes sense if the feature involved in the agreement is privative.[4]

Note that only the first assumption is tentative. I will find no reason to modify the other two in the remainder of this chapter.

Consider then (14) under these assumptions. In the derivation of this particular example, *v* first agrees in specificity with the single object of a monotransitive verb, as shown in (16).

(16)

The DO subsequently moves to the [Spec, v] position in order to check the EPP feature of *v* (cf.

17). This accounts for the obligatory character of direct object movement in (14).

(17)

Agree (v, [_D Bill])
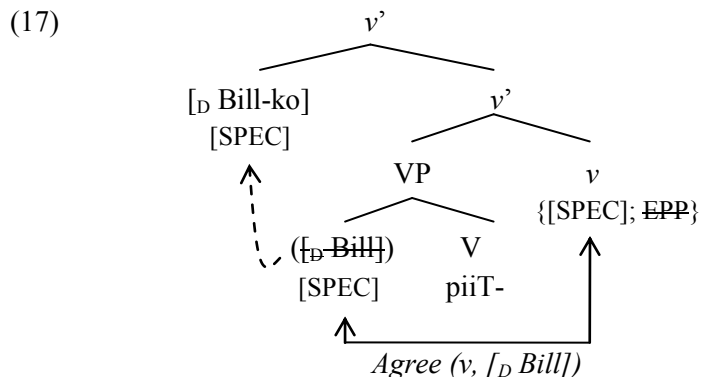
In this example, I assume *ko*-marking (as found on DOs) to be determined on the basis of the

surface position of the specific object, perhaps as a result of a case competition scenario (cf.

Baker and Vinokurova 2010 for the postulation of such a procedure in narrow syntax). In such a

scenario, *ko*-marking would follow from the object being assigned dependent case whenever it

shares the same case assignment domain as the subject, as in Object Shift contexts (it is worth

noting, however, that this particular interpretation will have to deal with the fact that *ko*-marking

persists when the subject is marked with inherent ergative). *ko*-marking on indirect objects, on the

other hand, would be an instance of inherent case, as previously mentioned.

Let us now turn to the case of ditransitives, which offer a rather different picture. The basic idea

is that in examples such as (15a) an intermediate applied argument bearing inherent case disrupts

the possibility for *v* to agree with the specific direct object. This is a straightforward defective

intervention effect: the intervening DP is visible to the probe (and hence prevents probing from

proceeding further, cf. Chomsky 2001), but it is not available for agreement (as is typically the

case for inherently case-marked DPs, for example in Icelandic, cf. among others Taraldsen 1995,

Schutze 1997, Boeckx 2000, Hiraiwa 2005, and in particular Sigurdsson and Holmberg 2008). I

assume the relevant ditransitive structure to be an applicative configuration associated to a semantics of transfer of possession. The relevant pattern is illustrated in (18).

(18)

```
                        vP
          ┌─────────────┴──────────┐
   [DP John-ne]                    v'
                      ┌─────────────┴──────────┐
                    ApplP                       v
                 ┌────┴─────┐              {[SPEC]; EPP}
          [DP Mary-ko]     Appl'
                        ┌────┴─────┐
                       VP          Appl
                    ┌───┴───┐
             [DP Bill]      V
              [SPEC]
```

Agree (v, DO) disrupted by the applied argument
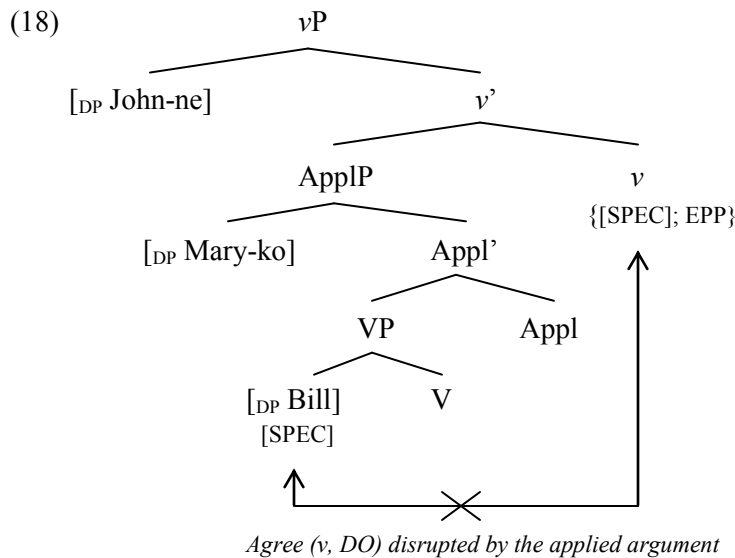
In other words, the reason Object Shift is no longer obligatory in ditransitives is that the applied argument prevents the agreement relation between *v* and the DO. Since the IO is not available for agreement either, the unvalued features of the probe go unchecked, and are deleted at the interface without syntactic consequences (cf. Preminger 2011 for arguments in favor of the assumption that failure of Agree does not entail that the derivation will crash). It is still possible for the DO to be scrambled across the IO, as word order is very flexible in the language, but this movement has no longer the obligatory character associated to an Agree+EPP procedure. This approach thus captures the relevant data.

Now, readers familiar with the agreement patterns of Hindi might have found this analysis befuddling. This would be understandable, insofar as *overt* number and gender agreement in Hindi do not behave at all like this hypothetical *covert* specificity agreement on *v*. Thus, inherently case-marked DPs in Hindi, such as the IO of (18) in our interpretation, do not block number/gender agreement from obtaining between the DO and a verb or auxiliary that bears tense

inflection – put another way, Agree(T, DO) seems to obtain irrespective of potential inherently case-marked (and thus agreement-opaque) interveners. For example, the minimal pair in (19) shows that T tracks the gender of the unmarked DO, despite the presence of an ergative subject and a dative indirect object.

(19)　　a. Ravii-ne　　　　Niinaa-ko　kelaa　　　kʰilaay-aa　　　　　　　(Mohanan 1994)

　　　　　Ravi.M-ERG　Nina-KO　　banana.**M**　eat-PFV.**M**SG

　　　　　'Ravi fed Nina a banana.'

　　　　b. Ravii-ne　　　　　Niinaa-ko　roTii　　　kʰilaay-ii

　　　　　　Ravi.M-ERG　　Nina-KO　　bread.**F**　eat-PFV.**F**SG

　　　　　'Ravi fed Nina bread.'

I will follow Benmamoun, Bhatia and Polinsky (2009) in assuming that number and gender agreement in Hindi is determined post-syntactically, as evidence from closest conjunct agreement strongly suggests (cf. op. cit., cf. also chapter 3).[5] If so, it is not expected to behave as agreement

---

[5] Cf. also Bhatt and Walkow (2011) for a somewhat differing view. Bhatt and Walkow claim that while number and gender agreement is determined at PF, the set of possible controllers is defined in narrow syntax. They sustain that a PF approach in terms of linear adjacency (such that T would agree with the closest unmarked DP in linear terms) is counter-exemplified by instances in which T agrees with the head of a following DP rather than with its prenominal modifier, as in (i).

(i) Atif-ne　　{***dekh-ii**/ dekh-aa}　**[chiinii** khaa-taa　　　bhaaluu] aur shahad　khaa-tii chiRiyaa.
　　Atif-ERG {see-PFV.F/see-PFV.M} sugar.F eat-IMP.M.SG bear.M　and honey.M　eat-IMP.F bird.F
　　'Atif has seen a sugar eating bear and a honey eating bird.'

In this case T agrees with *bhaaluu* (masculine) rather than with *chiinii* (feminine), which seems to be closer to T.
This counterargument is not completely fair, however, as it hides the assumption that closeness in a linear sense must be restricted to zero-level nodes as they appear on the surface. If so, Bhatt and Walkow's argument would go through, of course. Now, they themselves do assume (i) that the linearization procedure takes into account all the nodes (as seems indeed necessary for the linearization procedure to have any success at all); (ii) that it is based on c-command relations between nodes, in such a way that node A precedes node B if A c-commands B; and (iii) that it helps determine which node (and not necessarily which head) controls agreement. I see no ground to deny these rights to a theory of PF agreement under

in syntax, and it is not required to obey syntactic conditions. This helps us make sense of the fact that covert *v*-agreement is sensitive to intervention effects (as in 15, 18), whereas overt agreement in number and gender is not. The former is a result of an Agree operation taking place in narrow syntax, the latter is determined post-syntactically. I will return to the topic of PF agreement in section 5.

2.4 PLC effects with personal pronouns

We can find further confirmation for the covert agreement hypothesis by looking at the distribution of first and second person personal pronouns. The relevant fact concerning these highly specific nominals is that, if they are generated as theme objects, they *must* be marked and move to the left of the indirect object.

(20)　　a. John-ne　　mujh-ko　Mary-ko　　diyaa.

　　　　　John-ERG　me-KO　　Mary-KO　give.PFV

　　　　　'John gave me to Mary.'

　　　　b. *John-ne　　　Mary-ko　　maĩ　　　/ mujh-ko　diyaa.

　　　　　John-ERG　Mary-KO　me-NOM　me-KO　　give.PFV

---

adjacency, since adjacency can be computed on the basis of ordering statements holding of pairs of nodes. Within this kind of theory, it is not clear at all that the minimal NP containing *chiinii* (and hence inheriting the gender feature of the latter) is closer to T than the minimal NP containing *bhaaluu* is. The reason is that the former is contained within the latter, and that both NPs are aligned on their left edge.

(ii) [NP1 [GerundP [NP2 chiinii] khaataa] bhaaluu]

As a result, NP$_1$ and NP$_2$ are equidistant from T in linear terms. In such a scenario, it does not follow that T *must* agree with NP$_2$ rather than NP$_1$.

In an agreement scenario, the data in (20) can be naturally analyzed as stemming from what Bejar and Rezac (2003, 2009) call the *Person Licensing Condition* [PLC], according to which 1st and 2nd person nominals (and sometimes 3rd person animate, depending on the language) require the verb to agree with them in *person* in order for the derivation to be successful.[6] This helps us explain why a first person DO can never be found in situ in Hindi ditransitive configurations, since the IO prevents *v* from agreeing with it. In the absence of verbal agreement licensing the pronoun, the derivation crashes. Hindi is resourceful, however, and provides a means to bypass the intervention effect: by undergoing preliminary scrambling across the IO (and targeting, say, [ApplP, ApplP]), the DO is able to reach a position where the *v* probe can agree with it in person. That short scrambling in Hindi could feed agreement in this way is expected to be possible, to the extent that this kind of movement has the properties of A-movement (Mahajan 1990, Deprez 1994). This is what I argue is happening in sentence (20a).[7] The structure in (21) illustrates the relevant mechanism, where agreement between *v* and the DO (after scrambling applies) activates the EPP feature associated to *v*-agreement (which, by hypothesis, also includes a specificity feature, presumably valued by a personal, inherently specific pronominal DO). The final landing position of a first person pronoun in such configurations is therefore predicted to be [Spec, *v*], the same position targeted by specific objects in monotransitive configurations.

---

[6] This is the basis of Bejar and Rezac (2003, 2009)'s account of Person-Case Constraint effects.
[7] In non-scrambling languages, such as Spanish, this solution is not available, and thus a first person DO is hopeless.

(21)

Agree (v, [D mujh])

The existence of such PLC effects suggests that a form of covert agreement is indeed at play in the Object Shift system of Hindi.

2.5 Interim summary

The main point of the previous sections was to show that Hindi has a covert form of v-agreement that forces the agreed-with category to leave its original position. Up until this point, we have tried to capture this connection between covert v-agreement and movement through the assumption that the former is associated to an EPP-feature, which introduces the requirement that the goal targets the [Spec, v] position. The purpose of the following subsections will be to question the EPP component of that analysis. In particular, we will see that there are reasons to think that the movement-triggering condition associated to v-agreement cannot be reduced to a requirement that a specific position (say, the specifier of the probe) is filled. The evidence we will base the relevant discussion on has to do with configurations in which an agreed-with object

undergoes movement to the right of the verb's position (a phenomenon frequently labeled as *Rightward Scrambling*).

2.6 Rightward Scrambling: Bhatt and Dayal (2007)

Although it is fundamentally an SOV language, Hindi allows for certain constituents of the clause to appear to the right of the finite verb, a phenomenon often referred to as Rightward Scrambling [RS]. RS can be optional or not, depending on the nature of the displaced constituent. I will focus here on RS of DPs, which does have an optional character. The following pair of examples illustrate an RS procedure applying on the DO.

(22) Sita-ne   Ram-ko   dhyaan-se dekh-aa thaa.   (unmarked order)

Sita-ERG   Ram-KO care-with   see-PFV be.PST

'Sita had looked at Ram carefully.'

(23) Sita-ne   dhyaan-se dekh-aa thaa   Ram-ko.   (Right-scrambled DO)

Sita-ERG care-with   see-PFV be.PST Ram-KO

'Sita had looked at Ram carefully.'

Most approaches to RS of DPs assume it to be a form of syntactic movement, but there is no real consensus as to the nature of the specific mechanism involved. The most straightforward approach takes this mechanism to be plain DP-movement to a high position in the right periphery, either right-adjoining to TP (Mahajan 1988) or targeting a rightward [spec, T] position. The former possibility yields the following analysis of (23).[8]

---

[8] I am omitting here the possibility that OS of Ram-ko to [Spec, v] could take place before RS applies, which the previous subsections would lead us to expect in this particular context. While the occurrence or

(24)

```
                                    TP
                  ┌──────────────────┴──────────────────┐
                  TP                              [DP Ram-ko]
         ┌────────┴────────┐                           ↑
   [DP Siita-ne]           T'                          ╎
                  ┌────────┴────────┐                  ╎
                  vP               T                   ╎
         ┌────────┴────────┐  [V+v+T dekhaa thaa]      ╎
   ([DP Siita-ne])        v'                           ╎
                  ┌────────┴────────┐                  ╎
                  VP               v                   ╎
         ┌────────┴────────┐                           ╎
   [PostP dhyaan-se]      VP                           ╎
                  ┌────────┴────────┐                  ╎
            ([DP Ram-ko])          V ╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╯
```
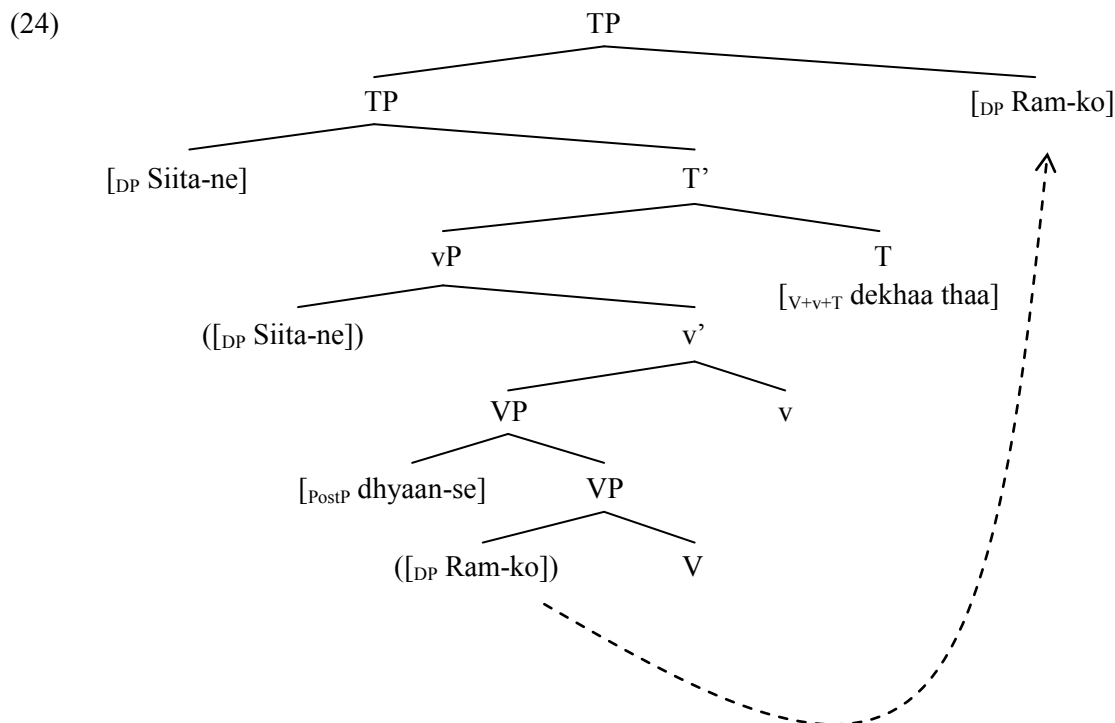
While plausible at first sight, this analysis fails to capture one important property of RS, which is that constituents undergoing this kind of displacement consistently behave, with respect to binding and scope, as if they were in their base position. In (25), for example, the right-scrambled DO behaves with respect to Condition C as though it was in the c-command domain of the in situ IO.

---

not of a prior OS procedure does not seem crucial to our understanding the kind of movement RS is (and thus we might as well omit it here to avoid unnecessary details), we will see later that there are reasons to think that OS does in fact not have to take place in contexts where the relevant direct object is right-scrambled.

(25)   *Siita-ne   use$_i$ lautaa dii   [[$_{DO}$ tumharii Raam$_i$ vaalii] kitaab] (Mahajan 1997:198)

Sita-ERG him-to return give.PFV   your   Ram GEN book

(Intended: 'Your Ram's$_i$ book (your copy of the book written by Ram), Sita returned to him$_i$.')

In a more general way, right-scrambled constituents behave as if they were c-commanded by preverbal elements, even though their position to the right of the finite verb suggests a right-adjunction procedure as in (24). Under the latter kind of analysis, it becomes hard to explain why the right-scrambled constituent should obligatorily reconstruct. Anoop Mahajan, who first pointed out this difficulty for the right-adjunction analysis (Mahajan 1997), proposed making sense of this property based on the assumption that RS is in fact a stranding procedure that follows a sequence of left-scrambling operations. We can illustrate this idea by taking as a starting point the simplified representation of the underlying structure of a monotransitive Hindi sentence in (26) (notice, however, that Mahajan 1997's analysis is built in a Kaynean framework, and thus the underlying order is assumed to be SVO). Let us call K the root node in this structure.[9]

(26)

```
            K
          /   \
       AUX     \
               \
           S    \
          /      \
              /   \
             V     DO
```

---
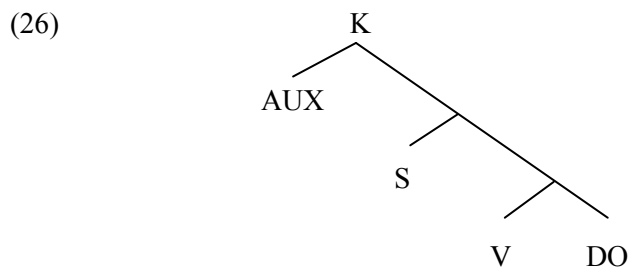
[9] For the sake of clarity, I will be omitting movement of S to [Spec, K], as this would render the derivation more complex, without it being crucial for Mahajan (1997)'s main point on RS.

In a first step, the DO is left-scrambled, yielding the new root node L.

(27)

```
                    L
                  /   \
               DO      K
                      /  \
                   AUX    \
                         /  \
                        S    \
                            /  \
                           V    t_DO
```
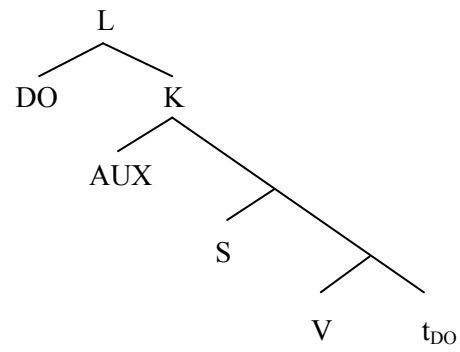
The auxiliary AUX subsequently moves across the DO, as in (28).

(28)

```
              M
            /   \
         AUX     L
               /   \
            DO       K
                   /   \
               t_AUX    \
                       /  \
                      S    \
                          /  \
                         V    t_DO
```
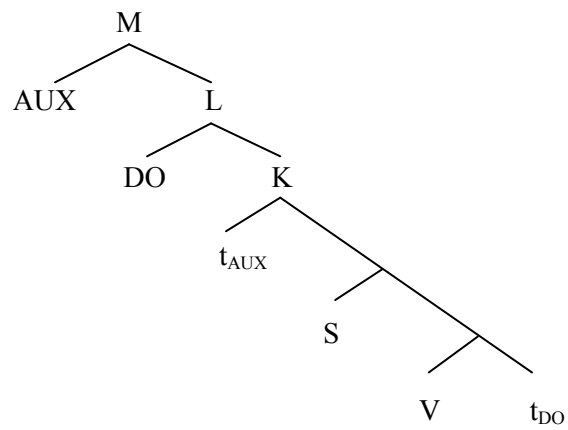
Finally, the K remnant is re-merged with M, yielding the surface order S V AUX DO observed in

(23).

(29)
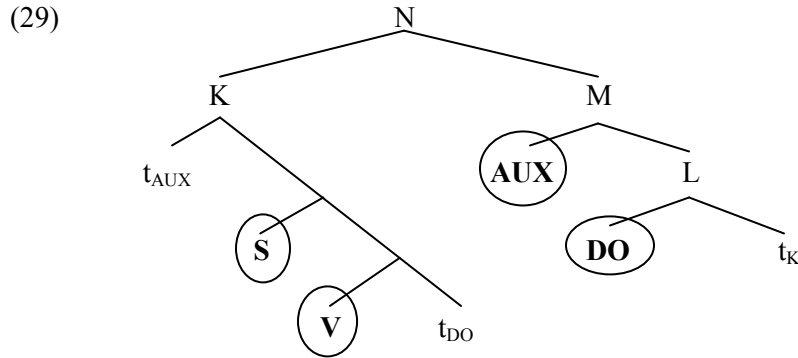
The crucial question, of course, is whether (29) helps us account for the fact that the DO behaves

as if it is c-commanded by the preverbal constituents. The answer is that it doesn't, unless one

adopts the assumption that a node such as S in (29) can c-command outside K. Bhatt and Dayal

(2007) show that this is not a plausible assumption, given independent evidence that in Hindi, a

constituent does not c-command other elements outside a projection containing it. For example, it

is possible for the pronoun *us-ke* 'her (instrumental case)' and the DP *Sita-kii* 'Sita (genitive

case)' to refer to the same individual in (30). This would be unexpected if the pronoun was

allowed to c-command out of the left-scrambled infinitival projection containing it, as it would

give rise to a Condition C effect.

(30)　　[Ram-kaa　us-se$_i$　　cupke-cupke　mil-naa　]$_j$ [Sita-kii$_i$　　mã:]-ko　　　t$_j$　katai　pasand

　　　　Ram-GEN　her-INST　　secretly　　meet-INF　Sita-GEN.F　mother-DAT　　　at.all　like

　　　　nahĩ: hai.

　　　　NEG be.PRS

　　　　'Sita's$_i$ mother does not like Ram's meeting with her$_i$ secretly at all.' (Bhatt and Dayal 2007)

In light of these difficulties, Bhatt and Dayal (2007) show that there is a way to reconcile the intuition that the right-scrambled DP undergoes some form of movement to a high right-peripheral position and the fact that the relevant constituent behaves as if it was c-commanded by preverbal elements. Their idea is that a right-scrambled DP is in fact part of a larger verb-related projection, which undergoes rightward movement *after* the verb has left it. Applying this idea to the example in (23), we would obtain the following analysis, where the DO is contained in a right-scrambled VP remnant (notice the verb stem previously undergoes successive head-movement to T).

(31)
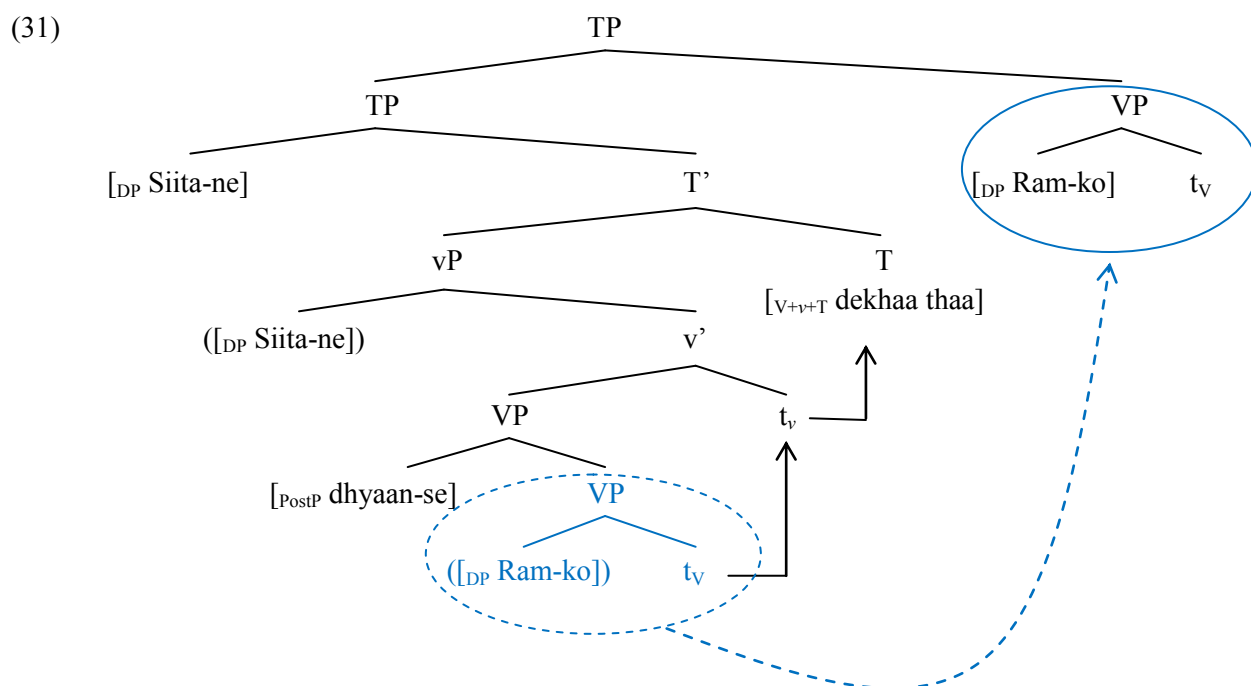
The idea that at least some cases of RS (in particular RS of DPs, which will be a relevance to us later) could in fact be instances of VP remnant movement makes sense for a number of reasons. A first reason is that rightward movement of a (non-remnant) verb-related projection is

independently attested in Hindi. In (32), for example, we see that a participial projection (call it

ProgP) can be displaced to the right of the auxiliary.

(32)   a. *Order without rightward movement*   (adapted from Bhatt and Dayal 2007)

        Vo   [[hamaarii baate] sun   rahaa   ] thaa.

        he   our.F   talks.F   hear PROG.MSG   be.PST.MSG

        'He was listening to our conversation.'

        b. *Order with rightward movement and adjunction to verbal spine*

        Vo   t$_k$ thaa   [[hamaarii baate]   sun   rahaa   ]$_k$

        he   be.PST.MSG   our.F   talks.F   hear PROG.MSG

        'He was listening to our conversation.'

On these grounds, it is not difficult to think that RS configurations could be particular cases of

rightward movement of a verb-related projection α, which takes place after the verb has escaped

α. This view is appealing because VP remnant movement is otherwise known to be subject to

obligatory reconstruction. Thus, Huang (1993) notes that fronting of a *v*P remnant (containing the

trace of the subject) cannot void a condition B (33a) or a Condition C (33b) effect.

(33)   a. [$_{vP}$ t$_j$ Criticize him$_{i/*j}$], John$_i$ thinks Bill$_j$ will not t$_{vP.}$

        b. *[$_{vP}$ t$_i$ Criticize John$_i$], I said he$_i$ will not t$_{vP.}$

We might wonder why remnant movement should have this property. Following the premise of Huang's answer to this question,[10] we may assume that remnants must reconstruct in their base position in order to reestablish the original c-command relation between the trace it contains and the antecedent of this trace/copy (which remnant movement, by definition, disrupts). Put another way, remnant reconstruction would serve the purpose of providing LF with a well formed, interpretable *chain*, where each link (except of course the head of the chain) would be in the scope of another link. This provides us with a principled motivation to favor the VP-remnant movement analysis of RS in (31). The main difference with respect to the English examples in (33) is that the Hindi remnant in (23, 31) does not contain a DP-trace, but a trace of head movement. I do not see this as a problem, to the extent that there is a large body of evidence suggesting that head movement has consequences at LF (cf. inter alia Lechner 2005, Matushansky 2006, Roberts 2010), and therefore cannot be treated as a strictly PF phenomenon, contrary to what is frequently assumed since Chomsky (2001). If so, we would expect a remnant containing a trace/copy of head movement to reconstruct in the same way a remnant containing an argumental trace/copy would.

I will henceforth adopt the idea that RS of DPs is in fact remnant movement of a verb-related projection containing a trace/copy of the verb.[11] With this assumption in mind, let us examine how the relevant RS system interacts with the *v*-agreement system.

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[10] Huang's analysis is based on the familiar GB assumption that traces behave as anaphors, and must be bound by their antecedent in a given domain. This analytical option is no longer available under minimalist assumptions, however.

[11] Recently, Manetta (2012) has argued against the VP remnant movement analysis of RS, and proposed an alternative EPP-feature based approach for RS of DPs, which is reminiscent of the original right-adjunction analysis in Mahajan (1988). I will not discuss her analysis here, as this would take us too far afield. Suffice it to say that, while I consider it far from obvious that her empirical objections to the remnant movement analysis justify discarding that theory (and it is ultimately not difficult to find data that counters some of her counterexamples), I do think she is right in pointing out that RS of CPs does not always behave as would be expected if only remnant movement was involved. This is not directly relevant to us, since we will be only concerned with RS of DPs. With respect to these cases, Manetta 's EPP-feature based analysis is forced to stipulate the obligatory reconstruction property, something that I believe to be a serious shortcoming with respect to the remnant movement analysis.

2.7 Rightward Scrambling and the Agree+EPP approach to OS

We have previously found some reasons to assume that Hindi has a covert form of v-agreement, which forces the controller of such agreement to move out of its original position. The reason for this movement, according to our preliminary analysis, is the existence of an EPP feature parasitic on v-agreement. In this section, we will question whether the movement-triggering condition associated to this agreement should indeed be characterized as an EPP feature. In particular, we will show (based on the behavior of a first person direct object both in preverbal/SOV as in postverbal/SVO contexts) that this characterization fails to capture the range of potential positions an agreed-with DO can move to.

As a starting point, the reader will remember from section 2.4 that first and second person object pronouns obligatorily undergo OS in Hindi, even in those contexts in which an IO intervener is present. We explained this behavior (which is not found with other types of objects) by invoking Bejar and Rezac (2003)'s Person Licensing Condition, which states that first/second person nominals must be licensed through verbal agreement. As a result of this requirement, a first person DO must scramble across an IO intervener in order to make itself available to v-agreement in ditransitive contexts. Thus, in a general way, we can say that this particular kind of object *must* control agreement on *v* (which is the first agreement-bearing functional head that can establish an Agree relation with the DO) if the sentence it belongs to is to be grammatical. This provides us with an important point of reference in the following discussion, as it means that the presence of a first person direct object signals (as long as the relevant sentence is not fully ungrammatical) the occurrence of a covert v-agreement procedure involving this object as the goal of the operation.

With this background in mind, consider the following contrast which arises in SOV contexts once the adverb *thoDaa saa* 'a little bit' is thrown into the equation. In such cases, the order in which a first person DO precedes the adverb (cf. 34a) is strongly preferred over the opposite order (cf. 34b).

(34) a. John-ne   mujh-ko thoDaa saa chuumaa   hai.

        John-ERG me-KO   a.little.bit   kiss.PFV.MSG AUX

        'John kissed me a little bit.'

      b. ?? John-ne   thoDaa saa mujh-ko   chuumaa   hai.

        John-ERG   a.little.bit   me-KO   kiss.PFV.MSG   AUX

        'John kissed me a little bit.'

Let us devote a moment to ask why the sentence in (34b) should be degraded. Recall, in particular, that marked direct objects such as *mujh-ko* 'me' are consistently found in shifted positions (cf. subsections 2.1-2.4), and *never* behave as if they were within VP. In ditransitive contexts, for example, it is possible that both objects are ko-marked, as in (35) (as mentioned, *ko*-marking is inherent on indirect objects, and only differential on direct objects).

(35)   Ram-ne   Bill-ko Lila-ko di-yaa   (Bhatt and Anagnostopoulou 1996)

        Ram-ERG Bill-KO Lila-KO give-PFV

        'Ram gave Bill to Lila/*Ram gave Lila to Bill'

The crucial point we can establish here is that the second object in a sequence of *ko*-marked objects cannot be the DO.[12] This contrasts with the fact that unmarked direct objects typically follow the IO, which in turn correlates with other tests suggesting that unmarked DOs sit in a less prominent position than marked ones. This point is important, because it helps us determine that

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[12] Judgments can vary with respect to this point, however. I have found that some speakers do tolerate interpreting the second member of sequence of *ko*-phrases as the DO, although the very same individuals will indicate that this reading is considerably less salient that the one in which the first *ko*-marked object is taken to be the DO.

the lowest possible position of the DO in both (34a) and (34b) must itself be a derived position, which we previously identified as [Spec, v]. In particular, I discard the possibility that *mujh-ko* could have remained within VP (by hypothesis, the neutral position for unmarked objects) in either sentence, as this would be expected to cause the same kind of strong reaction as interpreting the second member of a sequence of *ko*-marked objects as a DO, as in (35). The degraded status of (34b), while still significant enough to establish a clear contrast with the optimal (34a), presumably stems from a relatively less serious violation.

Assuming this to be on the right track, it would seem that the contrast in grammaticality between (34a) and (34b) has to do instead with the position of the adverb in the tree, either below (cf. 34a) or above (cf. 34b) that of the shifted object. What this seems to be telling us is that the adverb *thoDaa saa* in the relevant variety of Hindi must be canonically merged as an adjunct to VP. This is consistent with its position to the right of the shifted DO in sentence (34a), which is fully grammatical. In example (34b), on the other hand, the adverb appears to the left of the shifted DO, suggesting that it attaches to a higher, non-canonical position. We can illustrate the relevant state of affairs as follows.

(36)

vP
{thoDaa saa}   vP
          [SUBJ]   v'
               [D mujh-ko]   v'
                         VP   v
                    {thoDaa saa}   VP
                              ([D mujh-ko])   V

Here the adverb is merged in a position higher than its canonical one, and surfaces to the left of the shifted DO.

This is the canonical position of the adverb, as an adjunct to VP. In this position it surfaces to the right of the shifted DO.
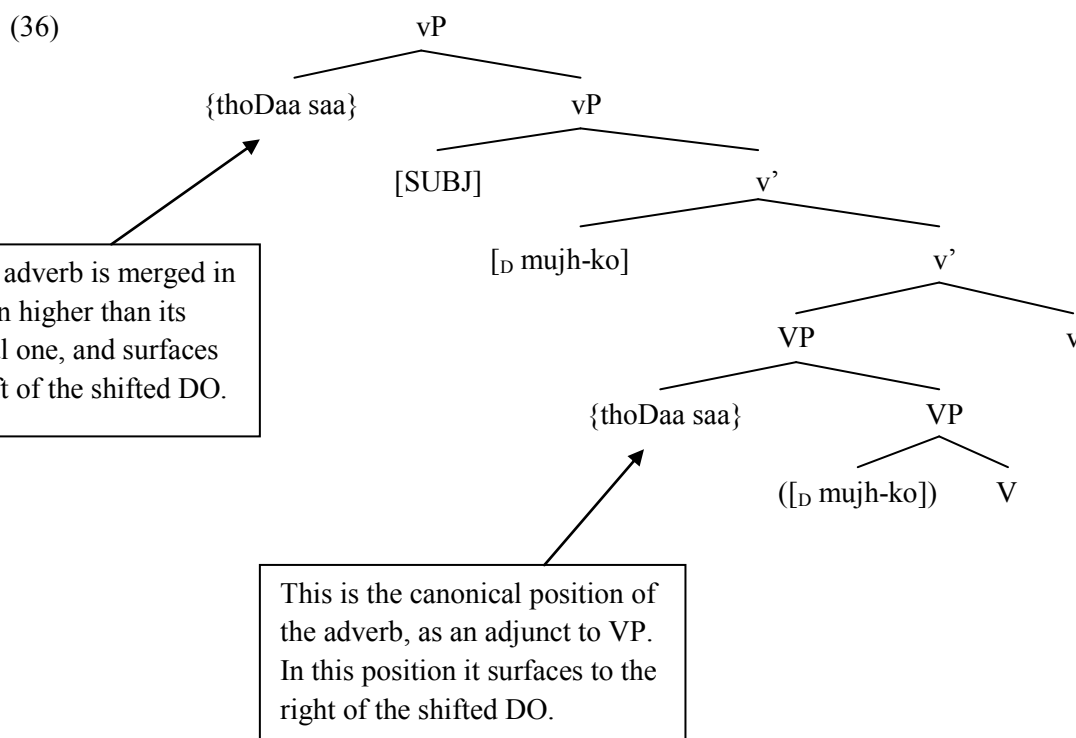
Under this view, the reason why (34b) is degraded is that the adverb is not merged in its canonical position. While non-canonical adverb attachment remains a possibility, as attested by the fact that (34b) is not fully ungrammatical, there is nonetheless a cost associated to it, yielding deviance in the relevant sentence.[13]

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[13] Jonathan Bobaljik (p.c) points out that there is an alternative explanation for the contrast between (34b) and (35) (in its ungrammatical IO DO interpretation). Thus, suppose, against my analysis in this subsection, that failure of a *ko*-marked DO to shift yields deviance, but is not fully ungrammatical. Under this assumption, the ?? judgment in (34b) could stem from the failure of *mujh-ko* to undergo OS, rather than the height of the adverb. The strong rejection of an IO DO interpretation of the sequence of *ko*-marked objects in (35), on the other hand, would arise from a cumulative effect: on the one hand, such an interpretation forces the hearer to assume that the DO did not shift, a serious but not fatal violation on this account. On the other hand, a sequence of *ko*-marked objects would be subject to *word order freezing* (WOF), a frequent phenomenon in free word order languages whereby strings that are potentially ambiguous because of the absence of morphological cues systematically receive one of the possible interpretations rather than the other (cf. Lee 2001). In Hindi, WOF fixes the interpretation of a sequence of *ko*-marked objects as DO IO. The IO DO interpretation of the sequence of ko-marked objects in (35) thus violates the WOF constraint, *in addition* to the shifting constraint on *ko*-marked DOs. As a result, the relevant interpretation of (35) is strongly rejected.

I would argue against this analysis on the grounds that it presupposes the double-*ko* WOF constraint to be some kind of primitive, without providing any explanation for it and its relation to the occurrence or not of OS. As it is, it only restates the observation that a IO DO sequence is forbidden if both objects are ko-marked. If we do not know where the constraint comes from, we do not know either whether it is really compatible with J. Bobaljik's other assumption that shifting of a ko-marked DO is not strictly required.

Let us then ask the deeper question: what does a WOF constraint follow from? That is, why should word order freeze in certain ways, and not others? A survey of WOF phenomena suggests that the relevant kind of constraints privileges in fact basic, neutral word orders. In Japanese, for example (cf. Flack 2007), WOF constraints privilege interpretations of ambiguous strings under which no scrambling (i.e. free, optional movement operations) is assumed to have taken place. In other words, when facing an ambiguous string, a speaker will choose the interpretation that arises from the *simplest available* derivation of that string, that is, the derivation that avoids free movement operations – among, possibly, other DO IO order is derived from the more basic IO DO order. This suggests that OS of the ko-marked DO is not a *free* operation: it is in fact *required* in the simplest available derivation yielding a sequence of *ko*-marked objects. In other words, the existence of the double-*ko* constraint supports the obligatory character of the OS constraint on *ko*-marked DOs.

This, I submit, is incompatible with J. Bobaljik's idea that the failure of a *ko*-marked DO to shift yields deviance rather than ungrammaticality (this is the gist of his alternative analysis of 34b). Thus, under this assumption, it is in principle possible (though far from optimal) to leave a *ko*-marked DO in situ: even though it yields a degraded result, it is an *available* derivation, not one that the grammar internalized by the relevant individuals *cannot* produce. If it were so, however, the simplest available derivation yielding a sequence of *ko*-marked objects would be the one that leaves the DO in situ. The fact that speakers reject it in a clearly stronger way than the deviant (34b), suggests that their grammar cannot produce an outcome in which a *ko*-marked DO remains within VP.

One way out of this situation may be to appeal to a formalization of the double-*ko* constraint in terms of Richard's (2010) Distinctness. This formalization can be achieved as follows: a sequence of adjacent *ko*-marked DPs is ruled out if both DPs share the same Spell-Out domain when the latter domain is sent to linearization. Hence, assuming both objects share the same Spell-Out domain in their base position, we need one of them to leave the domain before it is linearized. Making the DO escape the domain through OS yields a DO IO sequence, which is indeed the overwhelmingly preferred outcome. However, the IO should

Let us now expand the paradigm by examining what happens in a sentence modeled after (34a, b) when we try to right-scramble the first person object alone. Interestingly, we obtain a perfectly good sentence, given in (37).

(37)   John-ne   thoDaa saa   chuumaa   hai   mujh-ko.

       John-ERG   a.little.bit   kiss.PFV.MSG AUX   me-KO

       'John kissed me a little bit.'

The fact that this sentence is fully grammatical is surprising under the Agree+EPP approach. The reason is not only that the first person direct object *mujh-ko* is ostensibly not in [Spec, v], but, I claim, that there is no way, under our current assumptions, that it could have targeted [Spec, v] at any point in the derivation without effects on grammaticality.

In order to substantiate this claim, consider first the derivation of (37) under the Agree+EPP approach to OS. Note in particular that, under this approach, it is predicted that the first person DO should target [Spec, v] before RS takes place. This follows in a natural way under our current assumptions: (i) the relevant kind of object has to be licensed through verbal agreement, (ii) v is the closest agreement-bearing licensor the DO has access to, (iii) by hypothesis, agreement between v in the DO activates the EPP-feature associated to v-agreement, yielding Internal Merge of the DO to [spec, v], and (iv) all of these operations take place before the vP level of the derivation is completed, i.e. before RS (which is a remnant movement operation that only enters

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also be capable to vacuously scramble outside the domain, leaving the DO in situ – recall that, under J. Bobaljik's assumptions, this is possible, even though it produces deviance. This should result in a degraded, but not ungrammatical, IO DO sequence, but again, speakers sharply reject such sequences.

Thus, it seems rather difficult to derive the double-*ko* constraint without making OS of the DO strictly obligatory. This is not to say, of course, that it is impossible, but it is something that should be achieved before the counter-analysis proposed by J. Bobaljik can become a valid alternative to my own analysis. By contrast, my proposal here derives the ?? judgment in (34b) from adverb placement, something that is not far-fetched: it is known that tweaking the order of adverbs can have such gradual effects on grammaticality (cf. Cinque 1999).

the picture at the TP stage of the derivation) obtains. It follows that OS is expected to take place before RS, as mentioned.

The example in (37) is remarkable, because it reveals that something is wrong with respect to the scenario just described. The inconsistent factor lies in the preverbal position of the adverb *thoDaa saa*, which is rather unexpected given the relevant derivational guidelines. Since this adverb is canonically merged to VP, we would expect a phrase containing the shifted object to contain the adverb as well, given the following configuration at the second v' stage of the derivation.

(38)
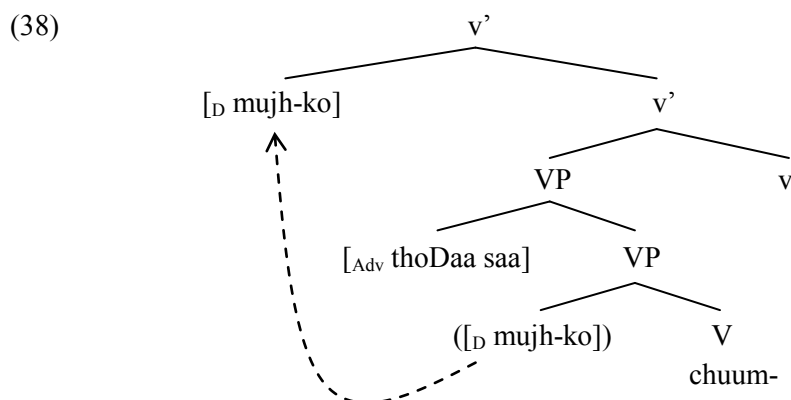
Based on this structure, we predict that RS of a verb-related projection containing the shifted DO should take the adverb with it.[14] However, this does not happen in (37), where the adverb is instead stranded in preverbal position.

How should we explain this state of affairs, given that, under the Agree+EPP approach, we expect the agreed-with DO to target the OS position before RS obtains? Note that the possibility that the adverb could have been merged above the derived position of the object is no longer

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[14] The linear order predicted by these operations in fact attested, cf. (i).

    (i)   John-ne   chuumaa hai mujh-ko   thoDaa saa.
              John-ERG   kissed   AUX me-KO   a.little.bit
              'John kissed me a little bit.'

available to us. Thus, if it were, we would be able to account for *thoDaa saa* stranding via the following configuration at the vP-level of the derivation.

(39)

```
                              vP₂
                       ┌───────┴───────┐
              [Adv thoDaa saa]        vP₁
                               ┌───────┴───────┐
                            [SUBJ]            v'
                                      ┌────────┴────────┐
                                [D mujh-ko]            v'
                                    ↑            ┌──────┴──────┐
                                    ┊           VP             v
                                    ┊      ┌─────┴─────┐
                                    ┊  ([D mujh-ko])   V
                                    ┊               chuum-
                                    └┄┄┄┄┄┘
```
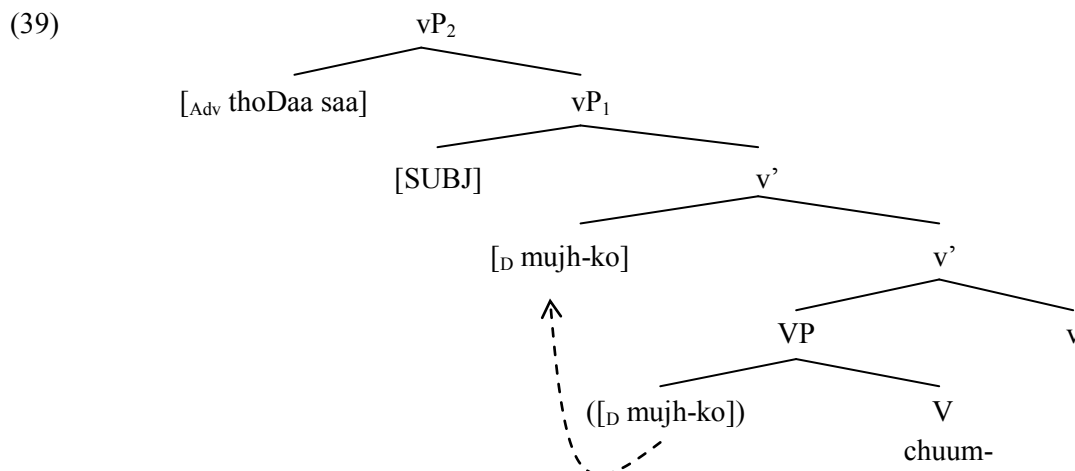
Subsequent RS of vP₁ at the TP level of the derivation (once the verb stem has moved on to T, and the subject has moved to [Spec, T]) would account for the preverbal position of the adverb in (37). However, we already mentioned one particular reason why the vP configuration in (39) should be anomalous: thus, we expect the insertion of the adverb in a non-canonical position to cause deviance as in (34b) (cf. 36), but no such effects are observed in (37), which is a fully grammatical sentence.

How is it then possible for RS in (37) to strand the adverb without any ill-effects?

If anything, we know that the sentence cannot be fully grammatical if the following conditions have not been fulfilled: (i) *v* must agree with the first person direct object, and (ii) the adverb *thoDaa saa* must be merged as an adjunct to the VP. These conditions yield the following structure at the first v' stage of the derivation - I take the relevant configuration to be a necessary step in the derivation of (37).

(40)

```
                                  v'
                    ┌─────────────┴─────────────┐
                   VP₂                           v
            ┌───────┴───────┐               [+1; SP]
     [Adv thoDaa saa]      VP₁                  ↑
                     ┌──────┴──────┐            │
               [D mujh-ko]         V            │
                [+1; SP]        chuum-           │
                    ↑              └─────────────┘
                    └──────────────────┘
              Agree(v, [D mujh-ko])
```
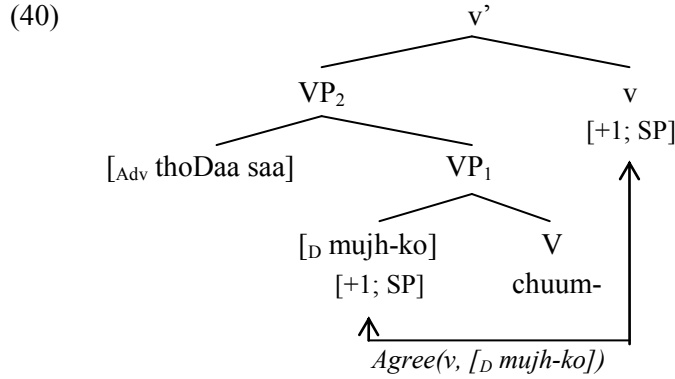
We also know, given evidence from SOV orders, that *v*-agreement causes the agreed-with object to leave its original position. We previously modeled this phenomenon as an EPP requirement associated to v-agreement, and that was indeed sufficient for the evidence at hand. However, if this EPP requirement held in the current context, it would no longer be possible to right-scramble the DO without the adverb undergoing RS as well, as discussed: after the DO moves to [spec, v] to check the EPP-feature of v, any verb-related remnant projection containing the shifted object would also contain the adverb. The fact that the adverb can be stranded without the effects associated to non-canonical VP-adverb attachment, I argue, tells us that the controller of v-agreement does *not* have to move to [Spec, v] before RS takes place. If so, it becomes possible to right-scramble the VP₁ in (7) in order to yield the linear order in (37), where the adverb appears in preverbal position. The relevant derivation is given in (41).

(41)

```
                                        TP
                        _____
                       TP                           VP
             _____              _____
      [DP John-ne]           T'          [D mujh-ko]      tV
                      _____
                    AspP            T
               _____   [V+v+Asp+T chuumaa hai]
              vP          Asp
        _____
  ([DP John-ne])    v'
              _____
            VP           v
        _____      [+1, SP]
  [Adv thoDaa saa]      VP
                  _____
            [D mujh-ko]     tV
              [+1; SP]

        Agree (v, [D mujh-ko])
```
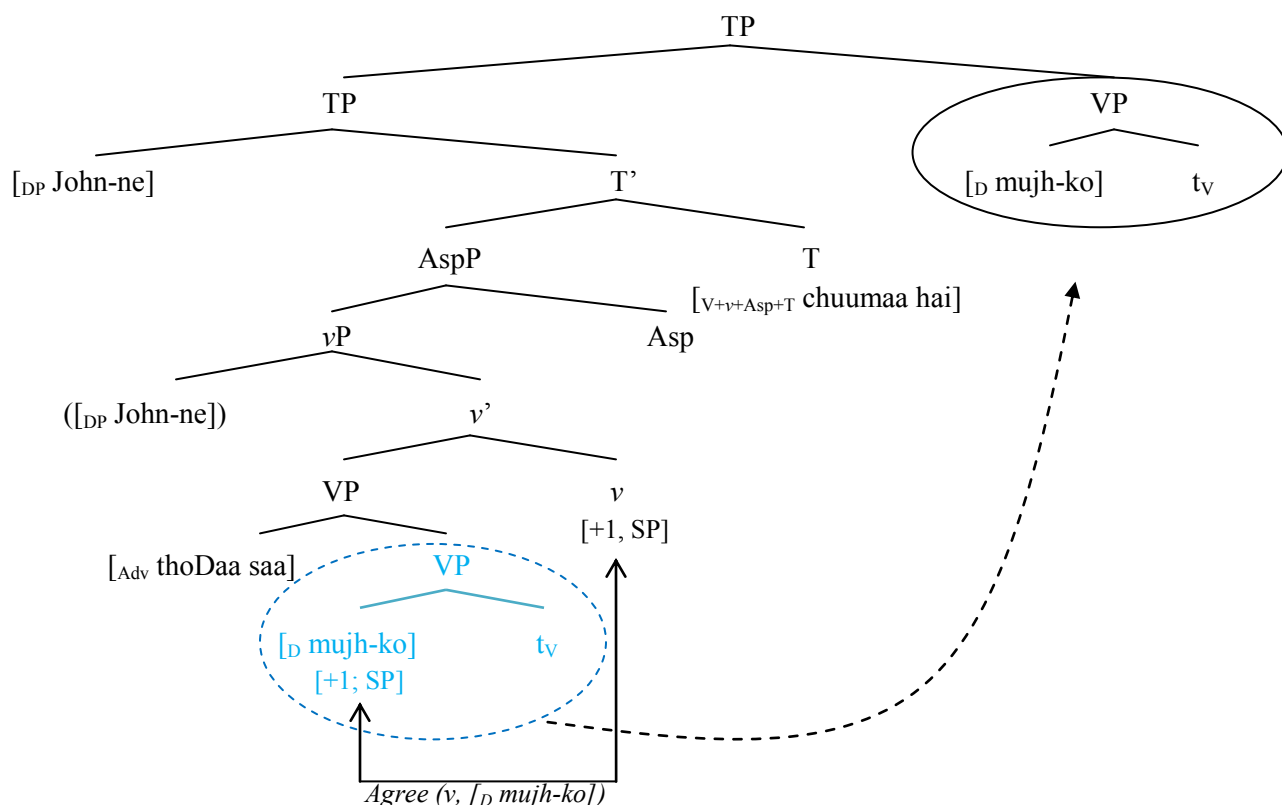
The main point here is that <u>adopting this analysis of sentence (37) does not mean getting rid of the condition that the controller of v-agreement must undergo some kind of movement</u>: it is still the case in (41) that the agreed-with DO has undergone some kind of displacement. While it is true that it remains within VP₁, the latter is no more in its original position, as it has been re-merged in the right periphery of the clause. It follows that the analysis in (41) is still consistent with the idea that there is a movement-triggering condition associated to v-agreement. However, this condition can no longer be characterized as an EPP requirement.

2.8 A c-command restriction on v-agreement

Let us then conclude this section. We know that there is a condition associated to v-agreement in Hindi that requires the agreed-with object to leave its original position. The language offers two

potential targets for these controllers of agreement on v to move to in order to satisfy the relevant condition.

(42)   a. [Spec, *v*] position

        b. Right-scrambled remnant internal position (cf. 41).

Characterizing the movement-triggering condition associated to v-agreement as an EPP requirement would be enough to deal with the OS cases falling under (42a), but becomes insufficient once we want to extend our account to the RS cases (42b). The problem thus amounts to determine what the two positions in (42) have in common, so that they can offer an equally viable way to satisfy the movement-triggering condition associated to v-agreement. The straightforward answer seems to be that neither position is in the c-command domain of the probe v. We might then provide a preliminary characterization of the condition under consideration as a c-command restriction, which prohibits the controller of agreement from staying in the c-command domain of the probe.

(43)   The probe *v* cannot c-command its goal.

The next section of this chapter will try to show that the c-command restriction (43) is not just an accident of Hindi. We will review evidence from Swedish suggesting that (43) is a more general constraint holding on the relation between probes and goals in different contexts in different languages.

3. Object Shift and agreement in Swedish

3.1 Roadmap: what triggers Swedish Object Shift?

As is well-known, Swedish exhibits OS of pronominal objects. The phenomenon can be observed when an element marking the left edge of VP is present, such as certain VP-adverbs. In a range of scenarios, a weak object pronoun might be found to the left of such an adverb, thereby suggesting that it has left the VP. In (44), for example, the left edge of VP is marked by a negative adverb.

(44)   Thomas kysste henne inte [$_{VP}$ t$_V$ t$_{henne}$].

          Thomas kissed   her   not

          'Thomas didn't kiss her.'

The patterns of Swedish OS are extremely variable, however. Depending on the dialect, OS can be obligatory, optional, or impossible (Hellan and Platzack 1995, Josefsson 2007). There are nonetheless some general tendencies, as noted in Joseffson (2007). Thus, while OS is typically optional in monotransitive sentences, it is slightly preferred if the pronoun is clearly presuppositional (i.e. denotes old information). The examples below are from my own data, which are generally consistent with Josefsson's core findings.

(45)   a. Jag kysste henne inte [$_{VP}$ t$_V$ t$_{henne}$]

              I   kissed   her   not

           'I didn't kiss her.'

          b. ?Jag kysste   inte [$_{VP}$ t$_V$ henne]

              I   kissed   not   her

The range of variation is somewhat wider in ditransitive contexts, but there is nonetheless a robust tendency towards OS being optional. In this case, no particular preference emerges with respect to the variants in (46) – note that some individual judgments can differ from this tendency in significant ways, however.

(46)   a. Thomas gav henne den inte [$_{VP}$ t$_V$ t$_{henne}$ t$_{den}$].

        Thomas gave   her   it   not

        'Thomas didn't give it to her.'

    b. Thomas gav   henne inte [$_{VP}$ t$_V$ t$_{henne}$ den].

        Thomas gave   her   not   it

    c. Thomas gav   inte [$_{VP}$ t$_V$ henne den].

        Thomas gave not   her   it

While it is possible for the IO pronoun to shift while the DO remains in situ (cf. 46b), it is on the other hand impossible for the DO to shift across the IO as in (47). Such a configuration, rejected by an overwhelming majority of speakers, falls under the scope of Holmberg's Generalization (Holmberg 1986, 1999, Chomsky 2000, 2001, Bobaljik 2002, Fox and Pesetsky 2005, inter alia), which prevents an object to shift across any overt material that c-commands it within VP (be it a verbal form, a particle, or another object argument).[15]

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[15] Fox and Pesetsky (2005) convincingly argue that Holmberg's Generalization follows from PF conditions on linearization. Their analysis, in a nutshell, is based on the idea that c-command relations holding at the VP level of the derivation are immediately translated at PF into ordering statements, *which cannot be subsequently deleted*. As a result, no constituent X can leave VP if this means crossing over a constituent Y that c-commands the original position of X within VP. The reason is that, at the VP level, PF has already generated a precedence statement such that Y precedes X, based on the fact that Y c-commands X when

(47) *Thomas gav den inte [$_{VP}$ t$_V$ henne t$_{den}$].

   Thomas gave it not   her

The question we face is why Swedish OS takes place when it does. The literature on Scandinavian OS is very rich (cf. Holmberg 1986, Josefsson 1992, Vikner 1994, Holmberg and Platzack 1995, Diesing 1997, Chomsky 2001, Erteschik-Shir 2005, among many many others), and thus there are a number of alternative accounts we might choose from in order to tackle this question. Three families of approaches emerge, however, summarized in (48). [16]

(48) a. *Hypothesis 1*: OS follows from phonological conditions on weak pronouns, which are identified as prosodically deficient elements in need of a prosodic host. An early version of this analysis has OS as a form of cliticization (cf. Holmberg 1991, Josefsson 1992, Deprez 1994, Bobaljik and Jonas 1996). More recently, Erteschik-Shir (2005) has proposed that OS does not take place in syntax at all. Rather, the illusion of syntactic movement of pronouns would be created at PF, as a result of an intricate interplay between the requirement that weak pronominals be prosodically incorporated into a suitable host and a set of constraints on linearization.

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both are in their base positions. If X subsequently leaves VP (under OS, for example), and ends up c-commanding Y from its new position, PF will generate a new statement such that X precedes Y (according to Fox and Pesetsky, this would take place at the next point of Spell-Out, which is CP). If so, we would be left with two conflicting ordering statements, one which tells us that Y precedes X, and another which tells us that X precedes Y. As a result, the derivation would crash at PF. This situation can be avoided if Y and X *both* escape VP, in such a way that they preserve their original c-command relation in their derived positions. If so, the ordering statement generated at the CP level would not contradict the statement that was generated at the VP level. Multiple OS is therefore possible, as long as the normal order of the pronouns inside VP is preserved in their shifted position (cf. 46a).

[16] I leave aside here the hypothesis that OS follows from conditions on Case assignment (cf. Holmberg 1986, Vikner 1994, Holmberg and Platzack 1995), the core idea being (roughly) that a pronoun must be adjacent to its case assigner. This hypothesis has lost momentum in the last decade, as it is fundamentally incompatible with the standard Agree framework.

b. *Hypothesis 2*: OS takes place because elements in the VP are interpreted as new information. Elements that encode old information, such as weak pronominals, must escape this domain. This analysis has its foundations in Diesing (1992)'s Mapping Hypothesis. Variation on this fundamental theme can be found in influential accounts of Scandinavian OS by Diesing and Jelinek (1995), Holmberg (1999), and Bobaljik (2002), among others.

c. *Hypothesis 3*: OS is a consequence of an Agree operation between *v* and a weak pronoun. The former bears an EPP feature, which leads the latter to target its specifier. This hypothesis was first developed in Chomsky (2001), and further explored in Hiraiwa (2001, 2005).

In this section, I will assume from the outset that OS takes place in syntax, for reasons that might be properly syntactic, or pertain to the syntax/semantics interface. In particular, I will assume that one of hypotheses 2 or 3 is essentially on the right track, and thus that identifying the cause of OS amounts to determining which of these hypotheses yields the best results. As a consequence, the first task I will be tackling (sections 3.2 and 3.3) is answering the following question: does OS follow (i) from a licensing requirement holding on pronominal objects (that is, do pronominal objects escape VP because they need to be licensed in a derived position), or does it follow (ii) from an requirement holding on some other item, which would be satisfied by having a pronominal object moving out of VP? In this particular context, I will present evidence that supports the idea that OS does *not* follow from a requirement holding on weak pronouns. As we will see, there are specific contexts in which OS does not take place overtly, and in which the possibility that it obtains covertly is barred by independent constraints. These data provide a compelling reason to think that, in the relevant contexts, OS does not take place at all, and yet the relevant sentences are grammatical. This result, which runs against what hypothesis 2 would

predict, suggests that OS, whenever it obtains, follows from a requirement extrinsic to the pronoun itself, that is, a condition holding on some other item which has yet to be identified. The relevant state of affairs can be preliminarily modeled in terms of an Agree+EPP analysis, whose details will be the subject of sections 3.4 and 3.5. The essentials of this approach are based on hypothesis 3: OS follows from agreement between v and a weak pronoun within VP, as a result of the probe bearing an EPP feature (i.e., OS would be movement to [Spec, v]). This form of agreement would be optional, very much as forms of overt agreement in languages such as Sambaa (Bantu), which will provide the main analogy the approach will be based on. It is important to emphasize that the EPP component of this analysis is only preliminary, and essentially serves as a convenient expository device until we run into a data set that will lead us to reconsider the nature of the condition forcing a weak object pronoun to leave the VP when agreement obtains. The relevant data, which will be introduced in section 3.6, involve patterns of VP-topicalization, which are remarkable because they show that a weak pronoun can stay within a fronted VP despite there being strong reasons to think that agreement did in fact obtain between v and that pronoun. On these grounds, we will arrive in section 3.7 to the conclusion that (as in Hindi) the property of agreement that triggers movement does not introduce a designated position (say, the specifier of the probe) for the goal to move to, nor does it require this movement to target the structural vicinity of the probe. Rather, the relevant property can be described as a c-command restriction, which is satisfied in case the goal escapes the c-command domain of the probe. In the context of Swedish pronominal object movement (a procedure triggered by agreement between v and the weak pronoun), this can be achieved by moving the goal to [Spec, v], since this position is active in the language anyway, but the possibility also exists of having the pronoun leave the c-command domain of the probe as part of a fronted VP.

Before we start, it seems necessary to briefly explain why I do not assume the cause of OS to be phonological - that is, to explain why I put hypothesis 1 aside. The reason is certainly not that there is no phonological side to OS. If anything, there is a considerable body of research that

shows to what extent the distribution of OS is restricted by phonological factors, such as PF filters on linearization or sensitivity to pronominal 'heaviness' (cf. Holmberg 1999, Fox and Pesetsky 2005, Josefsson 2007, 2010, inter alia). The reason is instead that phonological approaches to OS, which are all based on the fundamental assumption that weak pronouns are prosodically deficient items which have to incorporate into a prosodically autonomous host (cf. references in 48a), have a hard time explaining why OS fails to occur in a set of contexts where we would expect it to take place, given the relevant assumption. One context of this kind is found in Swedish, where OS happens to be optional (in contexts that do not fall under Holmberg's Generalization), and a non-shifted pronoun need not bear stress. The relevant state of affairs is exemplified in (49), the concrete problem for hypothesis 1 being that OS does not obtain in (49b).

(49)   a. Jag kysste henne inte [$_{VP}$ t$_V$ t$_{henne}$]

           I   kissed   her   not

         'I didn't kiss her.'

         b. ?Jag kysste   inte [$_{VP}$ t$_V$ henne]

            I   kissed   not   her

It is certainly possible to account for the occurrence of OS in (49a) in terms of pronominal incorporation to the finite verb (which sits outside VP). A first question arises with respect to how this should be implemented, however. If anything, it seems unlikely that pronominal adjunction to the verb obtains as soon as possible in syntax. In such a scenario, we would expect an object pronoun to adjoin to V at the VP level, before V moves to T. However, as Vikner (2005) points out, this predicts that the pronoun should be closer to the verbal stem than the tense affix (yielding for example the form /*kyss-henne-te*/ in 5a), contrary to case. It would therefore seem

that pronominal incorporation must obtain after V has moved to T, i.e. late in the syntactic derivation, or post-syntactically.

But the crucial question, of course, is how (49b) fits into this picture. It seems to me that there is no satisfactory answer to this question from hypothesis 1. We might try to make sense of this example by saying that the pronoun can incorporate/cliticize onto a verbal form (for example *kysste* in 49a) as well as onto an adverbial form (for example *inte* in 49b), irrespective of which one is closest. But if this were the case, we would be at odds to understand why an object pronoun cannot incorporate into a medial adverb in the typical Holmberg's Generalization context.

(50)   a. Jag har   inte kysst   henne

             I   have not   kissed   her

         b. *Jag har   inte henne kysst.

             I   have not   her   kissed

In this kind of situation, an approach in terms of hypothesis 1 is forced to stipulate relations of priority between potential hosts (in such a way that some items, if present, will take precedence over others as targets of pronominal incorporation), a suspicious move on explanatory grounds.[17] There is another context, however, in which even stipulating a hierarchy of potential hosts will not be enough to account for the failure of OS in terms of hypothesis 1. Thus, it has been noted

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[17] In order to find a way out of this problem, one might assume that incorporation/cliticization can be fed by a preliminary application of object movement in syntax. Thus, on the one hand, since object movement out of VP is possible in (49), incorporation into the finite verb is allowed. On the other hand, since object movement out of VP is not possible in (50) by virtue of Holmberg's Generalization, it is not possible for the pronoun to incorporate into any potential VP-external host. Such an approach backfires, of course, since it dissociates OS (now understood as object movement out of VP) from the requirement holding on the weak pronoun that it incorporates into a host. In (49a), for example, OS does not have to take place in order for the pronominal to find a host, and thus we are at a loss to understand why it should happen at all.

that OS can also fail (despite the expectation from the phonological approach that it should obtain) depending on the antecedent of the weak pronoun (cf. Andreasson 2009). In particular, whenever the antecedent of the pronoun is a VP or a CP that is the at issue component of a yes-no question, OS is systematically blocked in the answer to that question.[18] In (51), for example, OS of *det* (whose antecedent is the VP at issue in A's question) is impossible in B's answer.

(51)   A: Ate du någon frukt?

   ate you some fruit

   'Did you eat some fruit?'

  B: Nej, jag gjorde {*det} inte {^{ok}det}

   No, I did it not it

This is of course unexpected under the assumption that OS follows from a prosodic requirement on weak pronouns. The main point here, however, is that this restriction is lifted in case the pronoun refers to information that has already been established as part of the common ground. In (52), for example, the pronoun *det* takes as antecedent the VP of the first propositional conjunct (which turns out to be an assertion). There is no restriction on the shiftability of the pronoun in the second propositional conjunct, even though it is a very similar environment to B's answer (cf. 51 above) in prosodic terms.

(52)   Agnes ville köpa boken, men hon gjorde {^{ok}det} inte {^{ok}det}.

  Agnes wanted to.buy book.the, but she did it not it

  'Agnes wanted to buy the book, but she didn't do it.'

---

[18] This analysis, based on my own data, differs from that of Andreasson (2009). I will return to this point in section 3.4.

These examples are relevant because they show that not only a weak pronoun can resist OS in ways that turn out to be unexpected under the phonological approach, but, more importantly, because they show that the relevant restriction on OS correlates with discourse-related properties of the pronoun involved, not with differences in prosody (cf. Mikkelsen 2011 for similar observations on Danish specificational copular clauses).

On these grounds, I submit that, while phonological considerations might certainly restrict its occurrence (in sometimes subtle ways), OS does not follow from a phonological requirement on weak object pronouns. I will now return to the main line of discussion, in which we will first focus on testing some of the predictions of hypothesis 2.

3.2 Predictions of hypothesis 2

Consider then again hypothesis 2, repeated here in (53).

(53)   *Hypothesis 2*

> OS takes place because elements in the VP are interpreted as new information. Elements that encode old information, such as weak pronominals, must escape this domain.

The main prediction of hypothesis 2 is that nominals encoding old information should be found outside VP. Focusing on Swedish, however, we are already aware of two cases in which this prediction appears to be disconfirmed. First, OS of weak pronominals is essentially optional in contexts that do not fall under Holmberg's Generalization, and this optionality does not correlate with whether the pronoun encodes old information or not (cf. 54). While it is true that speakers show a certain preference towards shifting presuppositional weak pronouns, leaving them in situ

is also generally found acceptable (Josefsson 2007, 2010). This is unexpected under hypothesis 2, which predicts that such pronouns should be licensed outside VP.

(54)   a. Jag kysste henne inte [$_{VP}$ t$_V$ t$_{henne}$]

       I   kissed   her   not

     'I didn't kiss her.'

    b. ?Jag kysste inte [$_{VP}$ t$_V$ henne]

       I   kissed   not   her

A second situation that appears to be problematic for (53) is that OS is completely blocked in Holmberg's Generalization contexts, not only in Swedish (cf. 55), but in Scandinavian at large. This does not prevent object pronouns from encoding old information in such contexts, however (cf. Diesing 1997), and hence brings hypothesis 2 into question.

(55)   Jag har {*henne} inte [$_{VP}$ kysst {henne}].   (Holmberg 1999)

     I have her   not   kissed   her

    'I have not kissed her.'

The behavior of weak pronouns in Swedish is challenging for an approach in terms of hypothesis 2, but the challenge is not limited to pronominals. As is well-known, OS of full DPs is unavailable in most Scandinavian languages (including Swedish, cf. Thráinsson 2001, Vikner 2005), irrespective of whether the relevant DP encodes old or new information.

(56) Studen läste {*boken} inte [$_{VP}$ t$_V$ {boken}]

student-the read book-the not book-the

'The student read the book.'

These problems have been known since Diesing (1992)'s formulation of the Mapping Hypothesis, which marks the inception of hypothesis 2. Taking the Mapping Hypothesis to its ultimate consequences, Diesing's own treatment of these cases is based on the assumption that OS always happens whenever it is expected given the semantic properties of the objects involved. The apparent failure of OS in the relevant contexts would then come from the fact that in those cases OS takes place *covertly* rather than overtly (cf. Diesing 1992, 1997, Diesing and Jelinek 1995). A straightforward implementation of this idea, based on Bobaljik (2002), would be to assume that it is the lower copy of an OS chain that gets pronounced in (54b) and (55), as well as in (56) in case the relevant object DP receives a specific interpretation.[19] The relevant state of affairs is illustrated in (57), where I focus on the pronominal cases. Thus, in both (57a, b) pronominal OS takes place as expected under hypothesis 2. In (57a), either copy of the OS chain can be pronounced, a property of Swedish that distinguishes it from the rest of Scandinavian languages. In (57b), a Holmberg's Generalization context, Swedish behaves as the rest of Scandinavian languages in that only the lower copy of the OS chain can be pronounced (cf. Bobaljik 2002 and Fox and Pesetsky 2005 for alternative approaches as to why this should be so - the latter approach is summarized in footnote 14).

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[19] The status of full object DP's in the various instantiations of Diesing's theory is more complex. I abstract away from it here for the sake of clarity, as it is not essential for our purposes.

(57)   a. Jag kysste <henne> inte [$_{VP}$ t$_V$ <henne>]

I   kissed   her   not   her

| Higher copy pronounced: overt OS | | Lower copy pronounced: covert OS |

b. Jag har <henne>   inte [$_{VP}$ kysst <henne>].

I   have   her   not   kissed   her

| Higher copy cannot be pronounced (Holmberg's Generalization) | | Lower copy pronounced: covert OS |
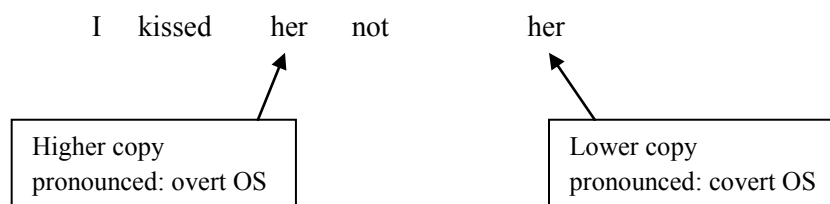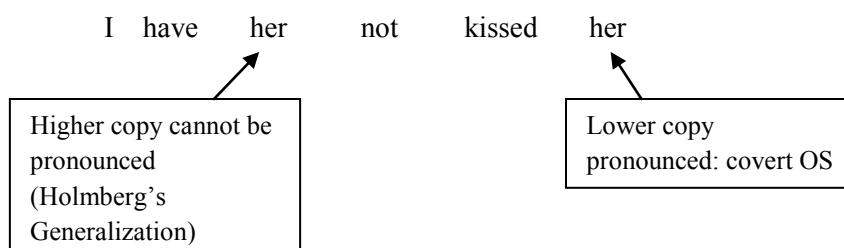
What is relevant for our purposes here is that this *covert OS hypothesis* is not merely consistent with hypothesis 2. Given the assumption that OS follows from a licensing requirement holding on presuppositional objects, the observation that OS is optional or blocked in contexts where we would expect it (without any serious effect on grammaticality) leads to the covert OS hypothesis as a *necessary* addition to hypothesis 2.[20] Put another way, hypothesis 2 predicts that, if an object encoding old information (such as a weak pronoun) is found in situ, there should be a non-pronounced copy of that object in the usual OS position. It is that prediction that we will challenge in the next subsection.

3.3 Testing the covert OS hypothesis

The kind of configuration we will be using to test the covert OS hypothesis is instantiated in example (58). The relevant sentence is a Holmberg's Generalization context, where the non-finite

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[20] The alternative seems to be that presuppositional objects can be licensed in situ under certain conditions, which only restates the problem.

verbal form stays within VP and prevents any pronominal object from undergoing OS overtly. Another important feature of (58) is that it involves a coordinate structure (henceforth &P) in direct object position, which combines an unstressed pronominal conjunct (*mig*, 'me') with an indefinite DP conjunct (*en apa*, 'a monkey').

(58)   Lena har ofta [VP kysst [&P mig och en apa]].

        Lena has often   kissed   me and   a   monkey.
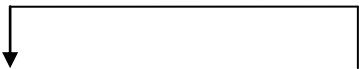
It seems fairly reasonable to assume that the 1st person weak pronoun *mig* encodes old information (or at least can do so, and I will henceforth limit the discussion to the relevant interpretation of this pronoun). The fact that it is found in situ within VP is unexpected under hypothesis 2, and leads, as mentioned, to the expectation that there should be a non-pronounced copy of this pronoun in the usual OS position outside VP. What I will try to show in this subsection is that this expectation cannot be fulfilled, or at least runs into serious difficulties.

3.3.1 CSC effects on covert movement

One straightforward way to implement the covert OS hypothesis in (58) is by assuming that the pronoun alone moves to (i.e. is copied into) the OS position, to the left of the medial adverb *ofta*, as in (59).

(59)   Lena har <mig> ofta [VP kysst [&P <mig> och en apa]].

        Lena has   me   often   kissed   me and   a   monkey.

There are some reasons to think that this particular procedure is not possible, however. The reason is that even *covert* extraction of a conjunct in this language seems to be sensitive to the

Coordinate Structure Constraint (CSC, Ross 1967). This is suggested first and foremost by the fact that a universal quantifier cannot undergo QR if it is embedded in an &P. To illustrate this, compare the two examples in (60). In (60a), where an existentially quantified DP occupies the subject position, it is possible for the universally quantified DP in PP complement position to take wide scope, a straightforward case of scope ambiguity.[21] In (60b), on the other hand, the universally quantified DP is embedded in a coordinate structure (involving two VP conjuncts), and becomes unable to take scope over the subject (examples from Björn Lundquist, p.c.).

(60)   a. En geolog har skickats till varje nyupptäckt ö. $^{ok}\exists > \forall$

          a geologist has been.sent to every newly.discovered island $^{ok}\forall > \exists$

        'A geologist has been sent to every newly discovered island.'

---

[21] The inverse scope reading is less salient in active sentences, which is the reason I am using a passive sentence here. I assume that the difficulty of getting this reading is tied to the presence of a phasal boundary at the vP level, which is a potential (and closer) target for QR. No such phasal boundary would be associated to passive vPs. Whether this is on the right track or not, I discard the possibility that the inverse scope reading in (60a) stems from reconstruction of the indefinite subject in its original low theta-position (where it would no longer take scope over the universal). DPs undergoing passive movement cannot be reconstructed in this way, as shown by the fact that the indefinite subject in (i) must necessarily be interpreted as referential. Hence, (i) only means that there is a specific monkey, such that this monkey has often been kissed by Lena.

(i)   En apa   har ofta blivit kysst av Lena. ^{ok}*en apa > ofta*
        A   monkey has often been kissed by Lena.   **ofta > en apa*

If it were possible to reconstruct the indefinite in its base position, we would expect it to be able to take narrow scope under *ofta*. And in fact, such a reading is possible when the indefinite occupies the direct object position in an active sentence.

(ii)   Lena har ofta kysst en apa. ^{ok}*en apa > ofta*
        Lena has often kissed a monkey. ^{ok}*ofta > en apa*

I interpret the availability of this reading to follow from the interpretation of the indefinite in its base position, where it is in the scope of *ofta*. We would expect this interpretation to be available in (i) if the indefinite subject could be reconstructed in its base position. Note that the specific interpretation of the indefinite above *ofta* in (ii) is not unexpected, since indefinites can always be interpreted referentially (Fodor and Sag 1982).

b. En geolog   har [&P [VP skickats   till varje nyupptäckt   ö]

a geologist has   been.sent to every newly.discovered island

och [VP inspekterat mineraltillgångarna]].   ᵒᵏ∃ > ∀

and   inspected   mineral.resources   *∀ > ∃

'A geologist has been sent to every newly discovered island and inspected its mineral

resources.'

There is additional evidence that covert extraction of a single conjunct is ruled out, although it
relies somewhat more on particular theoretical assumptions. The relevant domain has to do with
the status of wh-in-situ elements as found in multiple wh-questions such as (61). These elements,
despite being pronounced in the position in which they are generated, are interpreted in a much
higher position, suggesting that they undergo a covert form of movement (Huang 1982, Lasnik
and Saito 1992, Richards 2001, Grewendorf 2001).

(61)   Vem har besökt vem?

who has visited who

The natural reading of (61) has the lower wh-word taking clausal scope, as evidenced from the
possibility of a pair-list answer to the relevant question (i.e., *Morten has visited Lena*, *Thomas
has visited Anna*, *Olga has visited Björn*, etc.). It is often thought that this interpretation results
from the relevant wh-word covertly moving to [Spec, CP]. Assuming this analysis to be on the
right track, it is interesting to note that a multiple wh-question becomes ungrammatical (as a true
question) if the in situ wh-word is embedded in an &P, as in (62) (the relevant sentences are fine
in case both wh-words receive an echo interpretation). Under the assumption that in situ wh-

words must undergo covert movement to the left periphery, this fact suggests that the CSC prevents covert extraction of the wh-conjunct.[22]

(62)   a. *Vem har besökt [vem och Thomas]?

            who has visited who and Thomas

        b. *Vem har besökt [Thomas och vem]?

            who has visited Thomas and who

It would therefore seem that covert extraction from an &P is restricted, in ways that are reminiscent of the CSC restrictions on overt movement. This brings into question the viability of the analysis in (59), and invites us to implement differently the form of covert OS in contexts in which the pronoun is embedded in an &P.

3.3.2 Covert pied-piping and the problem of the narrow scope of the indefinite

The natural alternative, always under the assumption that the pronoun *must* shift in order to be licensed, is that the whole &P is covertly pied-piped to the OS position, as in (63).

(63)   Lena har <[&P mig och en apa   ]> ofta   [VP kysst <[&P mig och en apa   ]>].

        Lena has   me and a monkey often   kissed   me and a monkey

---

[22] The argument, of course, will not go through if we assume that the semantics of in situ wh-words involves unselective binding (Lewis 1975, Heim 1982) or existential quantification over choice functions (Reinhart 1998).

An immediate problem with this form of the covert OS hypothesis is that it fails to capture the scopal properties of the indefinite DP conjunct. Thus, the DP *en apa*, 'a monkey' can be interpreted as taking scope over the medial adverb *ofta* 'often', and this is in fact the most salient interpretation of sentence (58). However, the indefinite can also be interpreted as scoping under this adverb, as if it had not left the VP. This latter interpretation is difficult for speakers to get when the sentence is uttered out of the blue, but it becomes perfectly fine in the right context.[23] The relevant state of affairs is summarized in (64).

(64)   Lena har ofta [$_{VP}$ kysst [$_{\&P}$ mig och en apa]].   *ofta > en apa*

        Lena has often   kissed   me and a monkey.   *en apa > ofta*

The reading in which the indefinite DP conjunct takes scope under the adverb puts the analysis in (63) in a thorny situation because, by hypothesis, this indefinite must undergo OS with the rest of the &P. In order to get the relevant interpretation, it is then necessary that the indefinite is reconstructed in its base position *after* OS takes place.[24] It is worth noting that no such

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[23] One such context is the following: Thomas and Lena are caretakers in a zoo, where they take care of the monkey section. Every week a new group of monkeys arrives, and Thomas and Lena have adopted a system to make them more comfortable with their new human company. Thomas takes one of the new monkeys by the hand, and then approaches Lena, who kisses them both on the forehead, first Thomas and then the new monkey. This drill is repeated with each new monkey in each weekly group, and thus each week a new forehead-kissing session starts with new monkeys. After two years of doing this, if there is anything Thomas can brag about, it's that *Lena har ofta kysst mig och en apa*, 'Lena has often kissed me and a monkey', where the monkey can be a different one for each kissing event *ofta* 'often' quantifies over.

[24] This analysis seems rather abstract, as it relies on a covert movement procedure followed by a reconstruction mechanism, yielding no (LF or PF) interpretive effect whatsoever relative to the indefinite conjunct. It is true that the relevant analysis has a somewhat stipulative flavor, especially when it is conceived as a sequence of operations (covert movement + reconstruction). However, the possibility that movement could take place without any interpretive effect is in fact predicted by the copy theory of movement. Under this theory, the analysis in (19) would be quite sensible. Thus, as discussed in Bobaljik (2002), the copy theory of movement predicts a four-way typology of movement operations, depending on which of the copies of a, say, two-link chain created by movement is interpreted at LF and PF, respectively (where *interpreted at PF* means that the relevant copy is the one that ends up being pronounced, and *interpreted by LF* means that the relevant copy is the one mapped into the semantic representation). For example, PF and LF could both focus on interpreting the higher copy (overt movement). An alternative scenario is that PF interprets the lower copy and LF the higher one (covert movement). The reverse situation has PF interpreting the higher copy and LF the lower one (reconstruction). These three movement types, all predicted by the copy theory of movement, are robustly attested. But there is a fourth possibility,

reconstruction mechanism should apply to the pronominal conjunct. This conjunct must necessarily be interpreted in the OS position, because, under hypothesis 2, OS itself follows from the LF-related requirement that elements encoding old information are not found within VP (which, in the mapping to semantics, is the domain reserved to new information). Put another way, adopting the analysis in (63) forces us to assume that one of the conjuncts (the indefinite) can be interpreted in a lower position than the one the whole &P targets, whereas the other conjunct (the pronominal) is interpreted in the target position: let us call this procedure *single conjunct reconstruction* [SCR]. The relevant procedure is described in (65), as it should apply in order to account for the narrow scope reading of the indefinite in (64).

(65)   Lena   har   <[&P mig och   en apa   ]>   ofta   [VP kysst   <[&P mig och   en apa   ]>].
        Lena   has   me and   a monkey   often   kissed   me and   a monkey

The pronominal conjunct must be LF-interpreted in the OS position.

The indefinite conjunct is LF-interpreted in its base position rather than in the position targeted by the &P.

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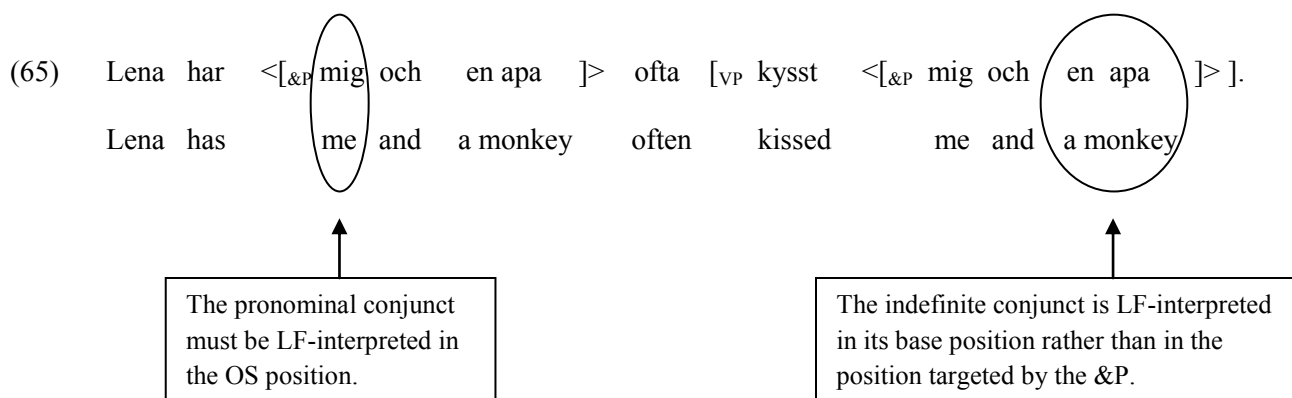
which is that PF and LF both focus on the lower copy. In such a scenario, the higher copy is a real syntactic artifact but yields no interface effects. This is the kind of procedure the analysis in (59) would need to assume in order to account for the narrow scope interpretation of the indefinite DP conjunct in the relevant sentence. The whole &P is copied in the OS position, and the pronominal conjunct is indeed LF-interpreted in that position (as this follows from the requirement that elements with presuppositional meaning be mapped as part of the restriction, namely outside VP, per Diesing's assumptions). The representation in (63), however, would allow LF-interpretation of either copy of the indefinite DP conjunct. If the higher copy is interpreted at LF, we obtain covert pied-piping of the whole &P. If, on the other hand, it is lower copy that is LF-interpreted, a possibility consistent with the predictions of the copy theory of movement, we expect the indefinite DP conjunct to be interpreted in the scope of the medial adverb *ofta*, 'often'. Under this analysis, it is not necessary to think of the relevant reading as the result of a sequence of covert operations. It only follows from LF picking the lower copy of the indefinite instead of the higher one. It is possible that there is a processing cost associated to LF-interpreting the conjuncts in distinct positions: this might explain why the wide scope interpretation of the indefinite is generally preferred in the absence of a disambiguating context.

The goal of this subsection is to show that there are reasons to think that the covert pied-piping approach to (64) (as in 63, complemented with the possibility of SCR in order to account for the narrow scope reading of the indefinite) yields the wrong predictions. The main reason stems from the fact that &P movement is only possible when both conjuncts are licensed in the target position (cf. Zwicky and Pullum 1986, Camacho 2003). In wh-movement contexts, for example, it is not possible for a regular, non-interrogative DP to be conjoined with a wh-word that undergoes movement to the left periphery (cf. 66). The reason is that only the wh-word is licensed in the target position.

(66)   *[Vem   och   Thomas]   har   du   sett?
          who   and   Thomas   have   you   seen

This restriction has some consequences for the analysis in (63). In order for &P movement to be possible at all, it must be the case that *both* the pronominal conjunct and the indefinite DP conjunct are licensed in the target position. Otherwise, the covert pied-piping operation would produce the same kind of ungrammaticality as (66) does. Now, that the pronominal conjunct must be licensed in the OS position is not a novelty: that is exactly the motivation behind the covert OS hypothesis. But what does it mean for the analysis in (63) that the indefinite conjunct must also be licensed in the OS position? Under hypothesis 2, OS is a consequence of the requirement that elements encoding old information escape VP. If the indefinite conjunct must target the OS position in order to be licensed, it must mean that it also encodes old information. In other words, it is necessary that the indefinite DP conjunct is *referential* for the analysis in (63) to go through. We can summarize this observation as in (67).

(67)   Under hypothesis 2, the indefinite DP conjunct in (58) is predicted to encode old

        information. Otherwise, movement of the &P containing it out of VP would not be

        possible.

This is, I claim, a major drawback for the covert pied-piping analysis, because a

referential/specific indefinite would not take narrow scope with respect to *ofta* in (64). As is well-

known since Fodor and Sag (1982), referential indefinites take exceptionally wide scope,

irrespective of the syntactic context they are found in. It is nonetheless possible for the indefinite

DP conjunct in (64) to be assigned a non-referential (narrow scope) interpretation. This is

unexpected given (67). Insofar as this narrow scope interpretation is fundamentally incompatible

with the status of the indefinite conjunct as referential/specific (which is what, under hypothesis

2, motivates OS in the first place), I conclude that hypothesis 2 misses its mark.

Notice that, once (67) is established, postulating a SCR procedure as in (65) will not be of much

help to save the analysis in regard to the narrow scope reading of the indefinite: precisely because

the indefinite conjunct must be assumed to encode old information, it follows from hypothesis 2

that it should be LF-interpreted outside VP, i.e., outside the domain reserved to new information.

This fundamental assumption concerning the mapping of syntactic structure onto semantics

prevents the possibility of applying the SCR mechanism described in (65) if the indefinite stands

for old information.

There is yet another, related reason to mistrust the covert pied-piping analysis described in (63,

65), which is that the SCR procedure (theoretically necessary to account for the narrow scope

reading of the indefinite, cf. 64) seems not to be available in A-movement contexts. For example,

the relevant procedure is not possible in passive configurations, as (68) illustrates.

(68) Jag och en apa   har   ofta blivit kyssta   av Lena.

      I   and a monkey have often been kissed.PL by Lena

en apa > ofta

*ofta > en apa

The indefinite conjunct in subject position (*en apa*, 'a monkey') must be interpreted as taking scope over the medial adverb *ofta* 'often'. It cannot be interpreted as taking narrow scope under it. This is unexpected under the assumption that SCR is available in the relevant context because, if it were, it should be possible to interpret the indefinite in its base position (that is, the internal argument position within VP), where it would take narrow scope under the adverb *ofta*. Since no such reading is available, it seems safe to conclude that SCR is not allowed in (68). More generally, this datum suggests that SCR cannot apply to A-chains.

Of course, this only becomes an objection to the analysis in (65) if OS is itself a form of A-movement. In this context, it is interesting to note that the literature on Scandinavian OS frequently identifies it as A-movement (cf. Holmberg 1986, Chomsky 1993, Jonsson 1996, Bobaljik 2002, Vikner 2005, among many others). Assuming so is not far-fetched, as Scandinavian OS is in fact clause-bound and cannot license parasitic gaps (cf. Holmberg 1986, Vikner 2005). This would seem to put analysis (65) in a bind, since SCR appears to be blocked in A-movement contexts. While this is not a lethal problem for the analysis under consideration, it casts some doubts on its viability. In particular, it should be shown that OS is not A-movement, but there seems to be no evidence pointing in that direction.[25]

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[25] Holmberg and Platzack (1995) claim that OS is unable to create new binding relations, which would suggest that it is not A-movement. However, Thrainsson (2001:175-178) shows that Holmberg and Platzack's analysis of the relevant data relies on assumptions whose validity is rather unclear.

3.3.3 Conclusions with respect to hypothesis 2

We have explored two straightforward ways to analyze sentence (58) (repeated here in 69) under hypothesis 2. As discussed, this hypothesis leads us to the expectation that there should be a silent copy of the pronoun *mig* in the OS position.

(69)   Lena har ofta [$_{VP}$ kysst [$_{\&P}$ mig och en apa]].
       Lena has often kissed me and a monkey.

In 3.3.1, we discussed the possibility that the pronoun is extracted alone from the object &P. This alternative was discarded, as it conflicts with QR and multiple wh-questions data suggesting that covert movement is sensitive to the CSC. In 3.3.2, we considered the alternate possibility that the whole &P is covertly pied-piped to the OS position. It was shown, based on a particular restriction on &P movement, that this analysis requires the indefinite conjunct in (69) to be referential. Since no such restriction is observed in the data (the relevant indefinite can in fact receive a non-specific interpretation), we are led to reject the covert pied-piping analysis.

The overall situation is unsolvable for hypothesis 2, which does not pass the test successfully. Thus, the pronoun should undergo OS covertly in order to be licensed, but it cannot be extracted alone, and pied-piping the whole &P predicts the wrong range of interpretations for its indefinite DP conjunct. It is far from obvious that there is another way for the pronoun to reach the OS position, and I will henceforth assume that there is not.

What this means for (69) is that there is no silent copy of the pronoun in the OS position. The sentence is nonetheless perfectly grammatical, which points to the conclusion that OS is not required of weak pronouns. This conclusion argues against hypothesis 2, and supports what

seems to be the null hypothesis with respect to Swedish OS, which is that the position of weak pronouns in the surface string signals their highest position in the tree.[26]

3.4 An Agree+EPP approach 1: the basics

As mentioned at the outset, the first question we face is why OS takes place when it does. At this point, we seem to have some plausible reasons to think that OS does not follow from a requirement holding on weak pronouns. In other words, OS does not take place because the relevant weak pronoun needs it to: it does not obtain because the pronoun is prosodically deficient, or because it needs to be licensed in a different syntactic position than the one in which it is generated. We have seen that approaches based on these assumptions either fail to capture the distribution of OS or yield the wrong predictions concerning the interpretation of a particular set of sentences in which the relevant weak pronoun is embedded in a coordinate structure.

Now, if OS does not stem from a requirement inherent to the pronoun itself, it seems reasonable to assume that it follows from an extrinsic requirement - a requirement holding on some other item, which has not been properly identified. This is the line of analysis I will be pursuing in the

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[26] As J. Bobaljik (p.c.) points out, an alternative implementation of hypothesis 2 is conceivable in which the requirement that presuppositional items escape VP could be formulated as a soft, violable constraint. This line of analysis has been suggested in Diesing (1997:421ff.), and developed in an OT framework by Vikner (1997) and Broekhuis (2000). This kind of approach tolerates a certain degree of mismatch between the syntactic structure of a linguistic expression and its semantic interpretation, as long as the constraint this mismatch violates is ranked lower than the constraint that would be violated if no such mismatch existed. Thus, OS can be blocked if the constraint it satisfies is ranked lower than the constraint that would be violated if it occurred.

From the point of view of the architecture of grammar, it is far from clear that such an analysis could be implemented in a model in which semantic interpretation feeds on the outcome of a syntactic derivation (which is, of course, the model I presuppose here), a point made by Diesing herself (cf. op. cit.). At the empirical level, on the other hand, it would seem that making the requirement that presuppositional items escape VP a soft constraint is not very helpful in accounting for the optionality of OS in Swedish. Thus, while it might be the case that the relevant requirement is a soft constraint, it is nonetheless still a constraint, which must be satisfied in case no overriding constraint enters the picture. However, we saw that pronominal OS in Swedish is optional in contexts in which Holmberg's Generalization is not at issue, and this optionality has no obvious semantic correlate – it seems in fact that it has no correlate at all. In such contexts, nothing blocks OS, and thus we would expect the latter to occur systematically, even under a soft constraint analysis of the OS requirement. Assuming that the constraint can be violated even in the absence of a distinct overriding constraint is ostensibly not a solution, as it only restates the problem.

next subsections. Under this perspective, the shape of the problem is as follows: some item is attracting the pronoun out of VP, an item that needs this procedure to take place in order to be licensed, and whose presence in the derivation is optional in most varieties of Swedish, but obligatory in other Mainland Scandinavian languages. The question arises as to what this item is. The goal of this subsection and the next is to show that the relevant state of affairs can be straightforwardly modeled in terms of agreement, following the basic guidelines of hypothesis 3 (cf. 48c). The basic idea of this approach is that OS is a consequence of a prior agreement procedure between a functional head H and a pronominal in the VP. A condition is associated to the relevant form of agreement, which causes the pronoun to escape VP. The landing position of this movement operation is presumably found in the local domain of the functional head H, very much as derived subjects target the local domain of the Tense head (this assumption seems plausible and follows the standard conception of the connection between agreement and movement, but it will be necessary to modify it later, as we will see).

Let us then flesh out in more detail the assumptions this agreement+movement analysis of OS will be built on. There are four such assumptions. First, I assume the functional head that attracts the pronoun to be v, a category that is traditionally thought of as the locus of object agreement. Following fairly standard assumptions, I take v to be a probe seeking for matching goals in the VP domain.

Second, I assume that v bears an unvalued feature [uPRON], which is the component that transforms it into a probe. Allow me to devote some time to elaborate on this particular point. The feature [PRON] is intended here to characterize the set of nominals that can undergo OS. These nominals would have to satisfy two conditions: a structural condition, and a semantic condition. On the structural side, I take the relevant nominals to be heads, not phrases. The reason is that OS is impossible with objects that exhibit some degree of syntactic complexity. For example, OS of a possessive pronoun is allowed (70a), as long as (among other conditions) this pronoun does not take an NP complement as in (70b).

(70)   a. Han såg mitt ansikte, men han såg   {ditt} inte {ditt}.

         he   saw my   face   but he saw your not   your

         'He saw my face, but he didn't see yours.'

         b. Han såg mitt ansikte, men han såg {*ditt ansikte} inte {ditt   ansikte}.

         he saw my   face   but he saw   your face   not   your face

         'He saw my face, but he didn't see your face.'

A demonstrative can also shift alone (71a), but not if it is associated to a head encoding proximity/remoteness (71b). I take this kind of complex demonstratives to be phrasal.

(71)   a. Jag såg {^{ok}det} inte {^{ok}det}

         I   saw that/it not   that/it

         'I didn't see it / I didn't see that.'

         b. Jag såg {*det   här}   inte {^{ok}det   här}

         I saw   it.NEUT PROX not   it.NEUT PROX

         'I didn't see this (one).'

It is interesting to note that the non-anaphoric third person possessive *hans*/*hennes*/*dess* 'his/hers/its' (which displays the possessive morpheme /-s/) also fails to shift (72). However, it does not seem obvious at first sight that we are dealing with a phrasal projection in this case, rather than a head.

(72)   Han såg mitt ansikte, men jag såg {*han-s   }   inte   {^ok han-s   }.

        He saw my   face   but I saw he-POSS   not   he-POSS

        'He saw my face, but I didn't see his.'

The failure of this kind of possessive to undergo OS becomes more puzzling when we consider

that possessives belonging to the regular paradigm (e.g. *min*/*din*/*sin*/etc.(non-neuter);

mitt/*ditt*/*sitt*/etc.(neuter); *mina*/*dina*/*sina*/etc.(plural)) are in fact able to shift (cf. 70a).

Given the assumption that heads can undergo OS, but phrases cannot, is it plausible to make

sense of the above contrast by saying that the *hans*-type possessive is a phrase, while regular

possessives such as *ditt* in (70) are heads? I believe it is. This analysis finds some support in the

fact that the possessive morpheme /-s/ plays an active role in a wide range of possessive DP

constructions in Swedish that follow the typical Germanic pattern (parallel to the English

possessive pattern found in *John's book*). In such configurations, a DP or NP possessor precedes

the morpheme /-s/, which is followed by a NP possessum.

(73)   a. [$_{DP}$ pojk –ar -na]   -s   far

            boys-PL-the.PL-POSS father

        'the boys' father'

        b. [$_{DP}$ mannen [på gatan   ]]-s   åsikt-er

        [man-the [on street-the]]-POSS   view-PL

        'the views of the man on the street'

Since Abney (1987), it is generally thought that possessive constructions of this sort are DP

projections headed by a specialized possessive determiner. A common incarnation of this

approach takes this head to be the morpheme /-s/ itself. This analysis accounts both for the fact

that it acts like an enclitic to the preceding possessor phrase, and that the following NP possessum generally lacks a determiner (cf. Larson 2003 for an interesting quirk on this fundamental theme). The structure of (73a) might then be conceived as in (74).[27]

(74) *pojkarnas far* 'the boys' father'

```
              DP
         ┌─────┴─────┐
   [DP pojkarna]     D'
                ┌────┴────┐
                D         N
               -s        far
```
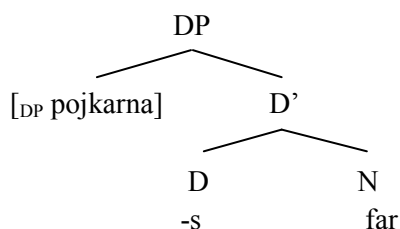
The main point for our purposes here is that, under fairly standard assumptions, the Germanic possessive morpheme /-s/ signals the presence of a DP domain, i.e., a noun-related phrasal environment. It seems reasonable to think that the occurrence of the relevant morpheme in the Swedish possessive forms *han-s*/*henne-s*/*des-s* ('his/hers/its') is no exception. We might thus establish a link between the 'pronominal' form *hans* 'his' and the DP *hans fru* 'his wife' through the following structures, where the possessive determiner always takes some (possibly null) NP complement.

(75)   *hans* 'his'

```
            DP
       ┌─────┴─────┐
       D           D'
      han      ┌───┴───┐
               D      proNP
              -s
```

---
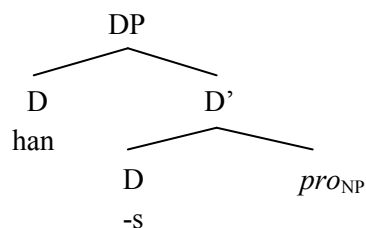
[27] Alternatively, it might be argued that the possessive D head in examples such as (30a, b) is null, and that the morpheme /-s/ is actually the head of a postpositional phrase in the Spec of this null determiner. Both approaches are in fact considered by Abney (1987:79ff), who shows a slight preference for the latter.

(76)   *hans fru* 'his wife'

```
              DP
            /    \
          D       D'
         han     /  \
               D      N
              -s      fru
```
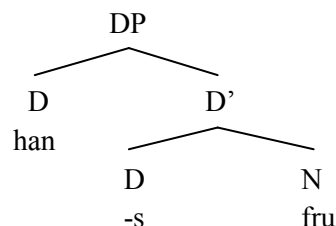
If the morpheme /-s/ always signals the presence of a DP domain, we obtain a direct account of

the failure of the possessive *hans* to shift (cf. 72) from the independent observation that phrases

do not undergo OS. On the other hand, the possessive morpheme associated to the regular

possessive paradigm (for example the morpheme /-tt/ in 70, which bears neuter gender) is much

more restricted in its distribution than its /-s/ counterpart, as it only attaches to the bound

pronominal stem forms of the non-nominative paradigm *mi-*/*di-*/*si-*/etc. (compare to /-s/ which

only attaches to free forms, [28] including phrases). This does not automatically mean that it is not

an independent syntactic head projecting its own domain, but the absence of direct motivation for

such an analysis makes it plausible to think that the forms of the regular possessive paradigm are

the output of a lexical procedure, rather than a syntactic one. Put another way, a word such as *ditt*

would be formed in the lexicon, and enter the syntax as a unit, presumably a D head.[29] Being

heads, regular possessives would be allowed to undergo OS in case the right conditions are met.

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[28] I assume the possessive *dess* 'its' to be the result of an assimilatory process applying to the string *det*+*s*
(it+s).
[29] I am obviating here the distinction introduced by Dechaine and Wiltschko (2002) between pro-DPs and
pro-ϕPs, as it is not essential to our purposes here. I am tentatively assuming that Swedish pronouns (in
particular those that can undergo OS) are D heads, but this is ultimately an empirical question. It may be
noted that at least a subclass of shiftable pronouns can function as bound variables, including personal
pronouns (i) and possessive pronouns (ii).

    (i)   Bara jag hatar mig.   (bound reading ok)
           Only I hate me.

    (ii)   Bara du   hatar ditt   hus.   (bound reading ok)
           Only you hate your house   *(continued on next page)*

Let us now turn to the semantic condition associated to [PRON]-nominals, which has to do with their indexical value. In a nutshell, [PRON]-nominals must point to a proposition p, or a subcomponent of a proposition p, such that the speaker using the [PRON]-nominal holds the belief (grounded on reasonable conversational assumptions) that p has been established as part of the common ground (that is, the set of all propositions presupposed as true by the discourse participants). Crucially, a [PRON]-nominal *cannot* point to a proposition p', or a subcomponent of a proposition p', in case there is no reasonable basis to assume that p' is part of the common ground. By this I do not mean that the speaker using the indexical believes p' to be true or false. Instead, what I mean is that this speaker does not believe that p' is necessarily accepted as part of the common ground by all discourse participants.

On the other hand, my main informant rejected bound readings with demonstrative pronouns (iii) (this example is modeled on those of Noguchi 1997), which is interesting since we already know that these cannot undergo OS.

> (iii)   Varje pojke har en dejt med en tjej som avgudar den   här   (pojken) / den   där (pojken).
>   Every boy   has a date with a girl who adores it.NEUT PROX   boy   / it.NEUT DIST boy.
>   'Every boy has a date with a girl who adores this boy / that boy / this one / that one.'

It is worth noting that the demonstrative phrase in (iii) presents a configuration similar to that of double definite DPs such as *den svarta hästen* 'the black horse.DEF'. It would seem that *den* is a D head in this example, as it seems to be in double definite DPs.

Given Dechaine and Wiltschko (2002)'s assumption that pro-φPs, but not pro-DPs, can be involved in variable binding configurations, it is tempting to put forward the hypothesis that shiftable objects are pro-φPs, rather than DPs. However, we would have to deal with the fact that *den*, which we just assumed to be a D head (a choice apparently consistent with the fact that demonstratives cannot be bound as variables), can also shift (cf. example 2). The matter is further complicated by the fact that a phrase headed by *den* can function as a bound variable (iv) (contrary to demonstratives, which also seem to be *den*-phrases of some sort). This is unexpected under Dechaine and Wiltschko (2002)'s proposal if *den* is taken to be a D head (which seems to me to be a perfectly reasonable choice).

> (iv)   Varje pojke har en dejt med en tjej som avgudar den pojk-en.   (bound reading ok)
>   Every boy   has a date with a girl who adores D   boy-DEF .
>   'Every boy has a date with a girl who adores the boy.'

If anything, it seems difficult to derive object shiftability from Dechaine and Wiltschko's distinction between pro-φPs and pro-DPs. The issue of the apparent bound variable reading of a DP in (iv), on the other hand, challenges their assumption that DPs cannot be bound variables, a challenge that extends to other languages in which the status of the bound phrase as a DP is much less controversial. In my variety of Spanish, for example, the bound variable reading of the DP *la chica* 'the girl' in (v) is acceptable.

> (v)   Cada chica tenia una cita con un chico que adoraba a   la chica.
>   Every girl   had a date with a boy   who adored ACC the girl.

Now, recall that the feature [PRON] characterizes the set of objects that can undergo OS. We therefore expect that the semantic distinction just sketched correlates with the ability of the relevant [PRON]-nominal to shift. OS of an indexical is therefore predicted to be impossible, in case this indexical points to a proposition p' (or a subcomponent of a proposition p') such that the status of p' as part of the common ground (i.e. as accepted as true by all discourse participants) is considered doubtful by the speaker using that indexical.

Let us then illustrate this idea through a few examples of the use of the pronoun *det* 'it (neuter gender)'. Most of these examples are modeled on those in Andreasson (2009).

Example 1: *det* takes a questioned proposition as its antecedent.

(77)   A: Köpte Agnes boken ?

           bought Agnes book-DEF

         'Did Agnes buy the book?'

         B: Jag tror   {*det} inte {^{ok}det}.

             I   think   it   not   it

A's question introduces a proposition p = "Agnes bought the book", and requests that is status as part of the common ground be evaluated.[30] B's answer, which gives a judgment on that status, makes use of an indexical that points to p (i.e. *det*). Because this indexical refers to a proposition that has not been previously established as part of the common ground, it is not a [PRON]-nominal. Accordingly, it is not able to shift.

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[30] There are several ways to formulate this idea depending on particular theoretical commitments concerning the semantics of yes-no questions (Hamblin 1973, Karttunen 1977, Groenendijk and Stockhof 1982, among many others). I will keep the discussion at a pre-theoretical level here, in a way that should be sufficient for a preliminary characterization of the semantic content associated to the [PRON] feature.

Example 2: *det* takes an asserted proposition as its antecedent

(78)   A: Han lärde   sig   alla svenska vokaler.

          he   learned SELF all   Swedish vowels

          'He learned all the Swedish vowels.'

        B: Jag förstår   {^{ok}det} inte {^{ok}det}.

          I   understand   it   not   it

          'I don't understand it.'

Speaker A asserts the truth of a proposition p = "He learned all the Swedish vowels" (perhaps

despite the fact that it is something difficult to believe). Notice that B's reply does not challenge

that fact, which has been tacitly accepted as part of the common ground. The indexical *det* in this

reply therefore points to a proposition that has been established as part of the common ground (as

further supported by the fact that this indexical is the complement of a factive verb), which makes

it a [PRON]-nominal. Accordingly, this indexical is able to shift (though it is not forced to).

Example 3: *det* takes a VP antecedent and this VP is part of a questioned proposition

(79)   A: Ate du någon frukt?

          ate you some fruit

          'Did you eat some fruit?'

        B: Nej, jag gjorde {*det} inte {^{ok}det}

          No, I   did   it   not   it

A's question introduces a proposition p = "You ate some fruit", requesting that its truth be

established. The indexical in B's reply points to the VP component of p. Insofar as it refers to a

subcomponent of a proposition that has not yet been established as part of the common ground, it is not a [PRON]-nominal, and is therefore unable to shift.

Example 4: *det* takes a VP antecedent and this VP is part of an asserted proposition

(80)   Agnes ville   köpa   boken,   men hon gjorde {^{ok}det} inte {^{ok}det}.

        Agnes wanted to.buy book.the, but she did   it   not   it

        'Agnes wanted to buy the book, but she didn't do it.'

In this particular example, the first clause asserts the truth of the proposition p = "Agnes wanted to buy the book". Assertive utterances are intended to contribute a proposition to the common ground (cf. Stalnaker 1978), and under reasonable conversational expectations (e.g. Grice 1975's Maxim of Quality) the speaker who utters (80) may assume that the rest of discourse participants will go along with his contribution. Now, in the following clause, the speaker makes use of an indexical that points to p. Since p can be assumed by the speaker to be part of the common ground under reasonable conversational expectations, the indexical that refers to it in the conjoined clause is a [PRON]-nominal. Accordingly, it is able to undergo OS.

 Example 5: *det* takes a propositional antecedent, but this proposition is put into question as part of the common ground

(81)   Agnes köpte   boken.   Förstod   du {*det} inte {^{ok}det}?

        Agnes bought book-the understand you   it   not   it

        'Agnes bought the book. Don't you understand it?'

In the first clause of this example, the speaker asserts the truth of the proposition p = "Agnes bought the book". In this particular context, however, there seems not to be much cooperation going on between the speaker and the addressee, as shown by the second clause in which the speaker summons the addressee to acknowledge the truth of p. This means that the speaker has reasons not to assume that p is in fact part of the common ground. The indexical in the second clause therefore refers to a proposition that has not been established as part of the common ground, and it is therefore not a [PRON]-nominal. As a result, it is not able to shift.

This concludes the exposition of the structural and semantic conditions satisfied by nominals bearing the feature [PRON]. Getting back to our main thread, let us recapitulate on our first two assumptions underlying a potential agreement+movement approach to OS.

(82)   a. OS is ultimately the result of an agreement procedure between v and one or several matching goals in its c-command domain (that is, the VP).

  b. v probes for a [PRON] feature in the relevant domain. Nominals bearing the [PRON] feature satisfy two conditions: (i) they are heads, not full phrases; (ii) they are indexicals referring to a proposition p (or a subcomponent of a proposition p) such that the speaker using the indexical can reasonably assume that p is part of the common ground.

I will now add a third assumption, which is that the feature [PRON] is privative. The reason is that, if it were a binary feature, then [-PRON] nominals (such as full DPs, or indexicals that do not refer to a proposition in the common ground) would also be able to value [uPRON] on v. To the extent that OS follows from agreement in the feature [PRON] between v and some goal in its c-command domain (as per assumptions 82a, b), we would expect both [+PRON] and [-PRON] nominals that control this agreement to undergo OS, contrary to fact. One way to avoid this

problem is to assume that the feature [PRON] is privative: as a result, nominals that lack this feature are not able to control agreement on *v*, and are therefore not expected to undergo OS. Let us then adopt (83).

(83)   The feature [PRON] is privative.

Finally, I will assume that the unvalued [PRON] feature on *v* is associated to an EPP feature, which must be checked via movement of the agreed-with category to the specifier of *v*.

(84)   [uPRON] is associated to an EPP feature.

As noted in 3.1, it is important to emphasize that this assumption is only preliminary, and serves essentially as a convenient expository device. We will later run into evidence that the specifier of *v* is not the only possible destination of a pronoun that controls [PRON]-agreement on the light verb, a state of affairs that is rather unexpected under this EPP version of the agreement approach to OS (which limits the range of potential targets of object movement to [Spec, v]). A more accurate characterization of the range of potential landing sites available to weak object pronouns that control agreement on *v* will be the topic of subsections 3.6 and 3.7. For the moment, we will keep to the EPP version of this approach, which is sufficient for the purpose of showing some of the advantages of modeling OS in terms of agreement.

Let us then consider how the assumptions in (82-84) work together. We will be focusing on the OS configuration in (85).

(85)   Jag kysste henne inte [$_{VP}$ t$_{kysste}$ t$_{henne}$]

         I   kissed   her   not

         'I didn't kiss her.'

The path that leads to OS in (85) starts when a *v* bearing [uPRON] (by hypothesis, associated to an EPP feature) is merged with the VP containing the [PRON]-nominal *henne*, as illustrated in (86) (where V-to-T movement has not yet taken place).

(86)

```
                              v'
                     ┌────────┴────────┐
                     v                 VP
              {[uPRON]; EPP}      ┌─────┴─────┐
                            [Adv inte]       VP
                                        ┌─────┴─────┐
                                        V         [D henne]
                                      kysst-        [PRON]
```
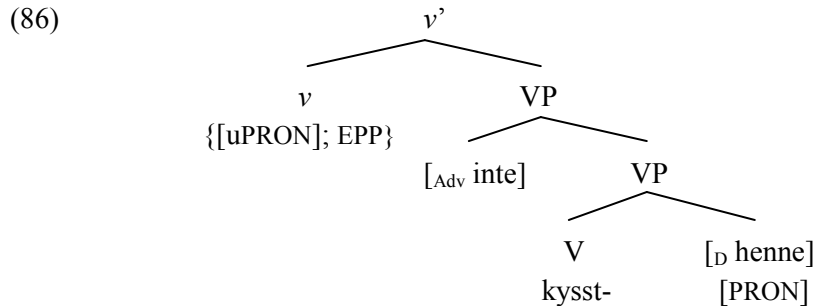
Agree (*v*, *henne*) obtains in the next step, valuing the [uPRON] feature of the probe.

(87)

```
                              v'
                     ┌────────┴────────┐
                     v                 VP
              {[PRON]; EPP}       ┌─────┴─────┐
                            [Adv inte]       VP
                                        ┌─────┴─────┐
                                        V         [D henne]
                                      kysst-        [PRON]
```

Agree (v, henne)
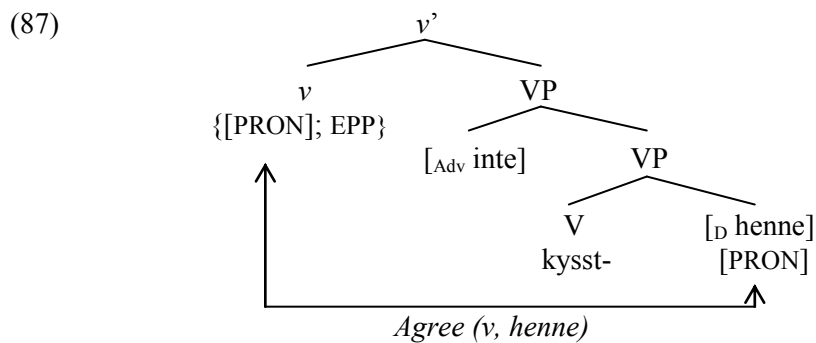
Valuation of the [PRON] feature of *v* activates its associated EPP feature, triggering movement of the agreed-with category to the specifier of the probe, as in (88).

(88)

```
                              v'
            ┌─────────────────┴─────────────┐
      [D henne]                            v'
      [PRON]                 ┌──────────────┴──────────┐
         ↑                   v                         VP
         ┆            {[PRON]; E̶P̶P̶}          ┌──────────┴────────┐
         ┆                              [Adv inte]              VP
         ┆                                          ┌───────────┴────────┐
         ┆                                          V              ([D henne])
         └┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄ kysst- ┄┄┄         [PRON]
```
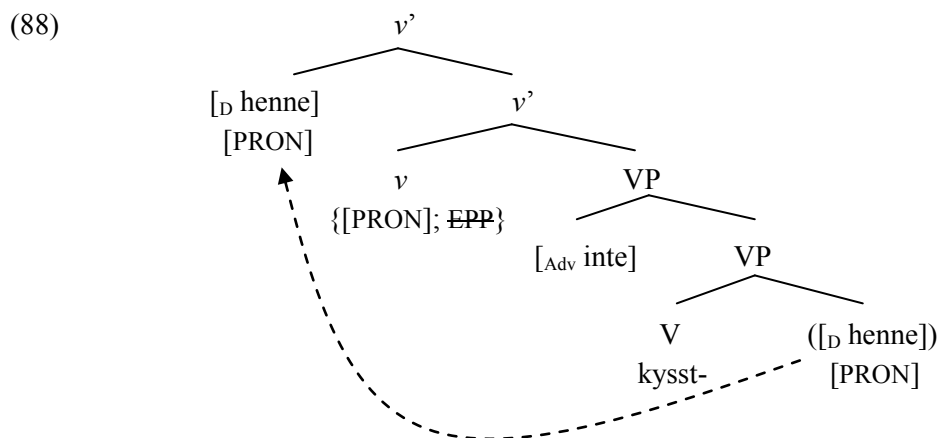
The mechanism just described is straightforward. Since it only applies to [PRON]-nominals, we capture the fact that full DPs or pronouns that refer to a proposition that is not part of the common ground are not shiftable. These nominals lack the feature [PRON] and thus cannot value the [uPRON] feature of *v*.

The relevant approach also provides us with a basis to explain why OS is optional in Swedish. Thus, it is not infrequent for overt object agreement to be optional across those languages that exhibit this kind of agreement. In the Bantu language Sambaa (Riedel 2009), for example, object agreement is optional with a wide variety of object nominals. Some of these optional patterns are exemplified in (89).

(89)   a. N-   za-   (mw-)-ona   ng'wana.   (Riedel 2009:46)

           SM1-PERF.DJ-OM1-see   1child

           'I saw the/a child.'

     b. N-   za-   (ji-)-ona   kui.

           SM1-PERF.DJ-OM5-see   5dog

           'I saw the/a dog.'

c. N-   za-   (chi-)ona   kitezu.

SM1-PERF.DJ-OM7-see 7basket

'I saw the/a basket.'

Given that optionality of agreement is a possible feature of object agreement systems in other languages, it seems reasonable to put forward the assumption that *v*-agreement might also be optional in Swedish.[31] If so, we must consider the possibility that v, in contrast to the state of affairs in (87), might not bear a [uPRON] feature when it is merged with the VP containing a [PRON]-nominal (put another way, we would acknowledge two types of transitive v in Swedish: one bears an agreement feature, the other does not). Since the EPP feature of v is in turn parasitic on its carrying a [uPRON], we would expect OS not to take place in the relevant scenario.

(90)
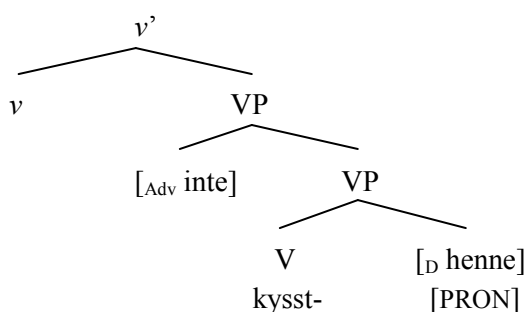
This is an interesting advantage of the agreement approach over the prosodic (hypothesis 1, cf. 48a) or more semantically-oriented (hypothesis 2, cf. 48b) approaches to OS. In the latter kind of approaches, which are based on the assumption that OS follows from a prosodic or semantic requirement of the relevant pronoun, it is necessary to come up with additional mechanisms to

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[31] An important difference between the object agreement systems of Swedish and Sambaa (besides the features carried by *v*), is that, in the latter, some objects (pronouns and proper nouns) obligatorily trigger agreement on the verb. This is not a problem for the approach considered here, since it does not mean that agreement itself is obligatory: if it were, it should systematically take place, contrary to case. The reason it is not systematic appears to be that only a subset of objects require to be licensed through verbal agreement, a familiar notion (cf. Béjar and Rezac 2009). I assume that no such requirement holds in Swedish.

explain why this movement does not always take place. In the agreement approach, the optionality of OS is not surprising, since many object agreement systems exhibit this kind of optionality the first place.

Now, the question arises here, as it did in section 2.3 (cf. footnote 4), as to how the Case feature of an object would be case-licensed in those scenarios in which agreement does not obtain, such as (90). The question extends to those configurations involving objects which do not carry a [PRON] feature, in case [uPRON] is the only agreement feature available on v: no agreement would be expected in such cases either. In order to address this issue, I will adopt again the common (though not standard) assumption that case is not related to DP licensing (cf. Marantz 1991, Bittner and Hale 1996).

3.5 An Agree+EPP approach 2: ditransitive configurations

OS patterns in ditransitive configurations present some additional challenges. The first is that multiple OS is possible, as exemplified in (91).

(91)   Thomas gav   henne den inte [$_{VP}$ t$_V$ t$_{henne}$ t$_{den}$].
       Thomas gave her   it   not
       'Thomas didn't give it to her.'

This is a problem for the Agree+EPP approach we have been building for the following reason. Once agreement-bearing v is merged to the ditransitive VP in (91) (which I assume to be an applicative projection associated to a semantics of transfer of possession), agreement is predicted to take place between v and the highest available object, namely the IO, as in (92).

(92)

```
                        v'
            ┌───────────┴───────────┐
            v                       ApplP
        [PRON]           ┌───────────┴───────────┐
         EPP         [Adv inte]                 ApplP
          ↑                          ┌───────────┴───────────┐
          │                     [D henne]                   Appl'
          │                      [PRON]            ┌──────────┴──────────┐
          │                        ↑              Appl                  VP
          │                        │                          ┌──────────┴──────────┐
          │                        │                          V                  [D den]
          └──────────┬─────────────┘                         gav                 [PRON]
             Agree (v, [D henne])
```
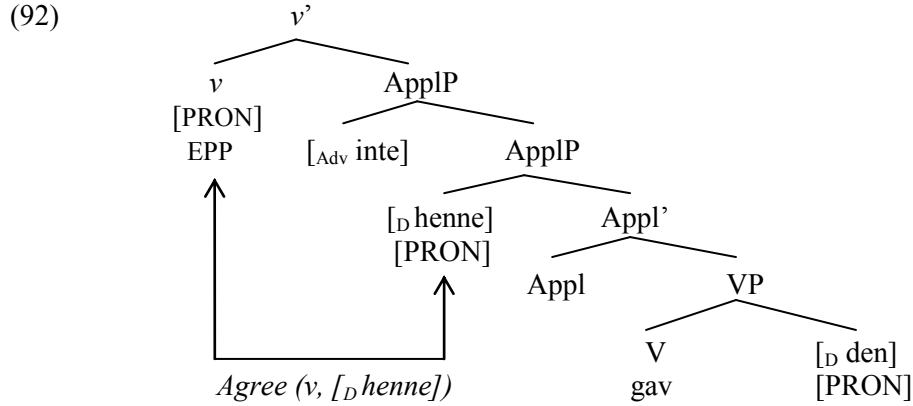
Agree (v, IO) activates the EPP feature associated to [uPRON], thus triggering movement of the agreed-with IO to [Spec, v]. The relevant state of affairs is illustrated in (93).

(93)

```
                        v'
            ┌───────────┴───────────┐
        [D henne]                   v'
         [PRON]          ┌───────────┴───────────┐
          ↑              v                       ApplP
          ╎          [PRON]           ┌───────────┴───────────┐
          ╎           EPP         [Adv inte]                 ApplP
          ╎                                      ┌───────────┴───────────┐
          └╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌╌ ([D henne])          Appl'
                                          [PRON]      ┌──────────┴──────────┐
                                                     Appl                  VP
                                                                ┌──────────┴──────────┐
                                                                V                  [D den]
                                                               gav                 [PRON]
```
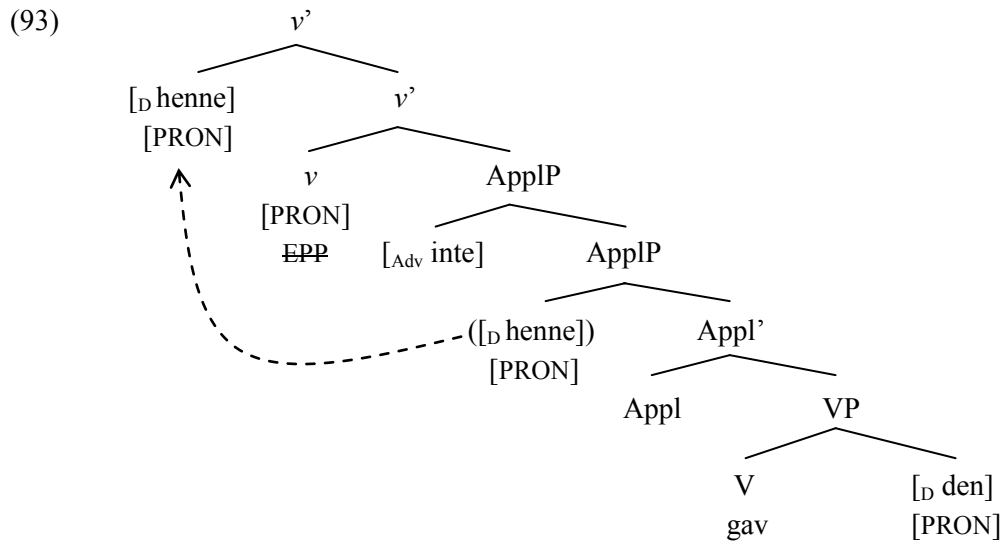
This is where the problem arises: once the [uPRON] of v has been valued by the higher object, the probe becomes inactive, and hence no further agreement operation is predicted to take place between *v* and the lower object. To the extent that OS of a weak pronoun is the result of the agreement between *v* and that weak pronoun, we predict that the lower object in (93) should remain in situ. This is not completely untrue: after all, we know that an IO weak pronoun can shift while an otherwise shiftable DO stays in situ (cf. example 46b, repeated here in 94).
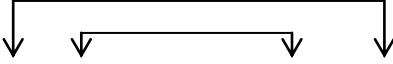
(94)   Thomas gav henne inte [$_{VP}$ t$_V$ t$_{henne}$ den].

        Thomas gave her   not   it

However, the prediction that the lower object should stay in situ puts us in a tight spot in front of multiple shift configurations such as (91). In the current state of our agreement+movement approach to OS, we simply have no way to capture the fact that the lower object can also undergo OS.

Fortunately, Sambaa comes to the rescue again. This Bantu language is remarkable in that the verb can overtly agree with multiple objects. One such example is given in (95).
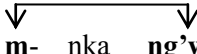
(95)   N- za- **chi- m-** nka **ng'wana kitabu**.   (Riedel 2009:106)

        SM.1-PFV-**OM.7-OM.1**-give   **1.child   7.book**

        'I gave the child a book.'
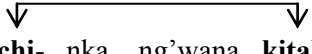
As previously mentioned, object agreement Sambaa is optional, and multiple object agreement is not the exception. For example, it is possible for the ditransitive verb in (95) not to carry any object agreement marker, without any effect on grammaticality (cf. 96) or, as pointed out by Riedel (2009: 48ff), noticeable effects on interpretation.

(96)   N- za- nka ng'wana kitabu.   (Riedel 2009:106)

        SM.1-PFV-give   1.child   7.book

        'I gave the child a book.'

Finally, Sambaa also makes it possible for the verb to agree with only one of the objects, although with an important restriction: agreement with the lower object is not possible if agreement with the higher object does not also take place. This can be straightforwardly interpreted as a minimality effect: the functional head (or the set of functional heads) spelled out by the agreement markers on the verb must be merged above the domain where the objects are generated (and thus the IO is an intervener for any potential relation between this head, or this set of heads, and the DO). As a result, agreement with the DO is not possible if this relation does not obtain with the IO as well.

(97)   a. N-   za-   **m**- nka   **ng'wana**   kitabu.

         SM.1-PFV-**OM.1**-give   **1.child**   7.book

         'I gave the child a book.'

         b. *N-   za- **chi**- nka   ng'wana **kitabu**.

         SM.1-PFV-**OM.7**-give   1.child   **7.book**

The main point here is that in a multiple object agreement language such as Sambaa, the *span* of such agreement (to use terminology from Nevins 2007, although somewhat informally) is very flexible. It is possible that the verb does not agree with anything, but it is also possible that its agreement span encompasses one or two objects. What is prohibited is that this span is discontinuous, i.e. that the verb agrees with the lower object but not with the higher one.

 It is thus tempting to draw a parallel between the ditransitive object agreement patterns of Sambaa and the ditransitive OS patterns of Swedish, and more so under the assumption that OS is the result of an agreement procedure. The idea we are led to is that <u>Swedish is, like Sambaa, a multiple object agreement language with a flexible agreement span</u>, the main difference being

that the underlying agreement procedures in Swedish can only be indirectly inferred from the occurrence of OS, under the assumption that the shifted pronoun controls an object agreement spot on the verb. The relevant paradigms are compared in Table 1.

Table 1

	Sambaa	Swedish
The verb agrees with both objects	N- za- **chi- m-** nka **ng'wana kitabu**. SM.1-PFV-**OM.7-OM.1**-give **1.child 7.book** 'I gave the child a book.'	Thomas gav henne den inte. Thomas gave her it not
The verb agrees with one of the objects	N- za- **m-** nka **ng'wana** kitabu. SM.1-PFV-**OM.1**-give **1.child** 7.book 'I gave the child a book.'	Thomas gav henne inte den. Thomas gave her not it
The verb does not agree with any object	N- za- nka ng'wana kitabu. SM.1-PFV-give 1.child 7.book 'I gave the child a book.'	Thomas gav inte henne den. Thomas gave not her it

Let us then assume that Swedish is a multiple object agreement language, as Sambaa is.[32] The question we face now is how we are to implement this multiple object agreement property into

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[32] This parallel seems to extend to the impossibility for the DO to trigger agreement in Sambaa, or undergo OS in Swedish, in case the IO has not done so as well.

    (i)   * N- za- chi- nka ng'wana kitabu.
                SM.1-PFV-OM.7-give 1.child 7.book
                (Intended: 'I gave the child a book.')

    (ii)   *Thomas gav den inte henne.
              Thomas gave it not her
              (Intended: Thomas didn't give it to her.')   *(continued on next page)*

our particular approach to OS. There is more than one way to do so. One could assume, for example, that each pronoun is attracted by a different agreement head, in which case multiple shift reveals the presence of two different functional heads, call them F_1 and F_2, both of which carry an unvalued [uPRON] feature (one of these heads would presumably be *v*). This possibility is illustrated in (98).[33]

It may be noted, however, that the Sambaa/Swedish analogy is somewhat less clear in this particular case because the relevant Swedish configuration in (ii) is independently ruled out by Holmberg's Generalization, which prohibits a pronoun from undergoing OS across phonetically realized VP-internal material to its left (Holmberg 1999, Fox and Pesetsky 2005). In the relevant example, the DO pronoun is correctly predicted not to be able to shift across the IO pronoun, which remains VP-internal. The picture we obtain under our current assumptions is that the ungrammaticality of (ii) has two sources: it is on the one hand a violation of Holmberg's Generalization, and it is, on the other hand, a violation of the abovementioned condition that the span of multiple object agreement is not discontinuous. It is important to emphasize that I do not see this ambivalence as problematic. Holmberg's Generalization helps us characterize a range of contexts in which OS is blocked, but it does not tell us why OS should happen at all, why it is optional, nor does it give us any insight as to why OS is impossible when the relevant pronoun points to a proposition whose status in the common ground is yet to be defined. The agreement+movement approach to OS, on the other hand, does help us answer those questions, but it seems to have very little to say on those cases in which OS is blocked by a participial verbal form. What we see in (ii) is a particular case in which the agreement+movement approach to OS and Holmberg's Generalization (understood as a constraint on object movement crossing over VP-internal material to the left of its original position) happen to converge in that there is a particular kind of configuration that they both rule out.

[33] Note that, in the relevant scenario, it becomes necessary to assume that the agreeing heads are inserted above the domain where the objects are generated. The reason is that, if one of the agreeing functional heads (say, F2) were lower than the underlying position of the IO, then OS of the DO to [Spec, F2] would not take it beyond the original position of the IO. This is an unwelcome result, because the negation adverb (which provides the cue as to whether OS takes place or not) sits necessarily above the underlying position of the IO. In the scenario we are considering here, [Spec, F2] (the position of the shifted DO) is lower than the original position of the IO, and thus it is also below the negation adverb. This means that OS of the DO would not take it beyond the position of the adverb, a highly problematic outcome.

(98)

```
                      F₂P
              ╱────────────╲
            _              F₁'
                    ╱────────────╲
                  F₁             F₂P
               [uPRON]     ╱──────────╲
                 EPP      _           F₂'
                               ╱────────────╲
                             F₂            ApplP
                          [uPRON]      ╱────────╲
                            EPP      IO         Appl'
                                  [PRON]     ╱──────╲
                                          Appl      VP
                                               ╱────────╲
                                              V         DO
                                                     [PRON]
```
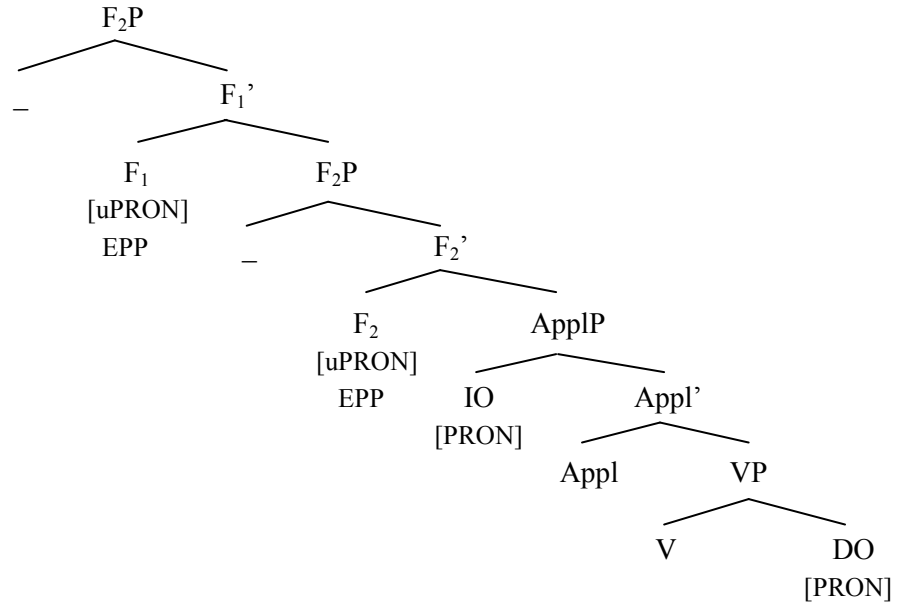
After agreement obtains between these functional heads and the pronominal objects in the VP, the pronouns move to the specifier of their respective agreeing functional head, yielding the state of affairs in (99).

(99)

Agree(F₁, IO)

Agree(F₂, DO)
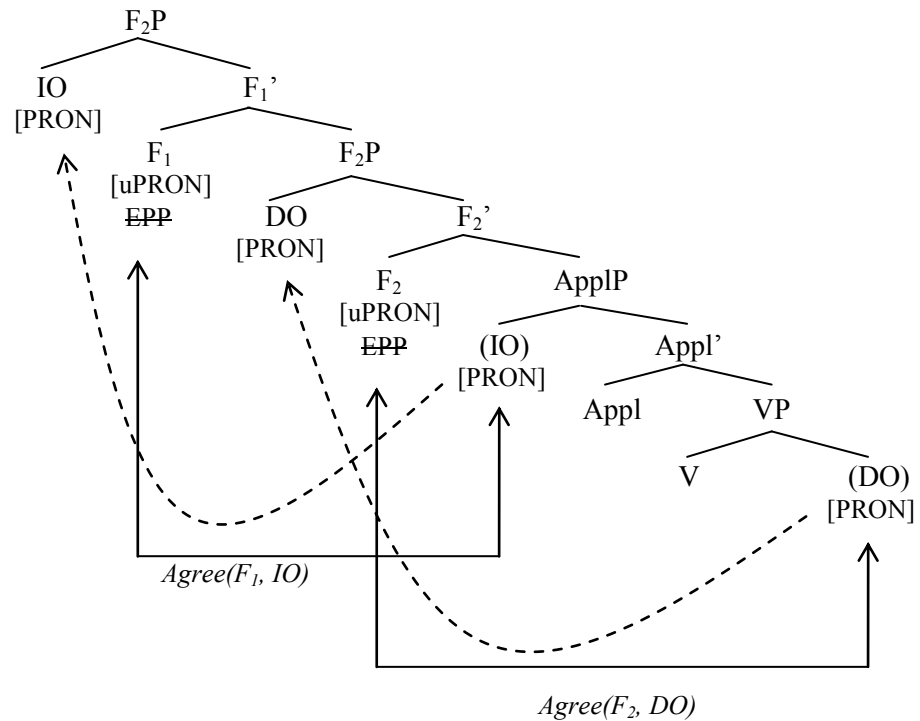
The problem with this approach is that it is not viable derivationally. Thus, once the order of the operations is taken into account (as it is not in 98, 99), we find that the lower agreement head should agree with the higher object, rather than with the lower object as suggested in (99). This is because F_2 is merged first with the VP, yielding the configuration in (100).

(100)

```
                        F₂'
              _____
             |                |
            F₂             ApplP
          [uPRON]        _____
           EPP          |            |
                       IO          Appl'
                     [PRON]      _____
                                |           |
                              Appl          VP
                                        _____
                                       |         |
                                       V         DO
                                              [PRON]
```
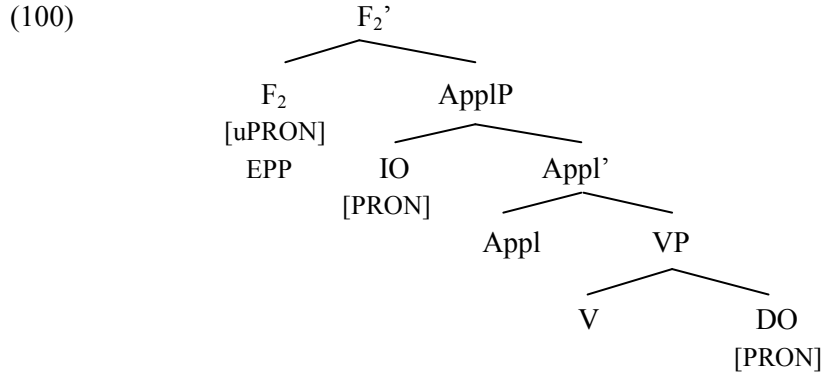
In this structure, the indirect object is closer to the F_2 probe than the direct object. It follows that Agree(F_2, IO) preempts Agree(F_2, DO) under fairly standard assumptions. After agreement obtains between F_2 and the closest goal, we expect the latter to move to [Spec, F_2] in order to check the EPP feature of the probe. Subsequent insertion of F1 yields the structure in (101)

(101)

```
                             F₁'
                    _____
                   |                 |
                  F₁              F₂P
                [uPRON]      _____
                 EPP        |             |
                           IO            F₂'
                         [PRON]     _____
                                   |           |
                                  F₂         ApplP
                                [uPRON]    _____
                                  EPP     |          |
                                        (IO)        Appl'
                                       [PRON]    _____
                                               |         |
                                             Appl        VP
                                                     _____
                                                    |         |
                                                    V         DO
                                                          [PRON]
```

Agree(F₂, IO)
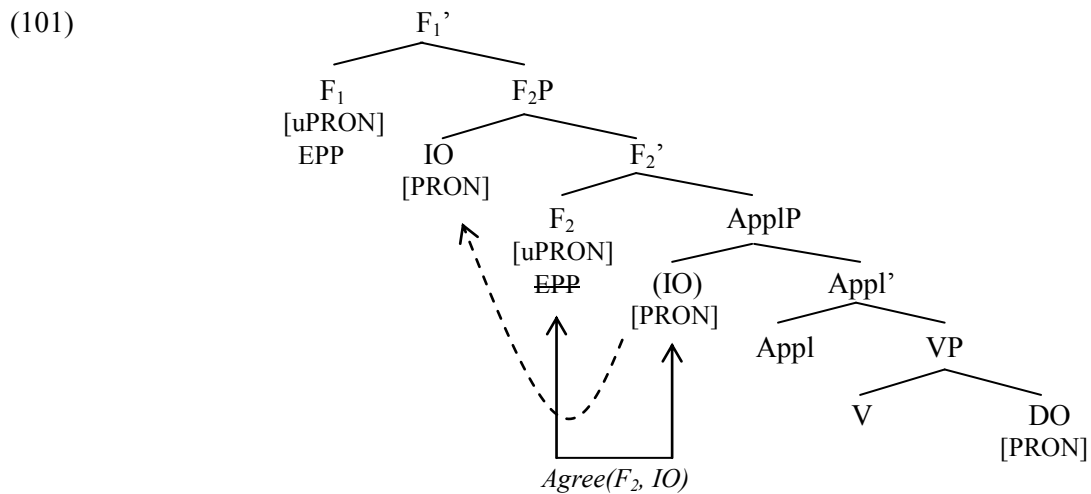
This configuration is, however, a dead end: if we assume that the IO becomes inactive after agreeing with F_2, it might induce a defective intervention effect on a potential relation between F_1 and the DO.

(102)

Agree(F_1, DO) disrupted by defective intervention
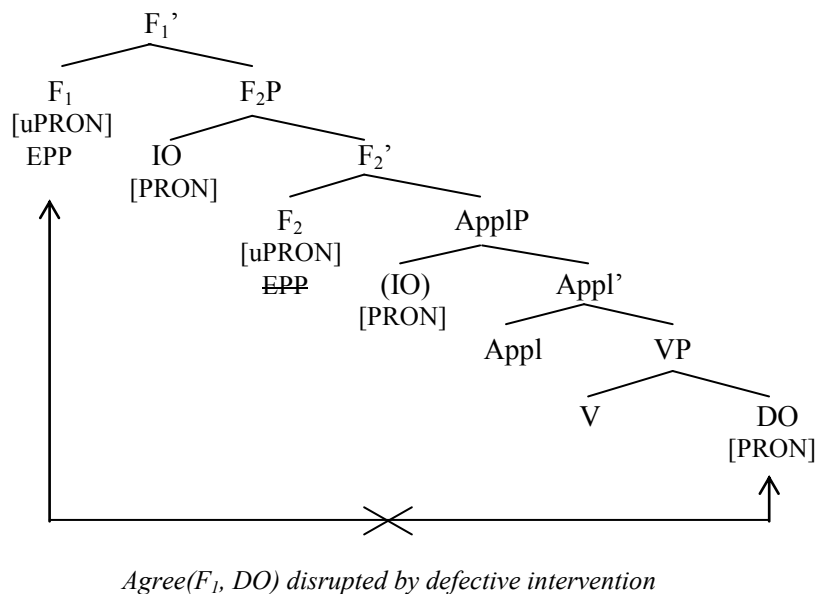
Alternatively, we might assume that the IO is not an intervener of any kind (and that the valued [PRON] feature of F_2 isn't either), in which case Agree(F_1, DO) obtains, with concomitant movement of the DO to [Spec, F_1].

(103)

Agree(F₁, DO)
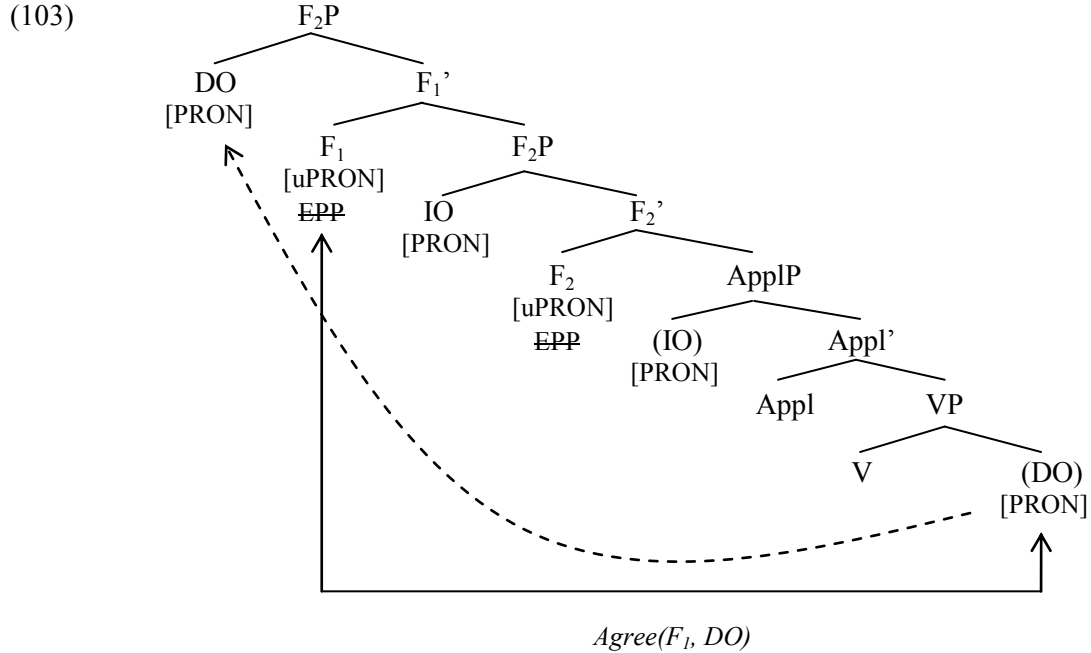
This result is equally bad, as it predicts the order of the shifted objects to be DO IO, which is not only off the mark (cf. 91, where the order of the objects is IO DO), but also turns out to be ungrammatical in most varieties of Swedish (cf. Hellan and Platzack 1995).

It seems therefore reasonable to assume that multiple object agreement patterns do not signal the presence of several probes successively looking into the VP for a potential goal. Instead, I will follow much literature in assuming that (depending on the language under consideration) it is possible for a single functional head to agree with several goals in its domain (cf. Hiraiwa 2001, 2005; Anagnostopoulou 2003, 2005; Bejar and Rezac 2003; Nevins 2007, Baker 2008, inter alia). In the particular cases of ditransitive constructions in Sambaa and Swedish, I will assume that v *can* (though it doesn't *have* to) agree with both the higher and lower object. Put another way, we are assuming that the following operations can both obtain in the derivation of a ditransitive structure in Swedish and Sambaa.

(104)   a. Agree(v, IO)

b. Agree(v, DO)

Because, in Swedish, the agreement feature of v ([uPRON]) is associated to an EPP feature, each of the operations in (104) results in OS of the relevant goal (i.e. movement to [Spec, v]). This yields multiple OS configurations, although some details must still be sorted out. In particular, I will remain relatively neutral with respect to whether the operations in (104) obtain *sequentially* or *simultaneously*. Let us briefly discuss what is at stake here. In a sequential approach to the operations in (104), we would have (104a) preceding (104b), on the grounds that the IO is a closer goal to v than the DO. In Swedish, this first agreement instance yields OS of the IO, as illustrated in (105), where both objects bear the feature [PRON].

(105)

```
                          v'
              _____
             |                        |
            IO                        v'
          [PRON]            _____
                           |                  |
                           v                ApplP
                        [PRON]        _____
                         EPP         |                |
                                    (IO)            Appl'
                                   [PRON]      _____
                                              |            |
                                            Appl          VP
                                                      _____
                                                     |          |
                                                     V          DO
                                 Agree(V, IO)                 [PRON]
```
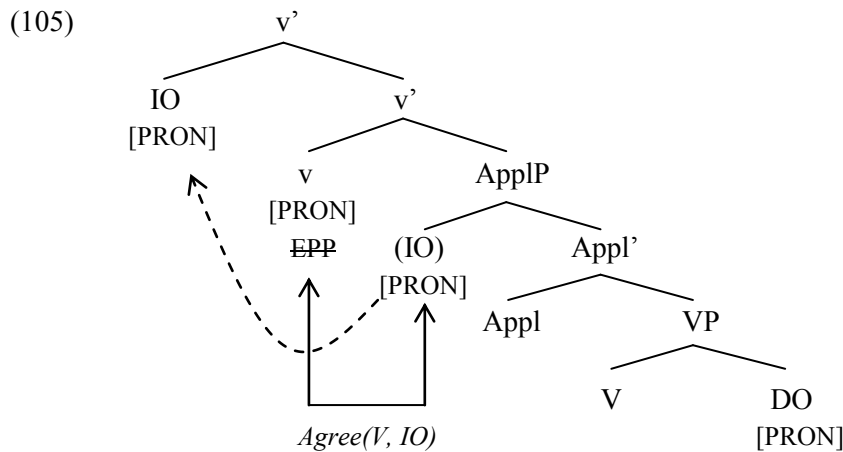
What makes Swedish special (as Sambaa is, although it is not clear that Sambaa has OS processes next to Multiple Agreement), on the relevant approach, is that, after the derivational step in (105), v is ready to search again for a matching goal. This might mean that v has a potentially unlimited stock of [uPRON] features (each of them associated to an EPP feature), or that the results of the operation Agree(v, IO) are deleted after the step in (105). In either scenario, a second agreement instance takes place after (105), which relates v and the DO, and results in the DO undergoing OS in order to check the EPP feature of the newly active [uPRON] feature. We can ensure the strict

IO DO order observed in Multiple Shift configurations by assuming that the DO tucks in under the IO, following the conception of cyclicity in Richards (2001).

(106)

```
                         v'
              ┌──────────┴──────────┐
             IO                     v'
            [PRON]        ┌─────────┴─────────┐
                         DO                    v'
                        [PRON]       ┌─────────┴─────────┐
                              ↖       v                  ApplP
                               ╲    [PRON]        ┌───────┴───────┐
                                ╲    EPP        (IO)            Appl'
                                 ╲  ↑          [PRON]      ┌──────┴──────┐
                                  ╲            ╱         Appl           VP
                                   ╲                              ┌──────┴──────┐
                                    ╲                            V            (DO)
                                     ╲ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─      [PRON]
                                      └───────────────────────────────┘ ↑
                                              Agree(v, DO)
```
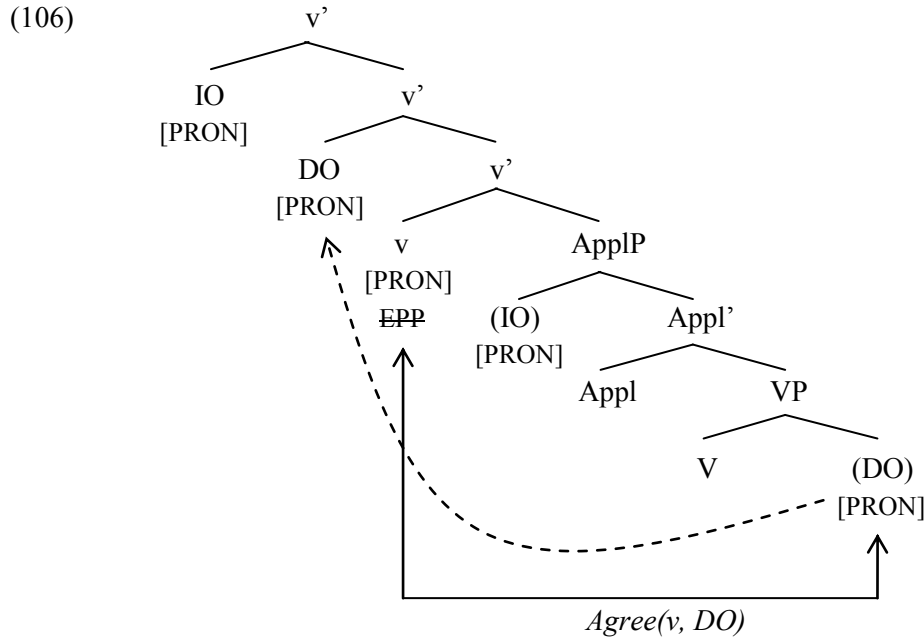
The simultaneity approach the operations in (104) takes us to rather different territories. In such an approach, whereby (104a) and (104b) are not ordered with respect to each other (although they are with respect to other operations in the relevant derivation), the [uPRON] feature of v is valued in parallel by each object. This is not the same as saying that v has two [uPRON] features. In the scenario under consideration, we are entertaining the possibility that v has only one such feature, but that this feature plays an active role in two simultaneous operations, (107a) and (107b).

(107)   a. Agree(v, IO) →   [uPRON] of v copies the value [PRON] from the IO

   b. Agree(v, DO) →   [uPRON] of v copies the value [PRON] from the DO

It is often assumed in the Multiple Agreement literature (in its more mainstream version where 107a, b are simultaneous) that the outcome of each simultaneous operation has to be consistent

with that of the others. Hiraiwa (2005) would posit, for example, that the value assigned to the [uPRON] feature of v in both (107a) and (107b) should be the same. This seems reasonable,[34] but it does not follow from conceptual necessity, and in fact the Sambaa multiple object agreement examples suggest that (if the simultaneity approach to multiple agreement is on the right track) it is not obligatory for multiple object agreement languages to behave this way. In Sambaa, the result of each operation is spelled out as a separate morpheme on the verb (cf. example 95).

Getting back to Swedish, we might wonder how Multiple Shift should follow from the operations (107a) and (107b) being simultaneous. The reason is that (in accordance with the discussion in the preceding paragraph) the outcome of each simultaneous operation is independent from that of the other(s). Each simultaneous Agree operation opens its own derivational branch, triggering requirements that must be satisfied in subsequent steps. Thus, after insertion of v in the structure, two derivational lines are opened, which proceed in parallel.

(108)   Merge(v, ApplP) ⟨ Agree(v, IO): sets [uPRON] of v to [PRON]
                            Agree(v, DO): sets [uPRON] of v to [PRON]
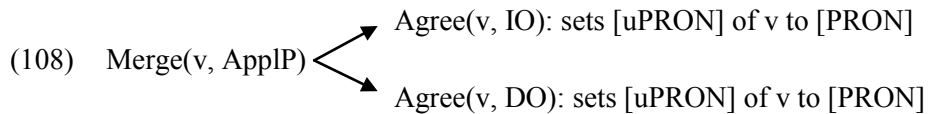
To the extent that [uPRON] is associated to an EPP feature, each of the divergent derivational lines in (108) introduces different, independent requirements. The upper line (Agree (v, IO)) introduces the requirement that the IO (the agreed with category) moves to [Spec, v] in order to check the EPP feature associated to the [PRON] feature of v. The lower line (Agree (v, DO)) introduces the requirement that the agreed-with DO check the EPP feature associated to the [PRON] feature of v. These requirements are introduced in parallel, and must be satisfied in

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[34] The empirical basis for this claim is the observation that number agreement between T and a plural nominative object in Icelandic is only possible if the dative subject is also plural. This is plausible, but we will see in chapter 3 that number agreement in dative-nominative constructions in Icelandic seems to be sensitive to adjacency, which could point to a PF-agreement procedure. If so, it is not clear that the above-mentioned conditions for plural agreement on T follow from a Multiple Agree mechanism taking place in syntax.

subsequent steps. One straightforward possibility is the following, in which the derivation

converges on a single derivational line after the parallel Agree operations of (108).[35]

(109)   Merge(v, ApplP)

Agree(v, IO)

Agree(v, DO)

Merge(v', DO) ⟶ Merge(v', IO)

This derivational history can be summarized graphically as follows. Agree (X, Y, Z) stands for

the simultaneous operations Agree (X, Y) an Agree (X, Z).

(110)

Agree (v, IO, DO)

Notice that there is no particular reason why Internal Merge of the DO should precede that of the

IO in (109) rather than the other way around. However, this would yield a DO IO order in

Multiple Shift configurations, which, as noted, is ungrammatical in most varieties of Swedish.

The problem is overcome if we assume that the ban on DO IO orders follows from a post-

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[35] I discard here the possibility that the OS movement operations could also take place in parallel, since simultaneous Merge (in this case Merge (v, IO) and Merge (v, DO)) would arguably yield a ternary branched v' node.

syntactic requirement related to linearization, as suggested by Fox and Pesetsky (2005). In a nutshell, DO IO orders in Multiple Shift configurations are prohibited because they conflict with the IO DO order found within VP (a linearization domain) which must be preserved should the objects leave the relevant domain. We already assumed Fox and Pesetsky's system to account for Holmberg's Generalization (cf. footnote 14), and thus its adoption in the current context would only be consistent.

At this point, the reader must have sensed my personal preference for the simultaneous Multiple Agree model (which also happens to be its most mainstream incarnation) over its sequential alternative. However, I have no definitive argument against the latter. My preference for the simultaneous model is based on the fact that it is less burdened with ancillary assumptions than the sequential one. On the one hand, the simultaneous model does not have to deal with the potential defective intervention effects which, under Chomsky (2000, 2001)'s conception of Agree, might disrupt agreement between v and the DO in (106), repeated below in (111).

(111)

Agree(v, DO)
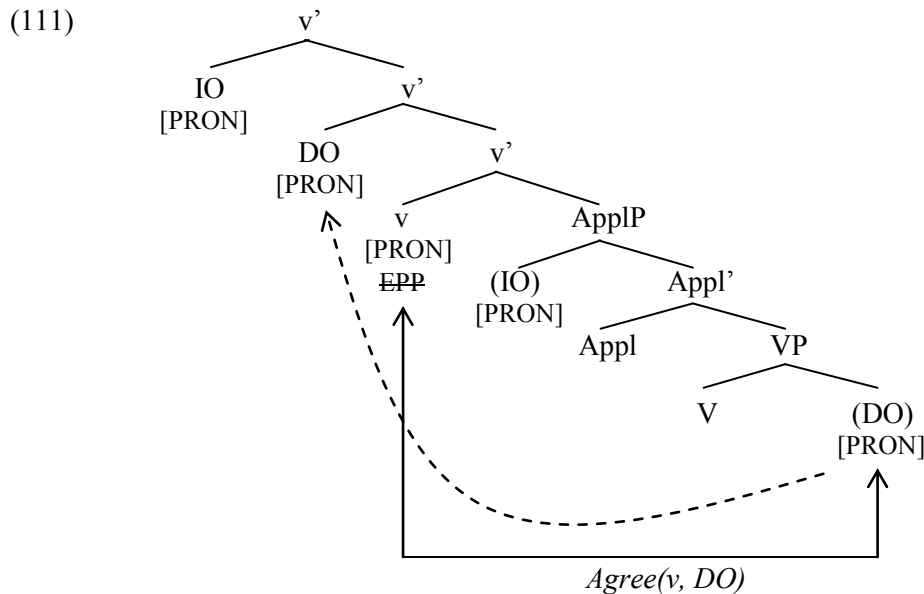
Since, in a sequential model, the IO has already been agreed with before v probes a second time, we might expect it to stand as a defective intervener between v and DO. Note that this possibility

arises precisely because of the sequential nature of the operations involved: it is because the IO is rendered inactive for agreement in the first instance that the threat of defective intervention on Agree (v, DO) appears in subsequent instances. This problem disappears under the assumption that v agrees with both objects simultaneously. In fact, the simultaneous model was originally designed to explain why defective intervention effects are absent in what appeared to be bona fide multiple agreement configurations (cf. Hiraiwa 2001, 2005).

The other relative advantage of the simultaneous model over the sequential one is that it does not constrain us to adopt a tucking-in framework (Cf. Richards 2001) in order to enforce the IO DO order observed in Multiple Shift configurations. Thus, I claimed a tucking-in procedure to be necessary in (106, 110) above, since otherwise the DO would re-Merge with the v' containing the IO, thus yielding a DO IO surface order. My main point here is that it is not obvious that there is independent motivation for tucking-in procedures in Swedish. By comparison, the adoption of Cyclic Linearization in order to rule out multiple-shifted DO IO orders in a simultaneous Multiple Agree model finds significant independent motivation in the facts regarding Holmberg's Generalization. It is precisely to account for these facts that the Cyclic Linearization framework was originally devised.

Let us then conclude this subsection by taking a look at the kind of ditransitive patterns predicted by our Agree+EPP approach to OS. The main premise of this approach with respect to the relevant configurations is that v *can*, but does not *have* to, agree with each of the available goals in its domain. Since, in addition, [uPRON] is optional on v (cf. section 3.4), we obtain three potential ditransitive patterns involving pronominal objects, depending on the following agreement scenarios.

(112)   a. v does not agree with any of the pronominal objects

        b. v agrees with one of the pronominal objects

        c. v agrees with both pronominal objects

The agreement scenario in (112a) stems from the optionality of [uPRON] on v. Insofar as the EPP

feature responsible for OS is parasitic on [uPRON], no OS is predicted in this scenario, yielding

the structure in (113), were both pronominal objects remain within the applicative phrase.

(113)

```
                          v'
                  ┌───────┴────────┐
                  v              ApplP
                            ┌──────┴──────┐
                           IO           Appl'
                         [PRON]      ┌────┴────┐
                                   Appl       VP
                                         ┌─────┴─────┐
                                         V           DO
                                                   [PRON]
```
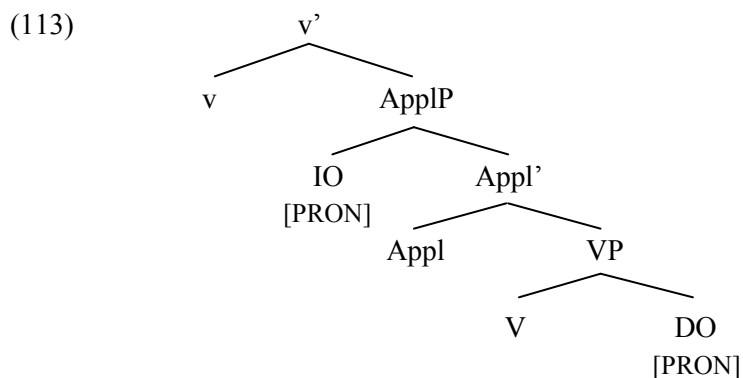
The scenario in (112b) is centered around agreement between v and the higher pronominal object.

Agreement in [PRON] yields OS of the IO to [Spec, v], as we would expect in a standard Agree

scenario.

(114)

```
                      v'
              ┌───────┴────────┐
             IO               v'
           [PRON]      ┌───────┴────────┐
                       v              ApplP
                     [PRON]      ┌──────┴──────┐
                      EPP      (IO)          Appl'
                             [PRON]     ┌──────┴──────┐
                                      Appl          VP
                                              ┌──────┴──────┐
                                              V            DO
                                                         [PRON]
                        Agree(V, IO)
```
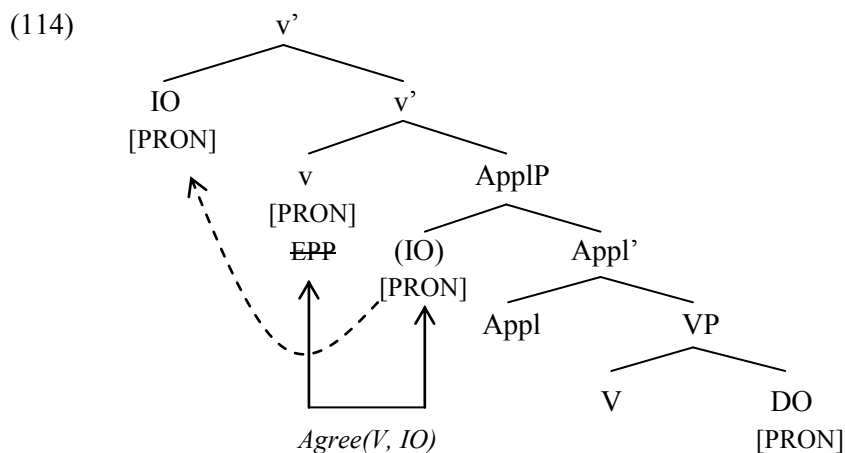
It is not possible for v to agree with the DO in this scenario, because the presence of the IO in-between would trigger a Relativized Minimality violation.

(115)

```
                        v'
              _____
             v                       ApplP
          [PRON]              _____
           EPP               IO               ApplP
            ↑              [PRON]         _____
            |                           Appl         VP
            |                                    _____
            |                                    V         DO
            |                                           [PRON]
            |                                             ↑
            |_____×_____|
```

Agree(v, DO)disrupted by intervening IO
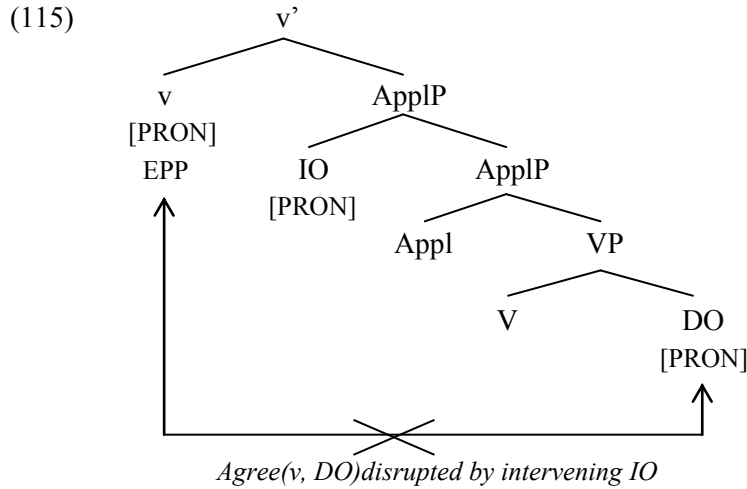
What about the possibility that the IO is not a [PRON]-nominal? In such cases agreement between v and the DO is allowed, but subsequent OS of the DO is still ruled out by Cyclic Linearization. The reason is that the IO DO order set within VP (ApplP in my interpretation here) must be preserved in case one or both objects should leave VP. Now, agreement in [PRON] between v and the DO requires the latter to target [Spec, v] in order to check the EPP feature associated to the [uPRON] feature of v. Since this movement does not preserve the original IO DO order, it is filtered out at PF.

(116)

Agree(V, DO)
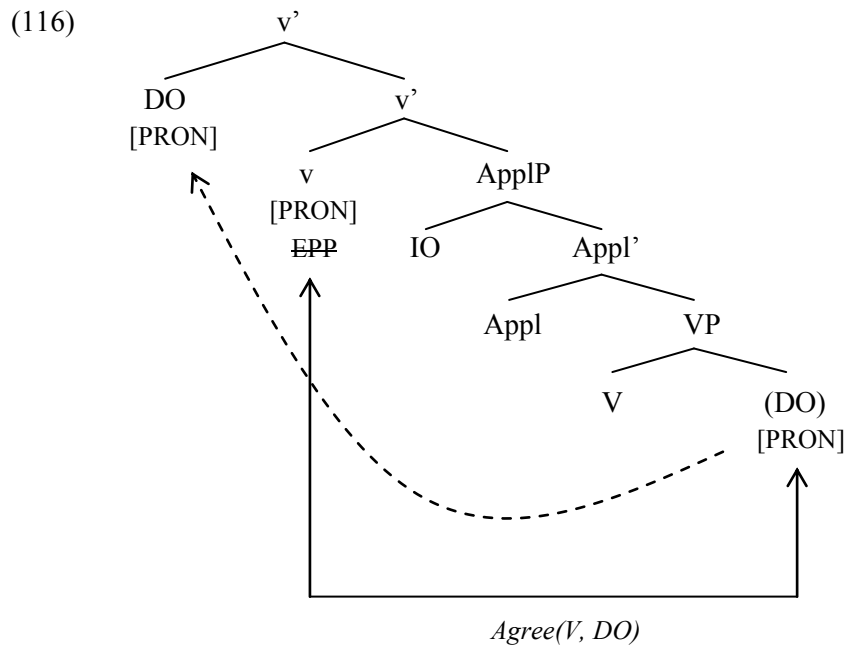
Finally, we have scenario (112c), where the agreement span of v extends to both pronominal objects. We discussed this scenario in some detail with respect to (109, 110), noting that it yields Multiple Shift as in (110), repeated here in (117).

(117)

Agree (v, IO, DO)
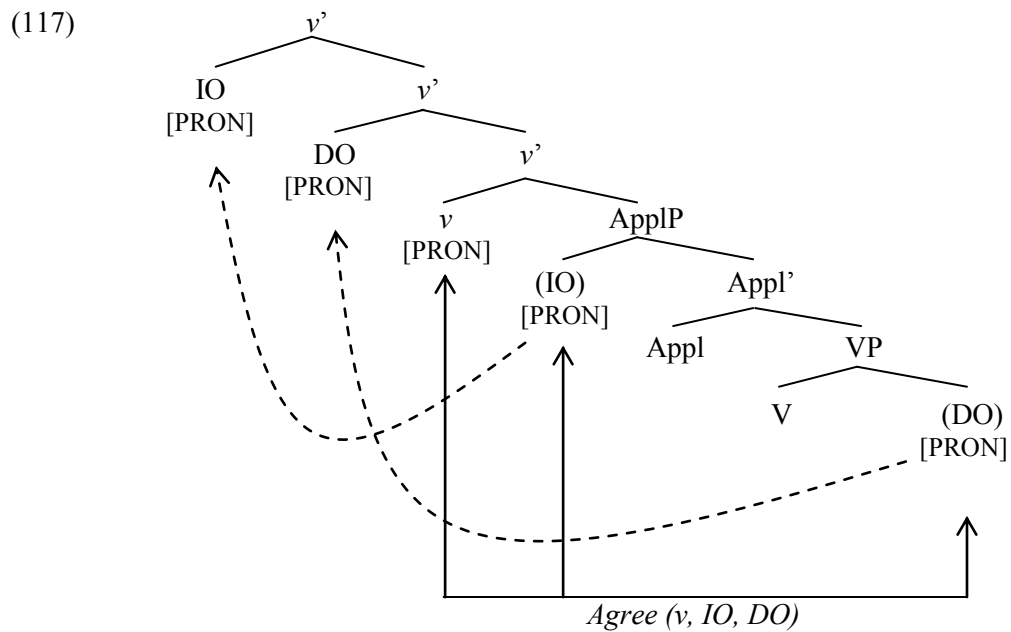
It was equally noted that Cyclic Linearization filters out a potential derivation in which the DO lands above the target position of the IO.

Summing up, we obtain a correspondence between the three scenarios in (112) and the three ditransitive OS patterns of Swedish.

(118) a. Thomas gav   inte [$_{VP}$ t$_V$ henne den].   (v does not agree with any object)

       Thomas gave   not   her   it

    b. Thomas gav   henne inte [$_{VP}$ t$_V$ t$_{henne}$ den].   (v agrees with the higher object alone)

      Thomas gave   her   not   it

    c. Thomas gav henne den   inte [$_{VP}$ t$_V$ t$_{henne}$ t$_{den}$].   (v agrees with both objects)

      Thomas gave   her   it   not

      'Thomas didn't give it to her.'

In addition, the following patterns are correctly predicted to be ungrammatical.
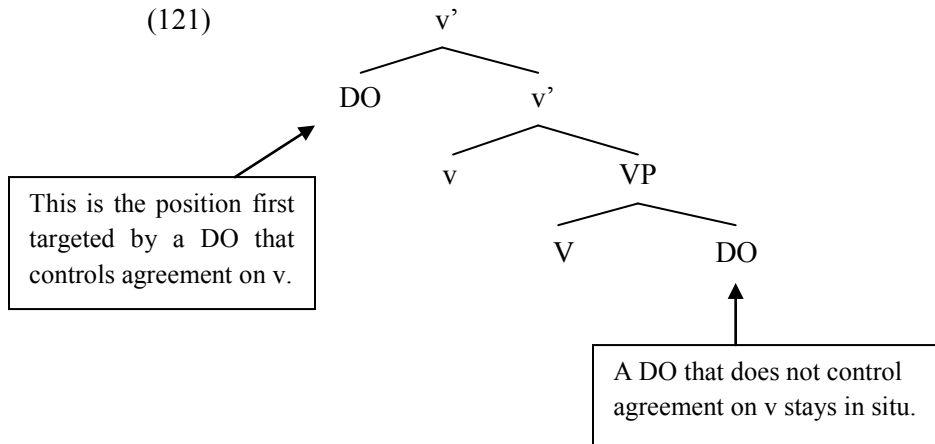
(119)   *Jag gav   den inte [$_{VP}$ t$_V$ henne t$_{den}$].   (by Relativized Minimality and Cyclic Linearization)

     I   gave   it not   her

(120)   *Jag gav   den inte [$_{VP}$ t$_V$ en flicka t$_{den}$].   (by Cyclic Linearization)

     I   gave   it not   a   girl

3.6 When the Agree+EPP approach becomes insufficient: ditransitive VP-topicalization

The goal of the preceding sections was trying to convince the reader that the agreement+movement approach to OS is sustainable, despite the silent nature of the hypothetical agreement procedure involved. In combination with Cyclic Linearization, this approach succeeds in capturing essential aspects of the distribution of Swedish OS, some of which prove elusive to popular alternative approaches based on hypothesis 1 (the prosodic approach) or hypothesis 2 (the semantic approach à la Diesing 1992, 1997). Because these alternative approaches rely on the assumption that OS is driven by some (PF- or LF-related) licensing requirement holding on the item that undergoes the relevant kind of movement, they find a major stumbling block in the fact that Swedish OS is optional. This forces them to appeal to auxiliary assumptions which prove ultimately problematic, in ways we discussed in some detail. By assuming the driving force behind OS to come not from the shifted pronoun itself, but from an uninterpretable feature of v, it is on the other hand possible for the agreement+movement approach to deal with the optional character of Swedish OS. From this perspective, the varying Swedish OS patterns do in fact signal the existence of underlying agreement procedures very similar to those found in overt multiple object agreement languages such as Sambaa. The main distinctive feature of Swedish is that the movement-triggering feature is parasitic on v-agreement, thus forcing any agreed-with pronoun to move out of its original position. Up to this point we have assumed that this movement-triggering feature is an EPP feature, which attracts the agreed-with pronoun to the specifier of v. It is this assumption that I will question in this subsection. In particular, we will see that there are reasons to think that the EPP component of the proposed analysis of OS fails to capture the range of potential positions an agreed-with object pronoun can be found in.

Let us then start by stating the basic prediction of the Agree+EPP analysis concerning the distribution of a pronoun that controls agreement on v. The task is rather straightforward, as there is one particular position such an item *has* to target during the derivation, either as a final or an

intermediary landing site, namely [Spec, v]. In a plain monotransitive structure we obtain the following unambiguous schema.

(121)

```
                        v'
                       /  \
                     DO    v'
                          /  \
                         v    VP
                             /  \
                            V    DO
```

This is the position first targeted by a DO that controls agreement on v.

A DO that does not control agreement on v stays in situ.

What does it take to falsify the EPP component of the agreement+movement approach as we have conceived it thus far? All we need is a Swedish expression where (i) a given pronominal object O can be shown to control agreement on v (that is, Agree (v, O) obtains), and (ii) O is not in [Spec, v], nor could it have used [Spec, v] as an intermediary landing position.

I will claim here that such expressions do exist, and belong to a class of constructions usually referred to as VP-topicalization (Holmberg 1999, Fox and Pesetsky 2005, Engels and Vikner 2007). The label *topicalization* is misleading, to the extent that the procedure consists in fronting a VP containing contrastively *focused* elements. The examples in (122) illustrate monotransitive and ditransitive versions of VP-topicalized structures, where the objects are pronominals which remain within the fronted VP.[36]

---

[36] Note that it is not necessary for any of these object pronouns to bear focus-related stress, as long as the non-finite verb itself is stressed.

(122)   a. [$_{VP}$ Kysste henne] har jag inte t$_{VP}$

             Kissed her   have I   not

         'KISSED her, I haven't.'

     b. [$_{VP}$ Gett   henne den] har   jag inte t$_{VP}$

             given her   it   have I   not

         'GIVEN her it, I haven't.'

We will focus here on a particular VP-topicalization example, which was first reported in Holmberg (1999) (following an observation by T. Taraldsen), and has since become well-known in the OS literature due to its consequences on the proper analysis of Holmberg's generalization, especially after work by Fox and Pesetsky (2005). The relevant construction is an instance of ditransitive VP-topicalization, differing from (122b) in that the DO is found in the usual OS position, rather than within the fronted VP.

(123)   [$_{VP}$ Gett   henne t$_{den}$]   har jag den inte t$_{VP}$

             given her   have I   it   not

         'GIVEN her it, I haven't.'

It is generally assumed that the relevant configuration is the outcome of the DO shifting alone before the VP (or more accurately, the remnant of a participial projection) is fronted. We might illustrate this derivation as in (124) below, where I assume the fronted constituent to be in fact a participial phrase (generated in between vP and ApplP) whose head attracts the verb stem. I ignore for the moment potential agreement procedures holding between v and one or both pronouns.

(124)

CP

PartP — C'

Part **gett**   ApplP

C **har**   TP

[_D **henne**] [PRON]   Appl'

[_D **jag**]   T'

Appl   VP

T   AuxP

V   ([_D ~~den~~])

Aux (~~har~~)   vP

([_D ~~jag~~])   v'

[_D **den**] [PRON]   v'

v   PartP

[_Adv **inte**]   PartP

Part   ApplP

gett

[_D henne] [PRON]   Appl'

(Appl)   VP

(V)   ([_D den]) [PRON]

Phrasal movement
Head-movement

During the first steps of the derivation, the DO moves to the usual OS position. The IO stays in situ.

At the end of the derivation, the PartP remnant is fronted to [Spec, CP].

The derivational history of this example is relevant for our purposes, as it provides us with evidence that the movement-triggering feature parasitic on v-agreement is not an EPP feature. The analysis leading to that conclusion is as follows.

1. Both pronouns are potential [PRON]-bearing goals for v when the VP is in its original position.

2. The fact that the DO *den* surfaces in the OS position indicates, by hypothesis, that Agree (v, DO) in [PRON] obtains.

3. Recall from (115) that Agree (v, DO) is not possible in a ditransitive context if Agree (v, IO) does not take place simultaneously. Otherwise, the procedure would violate minimality (which, following standard assumptions, applies derivationally).

4. It follows that Agree (v, IO) obtains, and thus that *henne* also controls agreement on v. A more complete derivational picture of (123) looks therefore as in (125).

(125)

Agree (v, [_D henne], [_D den])
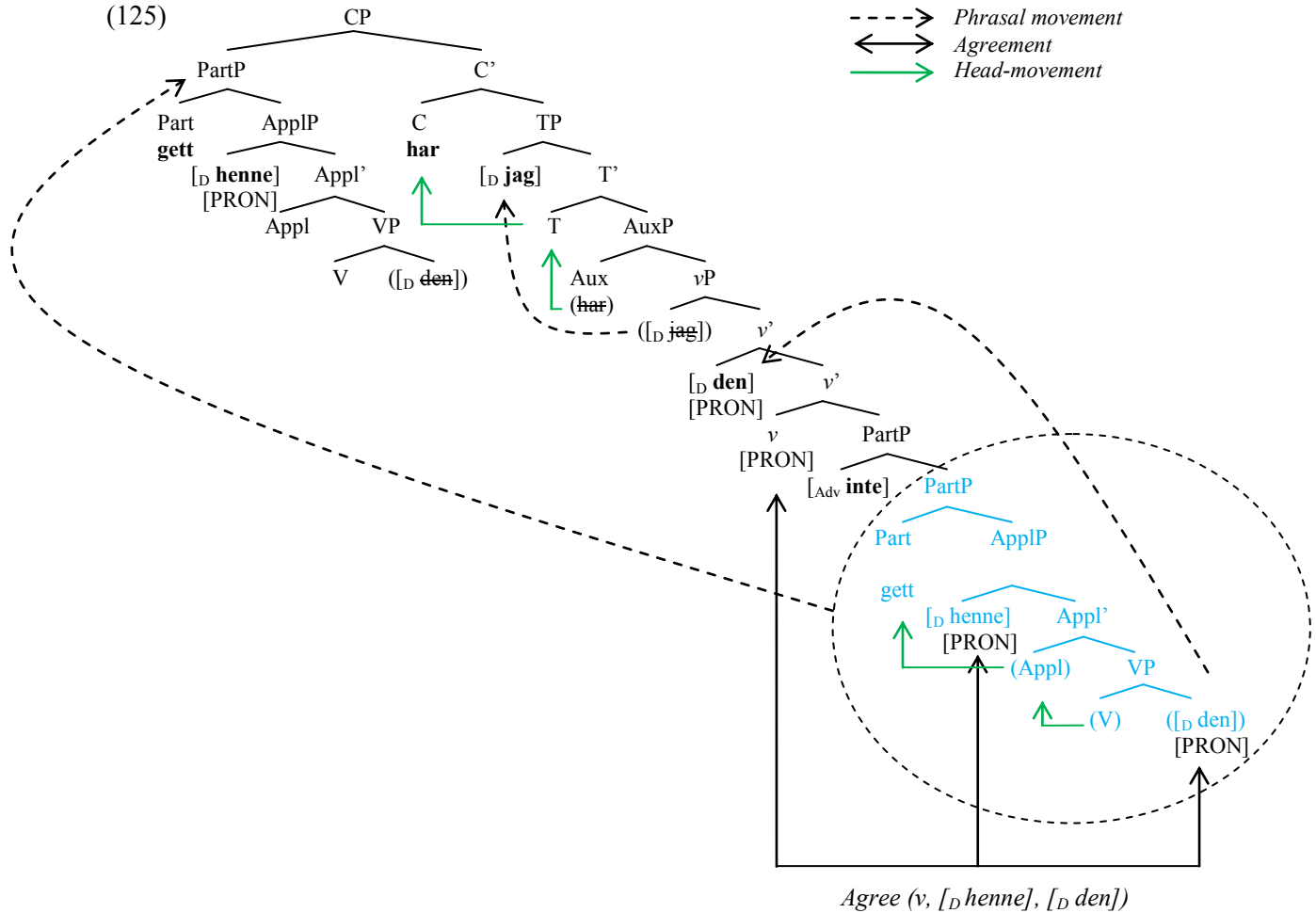
5. Crucial remark: *henne* is not in [Spec, v] in the final derivational product, and in fact never targets that position during the derivation, as it always stays within VP.

I conclude that, while there are reasons to think that OS feeds on a prior agreement procedure between v and the item that undergoes OS, the nature of this movement cannot be accurately captured via an EPP feature associated to this agreement. It is only reasonable to assume that the

agreed-with category fulfills, via movement, some kind of condition associated to v-agreement, but whatever this condition is, it is not (just) an EPP-like requirement.

3.7 Describing the movement-triggering condition associated to [PRON]-agreement

We have identified two potential positions in which the pronoun that controls [PRON]-agreement on v can be found.

(126)   a. The OS position, [Spec, v].

           b. Inside the fronted VP/PartP.

The common denominator between both positions is rather straightforward: neither is in the c-command domain of the probe v. We can therefore formulate the movement-triggering condition associated to [PRON]-agreement as follows.

(127)   Agreement in [PRON] requires the goal to escape the c-command domain of the probe.

This is not to say that the goal can target just *any* position outside the sister of the probe. The condition in (127) only states that an agreed-with pronoun must leave the c-command domain of the probe: it does not state which position it must target. And it does not have to. The set of potential targets of movement is presumably defined in terms of the specific phrase-structural resources available in the language under consideration. In the case of Swedish, this amounts the set described in (126). But, if the c-command restriction on [PRON]-agreement is active in other languages, we might expect this set to vary depending on structural factors relevant in that language.

Let us then conclude this section by stating the final form of our agreement+movement approach to OS.

(128)   a. OS is triggered by agreement in [PRON] between v and an object O its c-command domain.

b. Agreement in [PRON] is associated to the condition that the agreed-with category O escapes the c-command domain of v.

4. Conclusion

The preceding sections introduced the idea that, at least in some contexts, the relation between agreement and movement is mediated through a condition that disallows configurations in which the controller of agreement (the goal) is c-commanded by the target (the probe). This condition was found to be operative in the object agreement systems of two typologically distant languages, Hindi and Swedish. Thus, there are some reasons to think that, in these languages, the range of syntactic positions targeted by an agreed-with object is not limited to what we would expect based on the standard Agree+EPP theory of the agreement-movement connection. The latter theory predicts that agreed-with objects should always target the [Spec, *v*] position, either as a final landing position, or as an intermediary landing position. However, we found a residue of cases (involving some sort of VP-movement in both languages) in which an object does indeed undergo movement as a consequence of a prior agreement relation with *v*, but never targets the relevant position. As a result, it would seem that the relation between agreement and movement in the relevant contexts cannot be described in terms of a condition that enforces one particular landing position. We proposed to describe it instead as a restriction on the distribution of agreed-with objects, banning them from any position within the c-command domain of the functional head bearing the agreement they control. This *c-command restriction*, by definition, subsumes the

range of empirical patterns predicted by the Agree+EPP theory of the agreement-movement connection (since the specifier of the probe lies outside the c-command domain of the latter), but it also covers less familiar patterns that the Agree+EPP theory cannot capture, as seen in this chapter.

A number of questions naturally arise. Thus, how general is this restriction on the structural configurations that may hold between a probe and a goal? Does it emerge in any other domain than the syntax of objects and VPs? Furthermore, *why* should a restriction of this kind hold at all? Should the theory of the agreement-movement connection be generally based on the c-command restriction rather than the EPP property? What kinds of challenges would it have to meet?

The main goal of the next two chapters is to address these questions by proposing a way in which the c-command restriction can be derived from deeper principles. In particular, I will adopt the strong position that the c-command restriction is in fact pervasively found in human language. In the domain of agreement, it forces the goal of agreement G to escape the c-command domain of the probe P. If this movement takes place immediately after agreement obtains, G will re-Merge in the [Spec, P] position. Most languages do in fact offer a mechanism of this kind, especially in connection to the subject system (i.e., movement to [Spec, T]). But it is not the only possibility. Languages such as Hindi or Swedish provide us with a hint that G can in fact be re-Merged as part of a larger constituent in other positions than [Spec, P], without the latter serving as an intermediary target of movement. We will later encounter other instances of movement connected to abstract agreement procedures which seem to work somewhat similarly. The goal of this thesis is to suggest that such patterns are not accidental, but rather stem from the conditions the language faculty imposes on the mapping of grammatical dependencies onto syntactic structures. The next chapters will tackle the task of building such a theory (and thus derive the c-command restriction from general, independently motivated principles of grammar) and face the empirical and conceptual challenges associated to it.

What could be gained through such a theory? The most obvious advantage is descriptive adequacy, to the extent that the challenges to the Agree+EPP theory discussed in this chapter are real. Even if they were not, however, the pursuit of such a theory would still be desirable, the main reason being that the EPP property itself (understood as feature of a head) lacks conceptual motivation. To adapt Thomas Ernst famous sentence to the current setting (Ernst 2002), nobody knows what to do with EPP features (even though many use them routinely). Since Chomsky (2000), no standard story has crystallized concerning the reason why they should exist in the first place – and not because of a lack of effort. Now, suppose that we have a theory of the agreement-movement connection that derives the c-command restriction from general principles. Such a theory is possible, as I will try to show in the next two chapters, which connects the relevant restriction in the domain of agreement to a larger class of grammatical dependencies. Call T a version of this theory (different than the one I will be pursuing) that enforces two additional conditions: (i) that the probe must seek a goal as soon as it is inserted in the structure, and (ii) that the goal must escape the c-command domain of the probe *immediately after* agreement obtains.[37] Under these two fairly familiar conditions, the only available target position for the goal is the specifier of the probe. The Agree+EPP theory can then be conceived as the particular case of T in which (i) and (ii) both hold. The difference between both theories would then become strictly conceptual. In such a setting, it is rather clear that T should be preferred, since it can be shown that the c-command restriction follows from a general condition on the structural expression of a range of grammatical dependencies. No similar move is available for the EPP property, as suggested by the heterogeneous literature on the subject during the last decade.

In the next two chapters, I will try to show that, while such an approach will still raise many questions, there is much more promise of real explanation under a theory of the agreement-movement connection that tries to derive the c-command restriction from general principles than

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[37] Note that, precisely because it requires (ii) to hold, T is not the version of theory I will be pursuing in this dissertation: if (ii) held, the VP-movement phenomena discussed in this chapter would remain out of our grasp.

there is under an EPP-feature-based theory. In particular, I will try to show that the former kind of theory can be independently motivated, and once it is formulated, it holds significant implications concerning the design of agreement in grammar.

Chapter 2

A Dependency Axiom theory of the relation between agreement and movement

1. Introduction

This chapter is an attempt to derive the c-command restriction seen in chapter 1 from deeper principles of grammar. It follows a top-down strategy, starting with two relatively independent discussions on particular aspects of grammatical theory in sections 2 and 3.

Section 2 deals with general conditions on the structural encoding of grammatical dependencies, such as selection, anaphora, NPI licensing, among others. It introduces the idea that there is a general principle of grammar, the Dependency Axiom [DA], which requires that grammatical dependencies, if they are to be encoded in syntax at all, are mapped onto c-command configurations of certain sorts. One possible type of mapping is the domain of the well-known *C-command Licensing Principle* [CLP], which states that the dependent element of a grammatical dependency (the target) must be c-commanded by the element it depends upon (the controller). Another type of mapping we will be interested in is the domain of the less standard *Independence Principle* [INP] (adopted and adapted from Safir 2004 as a general condition on the syntactic expression of grammatical dependencies), which prohibits configurations in which the target c-commands the controller. Some grammatical dependencies seem to be subject to the CLP, while others appear to obey the less strict INP. Both forms of the DA, however, converge in that they rule out configurations in which the target asymmetrically c-commands the controller. Such configurations can nonetheless be repaired in the course of the derivation, by moving the

controller outside the c-command domain of the target (this is enough indeed to satisfy the INP, whereas the CLP additionally requires that the controller moves to a position from where it c-commands the target). This repair mechanism will emerge in later sections as the central hypothesis in the DA approach to the relation between agreement and movement.

Section 3 turns to the properties of Agree, a specialized operation in charge of establishing agreement relations in syntax. This section deals with the conditions under which Agree operates, and its main role is to complete the theoretical backdrop for to the discussion on agreement in syntax to take place in both this chapter and the next. In the context of this exposition, I devote a fair amount of space to exploring in some detail the relation between Agree and c-command. I show, in particular, that the standard view according to which a probe must necessarily c-command a matching goal in order for Agree to obtain between them is questionable, in light of recent work by Baker (2008) and Béjar and Rezac (2009). On such grounds, I will entertain the possibility that c-command plays no role at all in the way in which Agree operates: rather, Agree would obtain as soon as possible in the course of the derivation, irrespective of c-command. This proposal bears some consequences for the DA theory of the movement-agreement connection, as will be seen in chapter 3.

Once the relevant background has been established, section 4 makes the connection between agreement in syntax and the DA. It is first shown that agreement fits the definition of a grammatical dependency established in section 2.1. Since Agree encodes agreement dependencies in syntax, we expect the outcome of the operation to be subject to some form of the DA (either the CLP or the INP). It follows that any configuration in which the probe (the target of an agreement dependency) asymmetrically c-commands its goal (the controller of the dependency) is a potential violation of the DA, and thus we predict that such configurations should trigger the repair mechanism mentioned in section 2, in which the goal is expected to escape the c-command domain of the probe. This lays the foundations of the DA theory of the relation between agreement and movement. The rest of this section shows how this theory is supposed to work by

appealing to the Hindi and Swedish data seen in chapter 1, which in turn suggests that agreement in syntax is subject to the INP rather than the CLP. We therefore achieve a way to derive the c-command restriction of chapter 1 from general principles of grammar.

2. The Dependency Axiom

2.1 On the structural expression of grammatical dependencies

The notion of grammatical dependency is fundamental to the study of language, and intuitive to the point that it is rarely defined. In this dissertation, I will adopt the following view: a grammatical dependency is an antisymmetrical relation holding between two grammatical terms, such that a set of properties belonging to one of these terms (say, B) is determined by the other (say, A). Put another way, a dependency is an ordered relation R associated to the condition in (1).

(1) R<A, B> iff a set of features β belonging to B is a function of a set of features α belonging to A.

I will henceforth call A (the term containing the independent variable(s)) the *controller* of the dependency, and B (the term containing the dependent variable(s)) its *target*. The following examples aim to illustrate some of the dependencies commonly recognized in generative literature (Chomsky 1981, 1995, 2000, 2001, 2005, 2008 and related work). A subset of these is clearly semantic in nature, while others appear to be preeminently syntactic.

(2)   Theta-assignment

     a.   Catalina <u>likes</u> <u>the frog toy</u>.   [B is assigned the θ-role *source* by A]

              A   B

     b.   Catalina <u>kissed</u> <u>the frog toy</u>.   [B is assigned the θ-role *theme* by A]

              A   B

(3)   c-selection (adapted from Pollard and Sag 1987) [1]

     a.   Catalina <u>made</u> [SC Tantan (*to) fly].   [A selects B as a small clause]

              A   B

     b.   Catalina <u>forced</u> [TP Tantan *(to) fly]   [A selects B as an infinitival clause]

              A   B

     c.   Catalina <u>blamed</u> Goku [PP for/*of/*with beating up Vegeta].   [A selects B as a *for*-phrase]

               A   B

     d.   Catalina <u>accused</u> Goku [PP of/*for/*with beating up Vegeta].   [A selects B as an *of*-phrase]

               A   B

---

[1] It is controversial whether c-selection is a legitimate dependency, as it has been proposed that it reduces to the properties of s-selection (cf. in particular Pesetsky 1982). A significant array of facts argues against this view, however - cf. Pollard and Sag 1987, Webelhuth 1992. In particular, it is not rare for closely related semantic relations to differ idiosyncratically in their syntactic realization, as illustrated in (3). I will henceforth assume that c-selection is a grammatical dependency – perhaps the quintessential syntactic dependency -, which strongly correlates with, but is not identical to, s-selection.

e. Catalina <u>charged</u> Goku [_{PP} <u>with/*of/*for beating up Vegeta</u>].   [A selects B as a *with*-phrase]

A   B

(4)   Case-assignment

a.   inter   eos   [Latin: B is assigned *accusative* by A]

<u>between</u>   <u>them.ACC</u>

A   B

b.   prae   eis   [Latin: B is assigned *ablative* by A]

<u>in.front.of</u>   <u>them.ABL</u>

A   B

c.   Það   líkuð   einhverjum   ekki   þeir.   [Icelandic: B is assigned *nominative* by A]

EXPL   liked.<u>3PL</u>   someone.DAT   not   <u>them.NOM</u>

A   B

'Someone didn't like them.'

(5)   NPI licensing

a.   Catalina did<u>n't</u> see <u>anything</u>.   [expression of the existential B is restricted by A,

A   B   cf. *I saw anything* vs. *I saw something*.]

b.   <u>Who</u> said <u>anything</u>?   [compare to *I said anything*.]

A   B

(6)   Referential dependencies of various types

      a.   <u>Catalina</u> likes to indulge <u>herself</u> with chocolate.   [anaphor binding: reference of B

         A   B   is determined by A]

      b.   <u>Everyone</u> should prepare <u>his</u> phaser.   [variable binding: reference of B covaries with

         A   B   that of A]

      c.   <u>T'Pol</u> wants [<u>PRO</u> to leave San Francisco].   [Control: reference of B is determined by A]

         A   B

While the notion of dependency is itself intuitive, the class of relations recognized as grammatical

dependencies varies from one theory to the other. In fact, the very postulation of a certain set of

dependencies such that they underlie grammatical phenomena partly defines the foundation of a

particular theory of grammar. It is complemented by assumptions on structure building, and

crucially, by a protocol that regulates the way in which dependencies relate to structure. For

example, in Lexical Functional Grammar (Bresnan 1982, Kaplan and Bresnan 1995), the

semantic relation between the predicate and its arguments (stated in terms of grammatical

relations) is primarily encoded in the functional structure of a sentence (its f-structure), which is

fundamentally different from its constituent structure (its c-structure). A function ϕ mediates

between c-structure and f-structure, which takes a syntactic category as an argument and retrieves

an f-structure category.

In mainstream generative literature the matter is dealt with differently. In particular, there is an

old intuition in the field that grammatical dependencies, whenever they are expressed

syntactically (in case they are not themselves fundamentally syntactic in nature), are restricted to

configurations involving a second-order structural relation usually referred to as *command*. This idea has been mostly developed in the study of anaphora, where it standardly takes the form of the *c-command condition* on binding (Reinhart 1976, 1983).

(7)   If y depends on x, x must c-command y.

Although this condition was originally devised with referential dependencies in mind,[2] the idea that (7) is but a particular case of a more general principle of grammar regulating the possible syntactic expression of grammatical dependencies has permeated much generative work since the early formulations of the Government and Binding framework (Chomsky 1981, Chomsky and Lasnik 1993, 1995). Examples of this line of thought are manifold, including work on the dependencies introduced in (2-5).

- The GB enterprise itself can be partly characterized as an attempt to unify the structural mapping of distinct grammatical dependencies under the notion *government*, often stated in terms of c-command and potential intervention (Chomsky and Lasnik 1995: 90).
- The more recent operation Agree (Chomsky 2000), which obtains under c-command, has been associated since its inception to A-dependencies such as agreement and case, as well as to A'-dependencies, such as that holding between interrogative C and a wh-word.
- The assumption that c-command relations encode semantic scope is commonplace since seminal work by May (1977, 1985) on Logical Form and Ladusaw (1979, 1980) on NPI licensing.
- Influential work by Rizzi (1990) on locality takes c-command as the fundamental metric of minimality holding on syntactic relations. Collins (2002) extends this line of analysis

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[2] As were its previous incarnations, cf. Langacker 1966, Wasow 1972, Jackendoff 1972, Lasnik 1976.

to c-selection, which is conceived as the result of a checking operation *Subcat*, obtaining

under c-command and susceptible to intervention.

It is clear from these and similar examples that there has been a relatively robust tradition in generative grammar to assume, more or less explicitly, that command relations play a central role in grammar, underlying the structural expression of a much broader range of dependencies than originally envisioned in the domain of anaphora, where the idea was first explored.[3] We could formulate the current understanding of the relevant principle as in (8).

(8)   *The C-command Licensing Principle* (CLP)

         Controllers must c-command their targets.

2.2 Problems of the CLP and an alternative

The CLP has problems of its own, however. Consider for example the case of s-selection of an external argument, under the standard configuration in (9).

(9) $[_{vP}$ YP $[_{v'}$ v …$]]$

The head *v*, which assigns the external argument YP its semantic role, does not c-command it. This is an apparent counterexample to (8) involving a rather fundamental aspect of clausal relations, as the question lurking in the background is the much debated status of specifiers in syntactic theory and the nature of head-specifier relations – as is commonly noted, specifiers are not strictly local to their selectors and they are not c-commanded by them. But there are in fact a

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[3] As far as my knowledge goes, the general principle was stated explicitly for the first time in Sportiche 1995, although the structural relation involved was i-command, a variation on m-command.

number of ways to deal with this problem. For example, one might assume that the features of *v*

which control the dependency percolate to the *v'* level, where they end up c-commanding the

external argument, consistently with the CLP. A different, perhaps more elegant solution can be

reached by assuming, against the standard minimalist view, that syntactic trees are built from top

to bottom (cf. Phillips 1996, Richards 1999). In a root-first derivation of this sort, specifiers are

the residue of an original constituent in which the specifier-to-be is generated as a sister to the

head. For example, θ-assignment to the 'external' argument *Mary* by *v* proceeds in a regular c-

command configuration.

(10)

        Mary   *v*
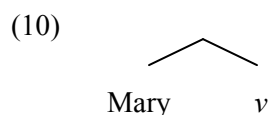
Merge subsequently targets one of the terminal nodes, rather than the root node. In this particular

case, *v* selects for a VP, yielding the structure in (11).

(11)

        Mary

           v   VP
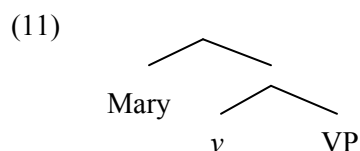
The operation destroys the original constituent in (10) and, crucially, leaves the specifier as a

derivational by-product.

The implementation of root-first derivations has been argued by Richards (1999, 2002) to allow

for advantageous accounts of various syntactic phenomena, including aspects of expletive-

associate relations, superiority, and island effects. Perhaps more importantly, Phillips (1996)

convincingly shows that such a theory of derivations allows for a natural account of the fact that

different constituency tests can sometimes yield contradictory results (cf., inter alia, Brody 1994,

Pesetsky 1995). The issue of head-specifier relations plausibly falls under the scope of this

general problem. To my knowledge, however, the discussion on the theoretical status of specifiers has not considered the possibility that their peculiar properties could in fact provide additional evidence in favor of root-first derivations. I will not delve into this issue any further, as my main objective here is to merely note that the problem of specifiers does not necessarily deliver a fatal blow to the CLP.

A much more serious problem for the CLP can be traced back to unexpected variable binding configurations originally pointed out in May (1977) and Higginbotham (1983), and brought back to the debate by Safir (2004). Perhaps the most famous case is the one in (12a, b), known as *inverse linking* since May (1977), but the others are no less striking. In each example binding is possible despite there being no superficial c-commanding relation at all between the controller and the target – with the additional twist in the inversely linked examples that the deepest embedded quantifier is the one taking wide scope. The possibility of an analysis in terms of QR is made difficult by the fact that in each example (excluding 12d) the controller is embedded in an island – cf. Larson (1985), May and Bale (2005).

(12)   a. [Every daughter of every professor in <u>some small college town</u>] wishes she could leave <u>it</u>.

                                                          A   B

         b. [Nobody who despises <u>anybody</u>] lends <u>him</u> money.

                                       A   B

         c. [<u>Everyone</u>'s mother] loves <u>him</u>.

                  A   B

         d. [<u>His</u> mother] loves <u>Bill</u>.

                  B   A

These and similar examples lead Safir (2004) to question the rigid c-command condition on binding - which is the historic foundation of the CLP -, and defend an alternative position centered on the idea that the principle regulating referential dependencies should be stated as a c-command prohibition, the *Independence Principle*.

(13)   *The Independence Principle* (INP, anaphora version)

        If x depends on y, x cannot c-command y.

The INP is less restrictive than the CLP applied to anaphora, as it makes it possible for binding to take place in the absence of c-command, thereby helping capture the examples in (12). In none of these sentences is it the case that the bindee c-commands its binder, and therefore they are all licit configurations for anaphora under (13).

2.3 Weighing the INP against the CLP

But while the INP successfully accounts for these data, it also encounters some problems, including in particular the analysis of classical weak crossover configurations such as (14).

(14)   *[His$_i$ mother] loves everybody$_i$.

            B   A

Here again, no c-command holds between the terms of the potential dependency, and nevertheless variable binding is ruled out, against the INP's predictions (but consistently with the CLP's predictions). In order to address this issue, Safir (2004:51-53, 69-70) proposes extending the INP in such a way that any nominal node dominating the bindee, but not the binder (for example, the

subject DP node in 14), will also be made dependent on the latter – under the assumption that the INP is not necessarily about dependent *identity*. An adapted formulation of this version of the INP is given in (15).

(15)   *INP, extended version*

    i. If x depends on y, x cannot c-command y.

    ii. If x depends on y, then any nominal node z that dominates x but not y also depends on

       y.

This version of the INP, devised with bound variable readings in mind, successfully deals with WCO configurations such as (14). However, it cannot be extended to backwards anaphora configurations such as (12d), where it would predict, as it does for (14), that the subject DP is dependent on the object, thereby ruling out a grammatical sentence. In those cases, the original INP provides the right result. Notice that this problem does not give a particular edge to the CLP (which accounts naturally for WCO configurations, in which the binder does not c-command the bindee), since the set of examples in (12) still falls out of its scope.

Now, we might wonder whether the INP is, beyond the domain of anaphora, a better alternative to the CLP as a general principle characterizing the appropriate syntactic expression of grammatical dependencies. The principle under consideration can be formulated as follows.

(16)   *The Independence Principle* (INP, general version)

    A target cannot be c-commanded by its controller.

As it turns out, it is not difficult to find examples similar to (12) in other domains, and in fact some of them have been the object of intense scrutiny in the literature. In the following sample,

dependencies of two different types obtain in the absence of c-command, and therefore in apparent violation of the CLP.

(17)   a. Reports [_CP_ [the height of the lettering on the covers of <u>which</u>] [<u>C</u> [_TP_ the government

                                                    A   B

prescribes]]] should be abolished.

    b. …da   ze [_PP_ me   **niets**] [ketent   t_PP_] **en**-was.

          that she   with nothing   contented   NEG-was

          '…that she was not pleased with anything'

    c. *… da ze [ketent [_PP_ me **niets**]] **en**-was.

(17) is a case of heavy pied-piping in a relative clause, discussed by Ross (1967). No c-command relation holds between the deeply embedded wh-operator and the C head. In (17b), from West Flemish (cf. Haegeman 1995), I argue that sentential NPI licensing obtains in similar conditions. To see this, consider (17c): the dependency holding between the Neg-head _en_ and the negative operator cannot proceed whenever the PP containing the latter is found in situ, in a configuration in which the negation c-commands _niets_. It is necessary for the PP to scramble to a higher position, as in (17b), for the derivation to converge. Haegeman (1995) proposes that the relevant target position is the specifier of the Neg-phrase, a _criterial_ position (Rizzi 1990, 2006), where the negative operator is licensed. If this is true, then this licensing obtains in the absence of c-command: the operator itself is embedded in a PP, and neither the operator nor the Neg-head c-command the other.

(18)

```
                              NegP
                 ┌─────────────┴─────────────┐
                PP                          Neg'
           ┌─────┴─────┐              ┌──────┴──────┐
          me          niets         Neg            …
                                     en-
```
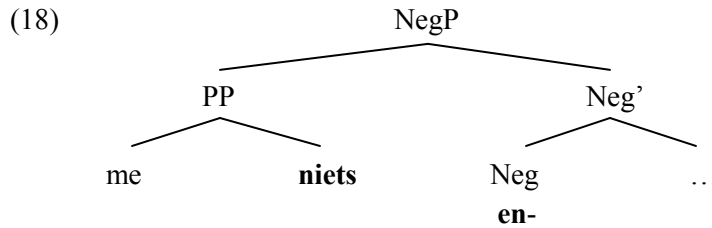
If this is not true, and the scrambled PP position is not [Spec, NegP], it is still sensible from the ungrammaticality of (17c) that the negative operator needs to escape the scope of the Neg-head. This movement cannot be induced by the requirement that the operator c-commands the negation, since there is no position the former can c-command the latter from, as long as it moves as part of a larger PP. The plausibility of an analysis in terms of a c-command prohibition is in turn reinforced by the fact that the operator can occur in situ in the absence of negation, in which case it is restricted to a narrow scope interpretation.

(19)　　…da　ze　[ketent　　[PP me　**niets**　]]　was.

　　　　　that　she　contented　　with　nothing　　was

　　　　Lit. '…that she was pleased with nothing' (i.e. as a denial to a previous claim that that she was pleased by say, a particular book, or alternatively, as a statement that she was pleased with very little.)

Hence, in either case, (17b) directly feeds the possibility of a INP-based analysis.[4]

Together with (12), examples such as (17a, b) naturally fall under the scope of the INP. Furthermore, the INP subsumes an important set of dependencies allowed by the CLP, namely,

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[4] I will not try to develop a full account of NPI licensing in this dissertation, nor take position as to whether the relation between negative morphology and NPIs is mediated through agreement. I limit myself here to assume that languages might vary with respect to the identity of the controller and the target in this relation. In languages such as West Flemish, the Neg head is the target of the dependency, and thus, by the INP, a negative constituent must escape its c-command domain of Neg. In languages like English, on the other hand, I assume the negation to be the controller of the dependency, and negative constituents to act as targets in presence of the former (thus allowing, for example, NPIs in the c-command domain of the negation, as in *I didn't see any linguist*). These assumptions have, of course, many theoretical implications, which are far beyond the scope of this particular dissertation.

those in which the controller asymmetrically c-commands its target, since in these cases it holds that the target does not c-command its controller. Putting aside the issue of WCO configurations, this seems to give an edge to the INP over the CLP. However, not everything is a bed of roses for the INP. One major issue is c-selection, which obtains under sisterhood, i.e. mutual c-command: the selected constituent β, the target, c-commands the selecting head α, a rather fundamental configuration the INP would be expected to rule out.

(20)

$$
\begin{array}{cc}
\alpha & \beta
\end{array}
$$
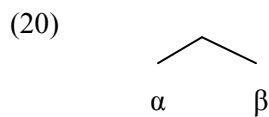
In this case the CLP is a direct characterization of the contexts under which selection can proceed – although some adjustments are necessary to account for the strict locality of the procedure, cf. Collins (2002). To accomplish the same task, the INP would require tweaking common assumptions on bare phrase structure, so that β in (17) is always a projection, possibly non-branching, of the terminal category actually selected by α. While such assumptions are not so unfamiliar (as they underlie standard X-bar theory and can be derived under Kayne 1994's Linear Correspondence Axiom), we find ourselves again in a somewhat uncomfortable position, since no such departure from conceptual simplicity would be required by the CLP. Now, it would seem *prima facie* that a more promising strategy lies in adjusting the original formulation of the INP. In particular, it seems that the selection problem would be circumvented if the relevant principle was based on asymmetrical c-command, which excludes sisterhood, rather than plain c-command. This revised INP would look as in (21).

(21)   *The Independence Principle* (general version based on asymmetrical c-command)

   A controller cannot be asymmetrically c-commanded by its target.

This new INP will admit selection under sisterhood, while also covering cases which challenge an analysis in terms of the CLP – i.e. the variable binding and backwards anaphora examples in (12) and the pied-piping scenarios involving wh- and negative operators in (17). However, even though the INP accommodates these facts, it is not always sufficient to explain why some dependencies are *never* established in the absence of c-command. This is true for selection, and the revised INP version in (21) does not help capture that fact. It is also true for anaphor binding under Principle A of standard binding theory: an anaphor cannot be bound by a DP which does not c-command it (as in *John$_i$*'s mother hates himself*$_i$). In those cases, the CLP provides a more direct explanation of the facts.

2.4 Where both the INP and the CLP converge

Thus, there is certainly a tension between the INP and the CLP, whether we consider them as conditions on binding, or more generally as restrictions on the syntactic expression of dependencies: each of these principles straightforwardly solves a set of problems the other struggles with. But both, on the other hand, converge on a crucial scenario, which is of particular interest in the context of this dissertation: they both characterize a rather frequent pattern in which a movement operation, if available, is required for convergence. Thus, suppose a scenario in which a syntactic object B depends on a syntactic object A which it asymmetrically c-commands. Such an ill-formed structure is shown in (22).

(22)

B   B depends on A

      A

This configuration violates the CLP as well as the INP: it violates the CLP because the controller does not c-command its target, and it violates the INP because the target c-commands its

controller. This, however, does not automatically result in ungrammaticality. The state of affairs in (22) can be salvaged in the course of the derivation, by moving the constituent A to a position from which it c-commands B, thereby satisfying any of the CLP or the INP.

(23)
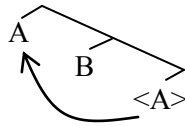
The existence of this repair mechanism is well attested in the domain of anaphoric dependencies. A concrete example can be found in the German sentences in (24). In (24a), the reciprocal in indirect object position cannot be bound by the direct object it c-commands - nor could it be by the singular subject, for independent reasons. Since the reciprocal lacks an appropriate clausemate antecedent, the sentence is ungrammatical. However, scrambling of the DO across the position of the reciprocal in (24b) creates the right configuration for the dependency, thus allowing for the derivation to converge.

(24)   a. *…weil   ich einander$_i$ diese   Frauen$_i$ vorgestellt habe.   (Webelhuth 1989)

           because   I   each.other   these   women   introduced   have

     (…because I introduced these women to each other)

     b. …weil ich diese Frauen$_i$ einander$_i$ __ vorgestellt   habe.

Getting back to the offending configuration in (22), the reader will notice that the INP offers an additional way to salvage the derivation, besides the one considered in (23). The relevant solution consists in pied-piping an intermediate phrase C containing the controller A, but not the target B,

outside the domain of the latter. The resulting configuration in (25) still violates the CLP, but satisfies the INP.

(25)

B depends on A.
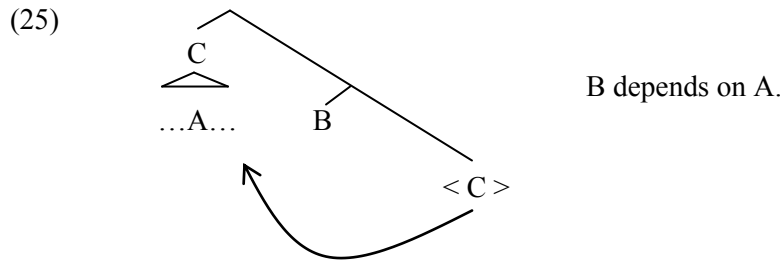
Is this mechanism ever attested? It appears in fact to be relatively common. We discussed two potential examples of this configuration in (17), repeated here in (26). In both cases the controller of the dependency is generated in a position where its target (C in 26a, NEG in 26b) asymmetrically c-commands it. Pied-piping (rather heavy in 26a) moves the controller to a position in which no c-command relation holds between the terms of the dependency, thereby satisfying the INP.[5]

(26)   a. Reports [$_{CP}$ [$_{DP}$ the height of the lettering on the covers of <u>which</u>] [<u>C</u> [$_{TP}$ the government

                                                                  A   B

prescribes t$_{DP}$]]] should be abolished.

    b. …da   ze [$_{PP}$ me   **niets**   ] [ketent   t$_{PP}$] **en**-was.

          that she   with <u>nothing</u>   contented   <u>NEG</u>-was

                            A   B

    '…that she was not pleased with anything'

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[5] It has recently been proposed by Cable (2007, 2010a, 2010b) that pied-piping does not exist as anything else than a descriptive device. I refer the reader to Appendix A for a discussion of this claim.

2.5 The Dependency Axiom

The core idea of this thesis stems from such examples as (24) and (26). The fundamental hypothesis of this and subsequent sections is that there is a very general principle of grammar that regulates the possible structural expression of various types of grammatical dependencies. A range of cases of syntactic movement would find their rationale in the need for elements standing in a particular dependency relation to reach the appropriate structural configuration required by this principle. I will refer to it as the *Dependency Axiom* (DA), an informal label intended to convey that the principle under consideration underlies a wide range of syntactic phenomena. Now, it is not clear whether the DA should be stated as the CLP or the INP – each has its advantages. I will instead adopt an eclectic position, and assume that this duality is *central* to the DA. What we do unambiguously know about it is that it requires dependencies to be structurally mapped onto c-command relations of a certain sort. From that point onwards, it assumes two competing forms, the CLP and the INP, which I will alternatively refer to as the *strong* and the *weak* DA, respectively. The relevant hypothesis is summarized in (27).

(27)　　*The Dependency Axiom*

　　　　Map dependency relations onto c-command relations.

　　　　　a.　*Weak c-command relation: The Independence Principle*

　　　　　　A controller cannot be c-commanded by its target.

　　　　　b.　*Strong c-command relation: The C-command Licensing Principle*

　　　　　　A controller must c-command its target.

I cannot but admit that the DA raises many questions. In particular we may ask why some dependencies should be subject to the strong DA while others are subject to the weak DA. Is there

a more general principle I am missing, which would allow us to understand why it is the case that a particular kind of dependency is mapped in terms of a c-command prohibition, rather than a c-command requirement (and viceversa)? Hopefully, there is. But I am afraid that the search for this principle, however necessary, is way beyond the scope of this thesis. In the subsequent sections and chapters I will focus on a subtask of this general endeavor, which bears on a set of cases in which the strong DA and the weak DA mostly converge, and help explain why syntactic movement not only *can* happen, but *must*. The first step is making the connection between the occurrence of agreement in syntax and the structural conditions imposed by the DA, which is properly the purpose of section 4. Before we get there, however, section 3 further develops the background by focusing on Agree and its properties, and taking a stand on the relation between Agree and c-command.

3. Properties of Agree

The previous section dealt with general conditions on the syntactic encoding of grammatical dependencies, in an attempt to lay down some of the foundations for a new theory of the relation between agreement and movement. We saw, in particular, that a very general principle of grammar, the Dependency Axiom, prohibits configurations in which the target of a dependency asymmetrically c-commands the controller of that dependency. Such potential violations of the DA, however, can be repaired by moving the controller out of the c-command domain of the target, yielding potentially different outcomes depending on whether the relevant dependency is subject to the CLP or the INP. The reader must have already sensed that agreement (as long as we have reasons to think that it takes place in syntax) is the kind of relation we might describe as a syntactically encoded dependency, and thus the main objective of section 2 was to prepare the ground to explain why agreement and movement should correlate, a task we will tackle in section 4.

The present section completes the background by discussing the theoretical status of the other main player in a theory that seeks to explain the relation between agreement and movement, namely Agree, the operation in charge of establishing agreement relations in syntax. The major theme of this section (to be introduced in section 3.2) is that the standard conditions on Agree are too rigid to account for the observed level of variation in agreement phenomena across languages. This suggests, on the one hand, that Agree is not as richly specified as is usually thought, and, on the other hand, that the way in which it might apply from a language to another might be conditioned by different parameters, which either directly state varying conditions under which Agree is allowed to proceed, or else affect the configurations in which it operates (for example, by requiring that a given head is inserted in a clause-structural position where it disrupts agreement between a functional head above it and a potential goal underneath it – an approach to Bantu subject-object reversal in these terms is one of the goals of Appendix B). In this context, the main topic I will be focusing on is the relation between Agree and c-command, which, as the previous section might lead to think, should be a primary concern for us. We will in fact find reasons to question the standard assumption that probes must c-command their goals in order for Agree to obtain between them, based on work by Béjar (2003), Béjar and Rezac (2009), and Baker (2008) (sections 3.3, 3.4). On these grounds, I will claim (section 3.5) that it is possible to dispose of the c-command condition on Agree. This proposal turns out to be relevant for the DA theory of the agreement-movement connection to be developed in section 4, although its consequences will not be apparent until the first sections of chapter 3.

3.1 On Agree and feature uninterpretability

Since it was first proposed in Chomsky (2000) and refined in Chomsky (2001), the idea that feature checking (or *valuation*, depending on the relevant version of the model) is mediated through a specialized operation – called *Agree* - has become part of the standard generative

toolkit. I will take as a starting point here the version of the theory of Agree stated in Chomsky (2001). This model is founded on the assumption that the phi-features of inflectional categories (such as person, gender or number) cannot have any intrinsic value, since their hosts themselves lack the descriptive content associated to nominal categories - put another way, the fundamental assumption of the theory of Agree is that the lexicon contains items (such as inflectional heads) which bear *misplaced* features (cf. Pesetsky and Torrego 2001), features that cannot receive any semantic interpretation given that their host is not of the right type. The operation Agree allows for this mismatch to be solved in syntax, where these misplaced features can obtain values by copying them from nominal categories in their nearby environment (which do bear interpretable versions of these features), as a pre-condition for their deletion before they reach the interface. Under this perspective, what we see as agreement is in fact the PF reflex of a valuation operation that took place before the relevant features were stripped from the derivation.

While this theory has been enormously influential, it has also raised a number of questions. One set of questions, for example, focuses on the status of feature uninterpretability in a minimalist design. Why should the misplaced features be valued before deletion? Why not delete them right away? And most importantly, why would an optimal system allow for misplaced features in the first place? Another set of questions bears on the assumption, not necessarily unproblematic, that the features of the nominal that controls agreement are semantically interpretable, and therefore have an intrinsic value relative to the nominal's denotation. As pointed out by Frampton et al. (2000), this idea is heavily challenged by the fact that nominals may exhibit non-natural gender and class distinctions which do not mirror any obvious meaning distinction.[6] The issue at hand for

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[6] A famous example of such (at least apparently) arbitrary correspondence between morphological class and noun semantics is found in the noun class system of Dyirbal (Dixon 1972), which includes the following groupings.

(i)   Class I   human males; moon; rainbow; storms; kangaroos, possums, bats; most snakes;
                         fishes, insects; some birds (e.g. hawks); boomerangs
        Class II   human females; sun and stars; anything connected with fire and water; dogs,

the theory of Agree is that, depending on the language, non-natural gender can trigger agreement. In Spanish, for example, the noun denoting the sun is masculine, and will control gender agreement on the past participle of a periphrastic passive.

(28) El **sol** fue vist-**o** /*vist-a por todos.

the **sun.M** was seen-**MSG** / seen-FSG   by everybody

'The sun was seen by everybody.'

If we accept the idea that the phi-features of inflectional heads lack an intrinsic value because they are not semantically interpretable on their particular host, then it remains to be explained why the non-natural gender feature of some nouns should have any intrinsic value at all – *a fortiori* given the fact that such features can control agreement. It would therefore seem that semantic predictability is not a definitive criterion to determine whether a given feature should have an intrinsic value, or not. As a result, while it is relatively uncontroversial to say that features of inflectional heads obtain their values from nominals in their syntactic environment, it is not so obvious why they should lack values in the first place.

These issues raise legitimate, deep questions, and I will not have much to say about them – nor does the literature, not because the topic is unimportant, but precisely because understanding of these matters is incipient. However, as a prelude to the discussion on the connection between Agree and the DA in section 4, I will devote the current chapter to completing the background on a related set of issues, which have received considerably more attention in the literature. As mentioned, the main question behind them bears on how rigid we should expect the derivational

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(continues from previous page)

	platypus, echidna; harmful fish; some snakes; most birds; most weapons
Class III	edible fruits and the trees that bear them; tubers
Class IV	body parts, meat, bees and honey, wind, most trees, grass, mud, stones, etc.

conditions holding on the operation Agree to be, with special reference to the role of c-command in the relevant procedure.

3.2 Conditions on Agree

The following conditions on Agree are more or less standardly recognized (cf. Chomsky 2000, 2001; Baker 2008).

(29)   a. Agree holds between an inflectional head bearing unvalued features (the probe P) and a nominal category (the goal G).

b. The probe must c-command the goal.

c. The features of the goal must match those of the probe.

d. The goal must be active, i.e. available for agreement. It is usually thought that a case-valued nominal is not an active goal.

e. Agree (P, G) results in G being assigned structural case (the nature of which is believed to depend on the identity of the probe).

f. There must be no true or defective intervener X between P and G, such that P c-commands X and X c-commands G.

i. A category X is a *true* intervener if it is available for agreement and matches the unvalued features of P.

ii. A category X is a *defective* intervener if it is not available for agreement.

g. Agree (P, G) holds if both terms of the relation are found within the same derivational domain, usually recognized as the phase.

It is interesting to note that, apart from (29c), every other condition in (29) has been questioned and/or relativized in one way or another in different studies. For example, the assumptions that

the agreement relation is bijective (29a) and that it is subject to intervention effects (29f) had to be relaxed in the study of Multiple Agree configurations (cf., among others, Anagnostopoulou 2003, Hiraiwa 2005, Nevins 2007, and much related literature). Assumption (29g) has also sparked some debate, cf. inter alia Boeckx and Niinuma (2004), Bošković (2007), Bobaljik (2005). Similarly, assumptions (29d, e) have recently been subject to scrutiny in the literature on agreement in Bantu (cf. in particular Carstens 2011, Carstens and Diercks to appear), motivated by hyperraising patterns such as (30), from Lubukusu.

(30)   Chi-saang'i   chi-lolekhana   chi-kona.

        10-animal   10SA-seem   10SA-sleep.PRS

        'The animals seem to be sleeping.'

The derived subject triggers agreement on both the raising verb and the embedded predicate. The interest of this example for the standard theory of Agree is that the embedded verb is tensed: on standard assumptions we expect its subject to be assigned nominative within the lower TP. However, this very subject also controls agreement on the matrix verb, which enters the derivation at a later stage. It would therefore seem that despite assumptions (29d, e), the subject is still available for agreement after having been assigned case (if such an assignment takes place at all), which leads Carstens (2011) to assume that the activity condition (29d) is subject to parameterization. A similar point is made by Baker (2008, to appear), who questions the universality of the relation between case and agreement, a widespread assumption since George and Kornfilt (1981). As Baker (2008, to appear) points out, some languages (in particular familiar Indo-European languages such as Hindi) do exhibit interaction between agreement and case, so that overtly case-marked nominals are unable to control overt agreement on the verb. This is expected from assumption (29d), yet other languages show no trace of such a relation. In Burushaski, for example, subject agreement obtains irrespective of the subject being assigned

nominative or ergative (31a, b), and object agreement takes place with the higher object whether the latter is absolute or dative (31c, d).

(31) a. **Jɛ**   uːņɛ xidmʌt ɛč-**a**   b-**a**.
         I.NOM   your service   do-1sS.IPFV   be-1sS
         '(For these many years) I have been at your service.'

      b. **Ja**   be.ʌdʌpi.ɛn ɛt-**a**   b-**a**.
         I.ERG   discourtesy   do-1sS.PFV   be-1sS
         'I have committed a discourtesy.'

      c. (**Uːņ**)   **gu**-yɛtsʌ-m.
         you.ABS   2sO-see-1sS
         'I saw you.'

      d. **Uːņ-ər**   hik trʌņ   **gu**-čičʌ-m.
         you-DAT   one half   2sO-give-1sS
         'I shall give a half to you.'

On the one hand, such examples in which agreement and case appear to be dissociated make it difficult to posit assumption (29e) as a universal condition, as there is no one-to-one correspondence between the agreeing head and the case of the agreed-with nominal. On the other hand, if dative and ergative are taken as inherent cases, as they frequently are, such examples can also be used to argue against a rigid conception of assumption (29d), to the extent that inherent case-marking, related to s-selection, does not prevent the DP from entering agreement processes – while the opposite can be seen in Hindi or Icelandic. Keeping a rigid conception of (29d) leads to

an uncomfortable position in which inherently or lexically case-marked nominals must sometimes be assumed to bear a structural case feature on top of their inherent/lexical case.[7]

To sum up this partial review, it turns out that despite its widely accepted status as a Narrow Syntax mechanism, the operation Agree is not well understood. Beyond the matching condition (29c), which itself captures the intuitive content of the notion agreement, it is not clear why the operation yields one-to-one relations in some cases and one-to-many relations in other cases (and therefore to which extent it might be sensitive to true intervention or not), it is not clear what its domain of application is (i.e. the phase or some other construct), and it is not clear what it takes for a DP to become inactive as an agreeing goal. Most commonly, these discrepancies are treated in terms of syntactic parameterization (cf. for example Anagnostopoulou 2005; Baker 2008, to appear; Carstens 2011), and it is this strategy I will henceforth adopt whenever relevant.

3.3 The c-command condition and agreement displacement

With this in mind, let us now focus on the status of (29b), the c-command condition, which is directly relevant to the aim of this dissertation. Its original statement belongs to Chomsky (2000), as follows (bold added).

> Matching is a relation that holds of a probe P and a goal G. Not every matching pair induces Agree. To do so, **G must (at least) be in the domain D(P) of P** and satisfy locality conditions. The simplest assumptions for the probe-goal system are shown in (40).
>
> (40)   a. Matching is feature identity.
>   b. **D(P) is the sister of P.**
>   c. Locality reduces to "closest c-command"
>
> <div align="right">Chomsky (2000: 122)</div>

---

[7] Chomsky (2000:127, 2001:43), based among others on Taraldsen (1995), makes exactly this claim for Icelandic quirky case.

This allows us to filter out statement (29d), repeated here as (32), as faithfully reflecting Chomsky's original hypothesis – which was put forward, as he himself writes in comment to his (40) above, "in the absence of evidence to the contrary".

(32)   The probe must c-command the goal.

During the decade since Chomsky (2000, 2001), evidence has been pointed out which has led researchers to depart from (32), and invites us to ask whether c-command should be a primitive of the operation Agree altogether. Prominent among these phenomena are agreement displacement (or *eccentric* agreement, cf. Hale 2001) configurations, whose implications for the theory of Agree and agreement have been explored in particular by Rezac (2003, 2006), Béjar (2003) and Béjar and Rezac (2009). In such configurations, a verbal agreement morpheme is controlled by the internal argument, unless the latter is not specified for a certain feature F but the external argument is, in which case it is the external argument that becomes the controller. In Basque, for example, the verbal prefix privileges the search for a [participant] in the VP. If the internal argument bears such a feature, it will always control person agreement on that prefix irrespective of the external argument bearing a [participant] feature or not.

(33)   a. ikusi   **z**-in-t-u-da-n   *IA bears a [participant] feature and controls person agreeement on the prefix.*

         seen   **2**-X-PL-have-1-PST

         'I saw **you**.'

         b. ikusi   **n**-ind-u-zu-n   *Idem.*

         seen   **1**-X-have-2-PST

         'You saw **me**.'

     c. ikusi **n**-ind-u-en   *Idem.*

       seen **1**-X-have-PST

       'He saw **me**.'

The twist occurs when the internal argument is 3rd person and lacks a [participant] feature. In that scenario the prefix turns to the external argument to copy its person feature if it is 1st or 2nd.

(34)   ikusi **n**-u-en   *IA does not bear a [participant] feature. EA controls person agreement on the prefix.*

       seen **1**-have-PST

       '**I** saw him.'

It is unlikely that this prefix spells out agreement on any head higher than the *v*P, as this would lead us to expect an external argument bearing a [participant] feature to induce an intervention effect in (33a, b), contrary to case. And in fact, since the prefix encodes mainly object agreement, it is plausible to assume that it spells out small *v*. The morphology points in a similar direction, as the tense morpheme and its associated subject agreement are located on the right edge of the verb, suggesting that material closer to the left edge originates from lower portions of the structure. The question then is how it is possible at all for the prefix to agree with the external argument in (34), given assumption (32). Béjar and Rezac (2009)'s answer to this problem is that, in the languages under consideration, Agree works cyclically, with each cycle defining a potential search space for the probe. The first Agree cycle corresponds to the first *v*' stage of the derivation, after *v* has been merged to its VP – i.e., the only probing domain for *v* in the traditional chomskyan approach under (32). The second cycle, a departure from (32), corresponds to the *v*P level of the derivation. This cycle is authorized in case a given feature F of the probe fails to be assigned a value during the first cycle. In this scenario, the probe turns to material it does not c-command to seek a matching goal for F. Basque small *v* exhibits a bias in favor of the feature [participant] in order to

determine the controller of agreement, but in other languages it might show more sophisticated featural requirements. In the Algonquian language Nishnaabemwin, for example, *v* exhibits a double bias: as in Basque, [participant] features are privileged over (most) other features in determining the controller of agreement, but this requirement is in turn overridden by a bias towards the feature [addressee]. As a result, 1st person nominals will control person agreement on *v* if the other argument is 3rd person (cf. 35), but in turn 2nd person nominals will always control this agreement in the non-reflexive paradigm regardless of the featural specification of the other argument (cf. 36).

(35)   a. **n**-waabm-ig

        1-see-3.INV

        'He sees **me**.'

        b. **n**-waabm-aa

        1-see-DFLT

        '**I** see him.'

(36)   a. **g**-waabm-in

        2-see-1.INV

        'I see **you**.'

        b. **g**-waab-am

        2-see-DFLT.1

        '**You** see me.'

c. **g**-waabm-ig

   2-see-3.INV

   'He sees **you**.'

d. **g**-waabm-aa

   2-see-DFLT

   '**You** see him.'

Béjar and Rezac (2009) capture such articulated biases through a layered featural structure of the *v*-probe, subject to parameterization – I refer the reader to the relevant work for details. The main point for us here is that such patterns are plausible evidence that in some languages it is possible for a probe to seek a goal outside its c-command domain.

We might of course be tempted to entertain an alternative approach to the relevant data that would preserve condition (32). In a model that satisfies this condition, it seems that the cyclic probing proposed by Béjar and Rezac (2009) can be indirectly obtained through *v*-to-T movement, under the assumption that an unvalued probe can still seek a matching goal after it undergoes head movement. As a result of such movement, the c-command of the probe would grow larger, thus yielding a system roughly equivalent to Béjar and Rezac's, without upwards probing being necessary. In (37), for example - based on the Nishnaabemwin sentence (35b) -, the 3rd person object fails to value the unvalued [participant] feature of the probe (labeled as [*u*P]) at the *v*'-level of the derivation. Subsequent *v*-to-T movement, taking place after the external argument and T have been inserted in the structure, results in the c-command domain of *v* encompassing the whole *v*P (cf. 12: head movement is indicated by a blue arrow). From this new position, *v* is able to find a nominal bearing a matching feature – i.e., the 1st person pro in external argument position, as illustrated in (39).

(37)

v'
 / \
v   VP
[uP] / \
     V   pro
  -waabm- [+3]
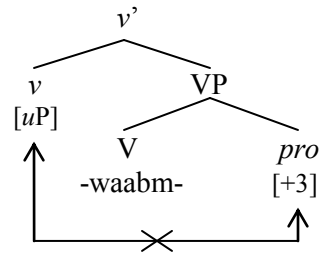
The IA does not match the unvalued feature of the probe.

(38)

T'
 / \
v + V + T   vP
[uP]   /   \
          pro   v'
    {[participant] ;[speaker] }   /   \
                          (v+V)   VP
                                    /   \
                                  (V)   pro
                                        [+3]
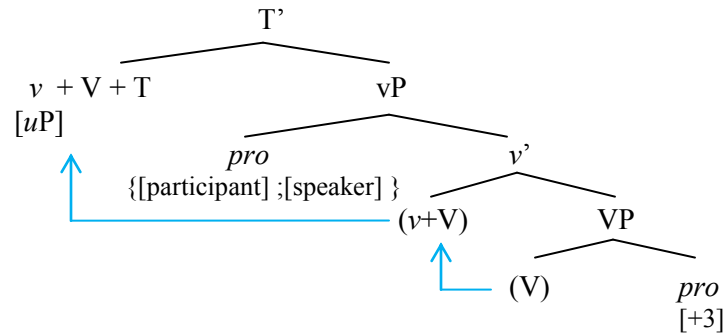
The vP is the new c-command domain of v after v-to-T movement takes place.

(39)

T'
 / \
v + V + T   vP
[√P]   /   \
          pro   v'
    {[participant] ;[speaker] }   /   \
                          (v+V)   VP
                                    /   \
   Agree (v, pro)   (V)   pro
                                        [+3]
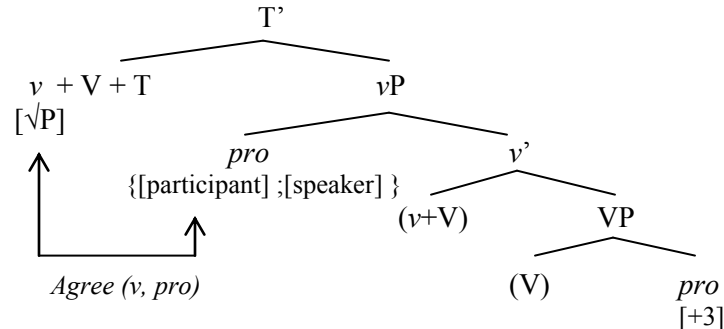
From this position, the probe can find a matching goal.

The main drawback of this alternative system is that there is no straightforward way to explain why *v*-agreement should bleed T-agreement (that is, garden variety subject agreement) once *v* adjoins to T. But this is exactly what happens in the paradigm in (33, 34): the subject agreement suffix crossreferences the person feature of the external argument just in case agreement is successful between *v* (whose features are spelled out in the prefix) and the internal argument (cf. sentences 35a, 36ac). Otherwise, both agreement morphemes must compete to copy the relevant

feature values of the external argument, in which case the prefix takes precedence and the suffix adopts a default form (cf. sentences 35b, 36cd). It is not immediately obvious how this mechanism can be captured through the derivational procedure described in (37-39) above. For example, if we operate under the fairly common assumption that head-adjunction leads to an articulated structure such that lower heads are more deeply embedded in the final morphemic complex than higher heads, the resulting configuration in (40) (which gives the morphemic partition for the verbal form in 36b, with default subject agreement) does not make it transparent why *v* should bypass T in establishing an agreement relation with the external argument. Rather, if the higher label of the word form is that of the higher head (which means, for practical purposes, that the properties of the final word form are determined by this head), as is often assumed, we might expect the T-probe to bleed *v*-agreement with the external argument, contrary to fact.

(40)

```
                    T
            ┌───────┴───────┐
            v               T
       ┌────┴────┐         -aa
       v         V        DFLT
       n-      -waabm-
       1SG       see
```

cf. *Nwaabmaa*, 'I see him'.
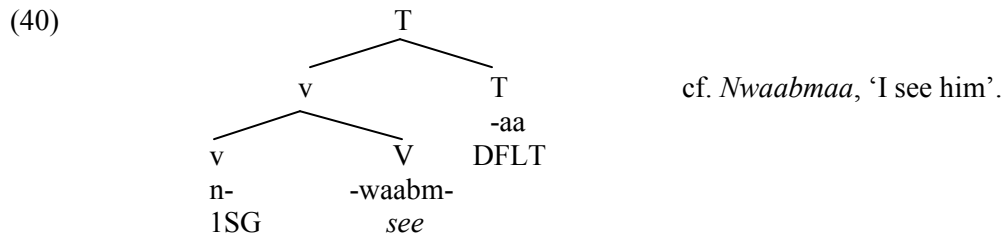
If, on the other hand, we assume a flat structure for the final morphological product (as in 41), we are still at a loss to understand why the *v*-probe should bleed T-agreement. In such a configuration, T and *v* are structurally symmetrical, and thus we would not expect one to take precedence over the other.

(41)

```
        ┌────┬────┐
        v    V    T
        n- -waabm- -aa
        1SG  see  DFLT
```
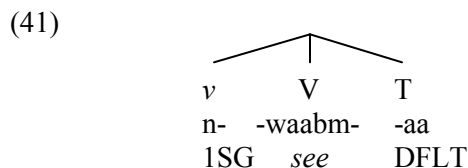
We may then switch strategies and look for a syntactic explanation. For example, imagine an intermediate head H between T and v, such that *v* must first adjoin to H before head-adjunction to T takes place (cf. 42, EA = external argument).

(42)

T'
├── T [*u*P]
└── HP
    ├── H
    └── vP
        ├── EA
        └── v'
            ├── v [*u*P]
            └── VP
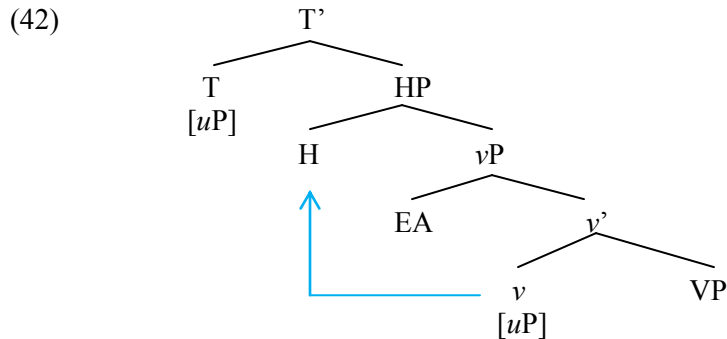
If *v*-to-H movement precedes insertion of T in the structure, the EA will be accessible to *v* before T has any chance to probe. In this system, the bleeding relation of v over T follows as a familiar intervention effect: the [*u*P] of T cannot access the external argument because of the intermediate, valuated and uninterpretable [participant] feature of *v*. But this approach bites its own tail: if the [*u*P] of *v* were valued by the object prior to *v*-to-H movement (which we would expect to take place in a uniform fashion), we would end up with exactly the same configuration – again, the intermediate, valuated and uninterpretable [participant] feature of *v* stands between the [*u*P] of T and the external argument. Put another way, the bleeding effect should arise whether the [*u*P] feature of *v* is valued by the subject or by the object. The latter possibility yields the wrong prediction, insofar as full subject agreement, distinct from object agreement, is possible (cf. 35a, 36ac). Thus, it would seem that in this syntactic approach, as in the morphosyntactic alternatives above (all of them presupposing condition 32), the bleeding effect will not follow without stipulation or further apparatus. On the other hand, the effect is captured effortlessly in Béjar and Rezac's system, precisely because it gets rid of condition (32). In other words, the adoption of this condition not only enriches the conceptual apparatus, but appears to lead to further stipulation in front of agreement displacement phenomena.

3.4 More examples of upwards probing: Baker (2008)

Baker (2008) points out further instances of configurations plausibly involving upwards probing by a verbal-related inflectional head. In the Maipurean language Tariana, for example (Aikhenvald 2003), verbal agreement seems rather unoriginal at first sight, as verbs agree with their subjects rather than their objects, if any (cf. 43).

(43)   a. **Nuha** siɾuɾi   **nu**-walita   **nu**-a.
             I   cumatá.leaves **1SG.SUBJ**-offer **1SG.SUBJ**-go

        'I am making an offering of cumatá leaves.'

        b. Na-na   kuphe-nuku   **di**-walita.

         3PL-OBJ   fish-TOP.NON.A/S **3SG.SUBJ**-offer

         'He offered them fish.'

        c. **Nu**-ɾuku   **nu**-a.

         1SG.SUBJ-go.down   **1SG.SUBJ**-go

         'I am going downstream.'

However, verbal agreement disappears from passive and non-agentive verbal forms, even though the tense morpheme persists.

(44)   a. tʃo! Nhua-sini   **ka**-ñha-kana-kasu.   *The invariant prefix **ka-** occupies the subject agreement slot.*

        Oh   I-too:ACT **REL**-eat-PASS-INT

        'I, too, am about to be eaten!'
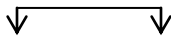
b. Lama-sina   diha-dapana.   *No agreement prefix on **lama-**, 'burn'.*

burn-REP.NONVIS ART:CL-habitation
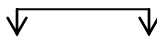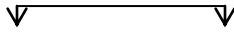
'This house was burning.'

Subject agreement in Tariana is therefore linked to the argument structure of the verb (a rather remarkable fact from an Indo-European point of view, since, in Indo-European languages, tense and subject agreement go hand in hand, with only one notable exception found in Portuguese). Based on these and additional facts from the language, Baker draws the plausible conclusion that this agreement is hosted on *v* rather than T. This makes sense, since *v*, as the locus of transitivity, is commonly assumed to be absent from the structure whenever the clause lacks an external argument - the presence of agreement would therefore reveal that of *v*, which is consistent with the pattern above. But, since Tariana only exhibits agreement with external arguments, this in turn must mean that *v* seeks a matching goal by probing upwards rather than downwards. Notice that in agreement displacement languages such as Basque or Nishnaabemwin, the occurrence of upwards probing results from prior failure of a downward probing procedure. In Tariana, on the other hand, it would seem that upwards probing is the primary, and only mechanism yielding agreement relations.

How frequent is this pattern? Is Tariana exceptional in this regard? Baker (2008) suggests it is not. One of the examples he puts forward bears on subject agreement in the Bantu family. Bantu languages exhibit verbal agreement with the preverbal constituent, which is usually the external argument, and thus the corresponding agreement morpheme is commonly known as the subject marker [SM] in the relevant literature. The following examples are from KiNande.

(45) a. **Omukali** mo-**a**-seny-ire olukwi (lw'-omo-mbasa).

   woman.1 AFF-**SM.1/T**-chop-ext wood.11 LK.11-LOC.18-axe.9

   'The woman chopped wood (with an axe).'

   b. **Abakali** **ba**-[a]-gul-a amatunda.

   woman.2 **SM.2**-T-buy-FV fruit.6

   'The women bought fruits.'

Now, some Bantu languages offer the possibility of fronting the object or a prepositional locative to this preverbal position, while the external argument remains postverbal. In such scenarios, the agreement prefix cross-references the features of the fronted constituent, rather than those of the external argument, as illustrated in the KiNande sentences below.

(46) a. **Olukwi** si-**lu**-li-seny-a bakali (omo-mbasa).

   wood.11 NEG-**SM.11**-PRS-chop-FV women.2 LOC.18-axe.9

   'Women do not chop wood (with an axe).'

   b. **Omo**-mulongo **mw**-a-hik-a mukali.
   LOC.18-village.3 **SM.18**-T-arrive-FV woman.1

   'At the village arrived a woman.'

Similar patterns have been reported in Chichewa (Bresnan and Kanerva 1989), Kirundi (Ndariyagije 1999), Swahili (Barrett Keach 1985), Kilega (Kinyalolo 1991), and Rwanda (Kimenyi 1978). Facts such as these lead Baker to entertain the possibility that inflectional heads in the relevant languages are only authorized to probe upwards. If so, and assuming for ease of

exposition that it is the head T that bears the relevant kind of agreement, all movement to [Spec, T] will provide T with a potential goal for its unvalued features.

(47)
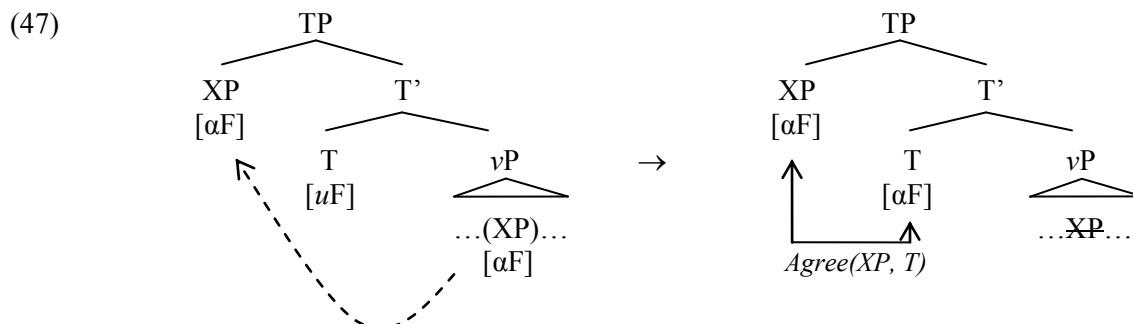
According to Baker, this procedure is not just an isolated feature of T-agreement in the languages under consideration. He points out that the behavior of agreement on C and *v*, among other heads, is also consistent with the idea that inflectional heads must probe upwards. In KiNande, for example, the complementizer associated to speech verbs agrees with the matrix subject rather than any embedded phrase (cf. 48).

(48) *pro*₂ mo-**ba**-nyi-bw-ire   **ba**-ti   **Kambale** mo-**a**-gul-ire   eritunda.

AFF-**SM.2**-1SG.OBJ-tell-EXT **SM.2**-that Kambale AFF-**SM.1**-buy-EXT fruit

'They told me that Kambale bought fruit.'
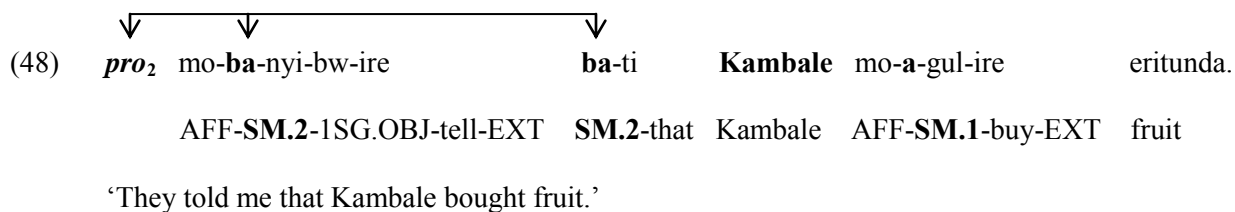
One might wonder how it is possible for the complementizer to agree with the subject *pro*, insofar as the *pro* in primary object position (which triggers 1st person agreement on the matrix verb) stands between them as an intervener. On Baker's account, the C is in fact agreeing with a logophoric null operator in its specifier, which is bound by the reported speaker (cf. 49, NC = noun class). This binding relation constrains the potential phi-features of the operator, which must be identical to those of the binder (a familiar condition). This turns the operator into a potential goal for the C probe.

$$\overline{Binding}$$

(49)   They$_i$ told me [$_{CP}$ LOG$_i$ C [Kambale bought fruit]].
      [NC2]   [NC2] [NC2]
                              Agree
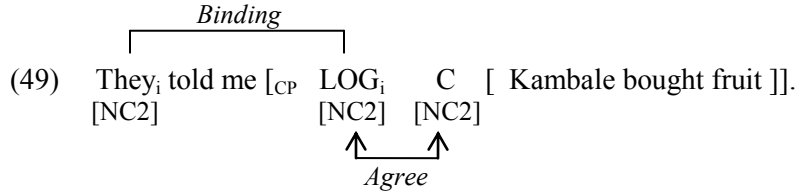
Turning now to a different head, we note that object agreement on *v* is only possible when the object leaves VP to a position above that of the probe. In example (50b), the object is left-dislocated and triggers obligatory object agreement on the verb.

(50)   a. N-a-(*ri)-gul-a   **eritunda**.   (KiNande, Baker 2003b)

         SM.1-T-**OBJ.5**-buy-FV   **fruit.5**

         'I bought a fruit.'

         b. **Eritunda**,   n-a-*(**ri**)-gul-a.

         fruit.5   SM.1-T-**OBJ.5**-buy-FV

         'The fruit, I bought it.'
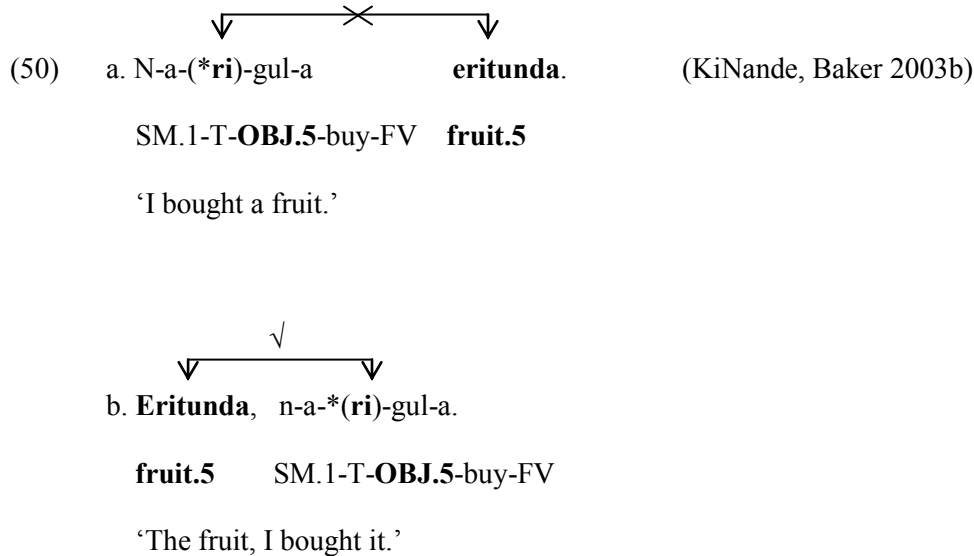
These facts suggest that a deeper property of the language is at play, which regulates the potential probing space of inflectional heads in such a way that they are constrained to agree with potential goals outside their c-command domain, in direct violation of Chomsky's original condition (32). The upwards probing patterns found in Basque, Tariana or Bantu seem somewhat unfamiliar from an Indo-European perspective. Precisely because of this, one of the most interesting contributions of Baker (2008), in my view, is the remarkable finding that some Indo-European languages exhibit this procedure as well. In particular, it is found in the domain of predicate adjectives,

which must agree with their subject in a number of languages - including Spanish, where this agreement obtains in gender and number (51).

(51)   a. Est-as   muchach-as son   bonit-as.

        these-FPL girl-FPL   are.3PL cute-FPL

        'These girls are cute.'

        b. *Est-as   muchach-as son   bonit-o(s).

        these-FPL girl-FPL   are.3PL cute-M(PL)

This is relevant, because Baker (2003a) had previously shown that the subjects of predicate adjectives behave like the subjects of agentive verbs, rather than like those of unaccusative verbs. In Italian, for example, *ne*-extraction from the subject of a predicate adjective is impossible (cf. 52a). As is well-known since Burzio (1986), this kind of extraction is possible from the subject of an unaccusative predicate like *arrivare*, 'to arrive' (52b), but disallowed from the subject of an agentive verb like *telefonare*, 'to call (on the telephone)' (52c).

(52)   a. Ne   sono buoni pochi.

        of.them are   good   few

        'Few of them are good.'

        b. Ne   sono arrivati due.

        of.them are   arrived two

        'Two of them have arrived.'

c. *Ne   hanno   telefonato   due.

   of.them   have   called   two

   (Intended: Two of them have called.)

It is generally thought that the *ne*-extraction test reveals the underlying position of the subject: the procedure is possible from the complement of the head of the predicate, but disallowed from a higher specifier, external to the predicate's own projection (e.g.., the external argument with respect to the verb's projection) – an idea consistent with the Condition on Extraction Domains of Huang (1982). From this perspective, (52a) suggests that the subject of a predicate adjective is generated externally to the relevant adjectival phrase. On these grounds, Baker proposes that adjectival predication involves a specialized predicative head Pred, which takes the AP as a complement and the latter's DP (or CP) argument in specifier position, very much in the way the head *v* connects the VP to an external argument (cf. Bowers 2001 for a theory of predicative structures of this sort).

(53)   PredP

        DP   Pred'

            Pred   AP
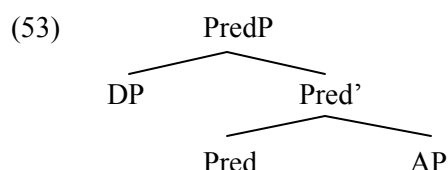
Given (53), the question arises as to how it is possible at all for the AP to agree with its argument in a model that satisfies condition (32). Let us consider such an approach for a moment. Apparently, it would be necessary for us to assume that the head bearing the inflectional features of the adjective (call it H) is external to the PredP and c-commands the DP from that position, so that agreement is possible. The adjective would affix to this head after preliminary head-movement to Pred. Notice that the head H would have to be located below the copula in order to account for the fact that in examples such as (51a), repeated here in (54), it is the copula, not the

adjective, that the tense morpheme ends up being bound to. The derivational summary of this sentence could therefore be summarized as in (55), in which v_{BE} stands for the locus of generation of the copula. It is worth noting that the DP generated in [Spec, Pred] agrees twice, first with the head H in immediate projection above it, and subsequently with the T head, which attracts it to the sentential subject position.

(54)   Est-as   muchach-as   son   bonit-as.

these-FPL   girl-FPL   are.3PL   cute-FPL

'These girls are cute.'

(55)
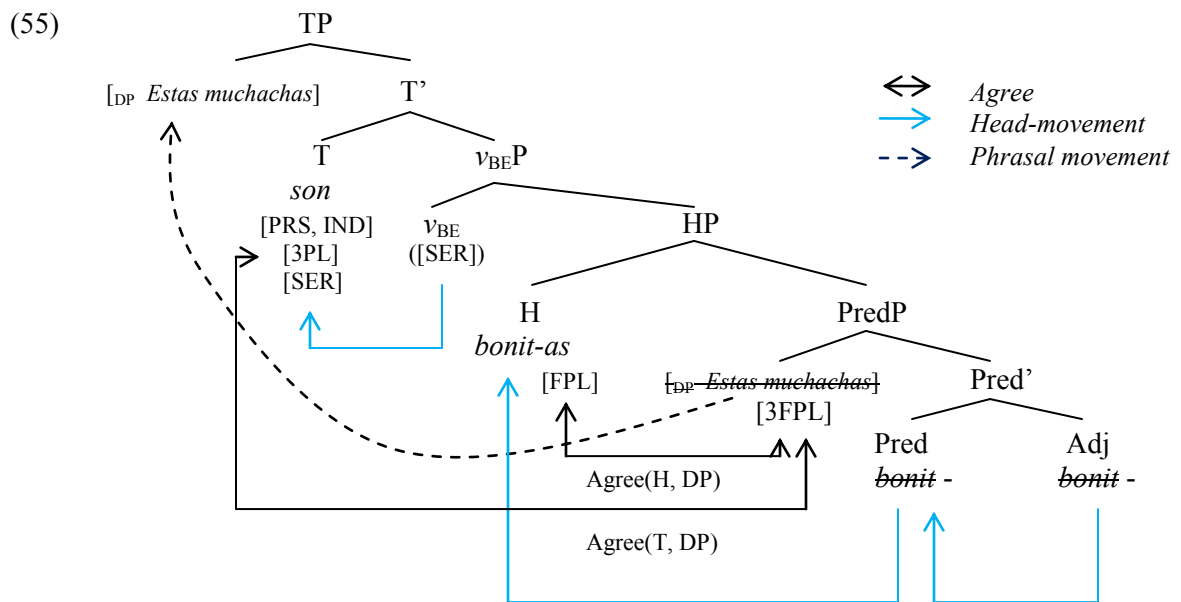
While allowing the capture of the data at hand, this analysis will fail to derive sentence (56), which adds a degree adverb to (54), and thus involves a full AP in [Comp, Pred] position. The failure occurs precisely because the assumption that the inflectional features of the adjective are found outside PredP forces us to postulate a head-movement procedure from the A(P) to H in order to yield the full form of the adjective. But if the adjective stem is assumed to escape PredP

– and, by transitivity, AP – in this particular way, we would expect to find it to the left of the adverb, as in (57, 58), and not to its right.

(56) Est-as   muchach-as son   [AP muy bonit-as].

      these-FPL girl-FPL   are.3PL   very cute-FPL

      'These girls are very cute.'

(57) *Est-as   muchach-as son   bonit-as   [AP muy   t_bonit-].

      these-FPL girl-FPL   are.3PL cute-FPL   very

(58) *Est-as   muchach-as son   bonit-as   [AP más   t_bonit- [que las rubi-as]].

      these-FPL girl-FPL   are.3PL cute-FPL   more   than the blonde.FPL

      (Intended: These girls are cuter than the blonde ones.)

This suggests that the adjective does not undergo head-movement out of its associated functional layer (its movement cannot cross DegP), which in turn entails that the affixal head bearing its inflectional features (if distinct from the Adj head) is not to be found outside this layer. This supports Baker's proposal that the relevant head (which he labels F_A) is part of the functional layer immediately dominating the lexical projection of the adjective AP, as in (59).

(59)
```
            F_AP
          /      \
        F_A       AP
                 /\
               …A…
```

There are therefore some reasons to think that, under condition (32), agreement should not be able to obtain between a predicate adjective and its subject, contrary to fact. This agreement follows straightforwardly, on the other hand, if the head bearing the inflectional features of the adjective is allowed to seek a goal outside its c-command domain. This result is important, because agreement on predicate adjectives is a very frequent phenomenon in languages from distinct macro-families, including those in which downward probing appears to be allowed as well. Thus, while example (56) from Spanish requires an analysis in terms of upwards probing, the same language exhibits apparent downwards probing in existential constructions.[8]

(60) Hab-ían   [DP.M.PL un-os   cuant-os   unicorni-os   ] en el   jardín.
      be-3.**PL**.PST.IPFV   INDEF-MPL some-MPL unicorn-MPL   in the garden

      'There were some unicorns in the garden.'

It would therefore seem that, in a significant number of Spanish varieties, a probe can seek a matching goal both inside and outside its c-command domain. A similar conclusion seems plausible for a number of varieties in the Romance continuum, including varieties of Italian and Catalan. It is easy to make the connection with agreement displacement languages, in which failure of downwards probing is salvaged by an upwards probing procedure. The background property in both kinds of languages is the ability of probes to seek for a goal both inside and outside their c-command domain.

It was not coincidental for Chomsky (2000) to be led to the assumption that probes must c-command their goals. The study of agreement in generative syntax, in Indo-European and elsewhere, has mostly focused on verbal agreement configurations. Given standard assumptions on clause structure, the verbal-related functional categories that project the functional layer of the

---

[8] There is some degree of sociolectal variation concerning agreement in Spanish existential constructions, but this does not affect the matter at hand. Most varieties, while exhibiting predicate adjective agreement with its subject, do offer to some extent the option of downwards agreement in existential contexts. In my own Peruvian variety, agreement in such contexts is the preferred option by far.

clause bear agreement features *and* c-command the lexical/argumental layer where their potential goals are generated. In this observational context, the hypothesis that this particular c-command configuration is required by Agree seems not only natural, but necessary to some extent. However, once agreement on predicate adjectives is taken into account, the picture changes for a significant number of languages, which we might now suspect allow both downwards and upwards probing. In Indo-European, for example, this could be the case not only for the Romance varieties alluded to above, but also for typologically distant languages such as Russian, Icelandic or Hindi, which display some form of downwards agreement (cf. 61) along with subject agreement on predicate adjectives (cf. 62).

(61)   a. *Russian existential constructions* [9]

V Moskve   byli   tramvai.   (Jung 2011)

In Moscow be.PST.**PL**   street-car.**PL**

'There were street-cars in Moscow.'

b. *Icelandic quirky subject constructions*

Henni   líkudu   ekki þessar   hugmyndir.   (Sigurdsson and Holmberg 2008)

her.DAT   liked.3**PL** not   these   ideas.NOM.**PL**

'She didn't like these ideas.'

---

[9] Concerning the structure of existential constructions in Russian, cf. *inter alia* Freeze (1992) and Harves (2002) for arguments in favor of a configuration in which T c-commands the surface position of the logical subject.

c. *Hindi ergative-absolutive constructions*

Ravii-ne   roTii   kʰaay-ii   (Mohanan 1994)

Ravi.M-ERG   bread.**F**   eat-PFV.**F**.SG

'Ravi ate bread.'

(62)   a. *Russian*

Víktor   byl   glúpym.   (Comrie 2009)

Viktor.**M.SG**   be.PST.M.SG   stupid.**M.SG**

'Viktor was stupid.'

b. *Icelandic*

Þessar   hænur   eru   gular.   (Thráinsson 2007)

These   hens.NOM.**F.PL**   are   yellow.NOM.**F.PL**

c. *Hindi*   (Koul 2008)

Sushmaa   lambii   hɛ.

Sushma.**F**   tall.**F**   is

'Sushma is tall.'

In light of such facts, Baker (2008) proposes a revision of condition (32) in terms of a three-way parameterization. This *Direction of Agreement Parameter* is given in (63).[10]

(63)   i. F agrees with DP/NP only if DP/NP asymmetrically c-commands F, *or*   [*upwards probing*]

ii. F agrees with DP/NP only if F c-commands DP/NP, *or*   [*downwards probing*]

iii. F agrees with DP/NP only if F c-commands DP/NP or vice versa.   [*mixed system*]

(63iii) would be the fundamental setting found in Indo-European languages, as hinted above. Setting (63i) would be found in languages such as Tariana, and perhaps at a wider scale in Bantu languages. Baker also points out Burushaski as a strong candidate for setting (63ii). This language displays subject as well as object agreement morphology, both of which are present on transitive verbs (64a). Interestingly, unaccusative verbs also exhibit both kinds of agreement with their single argument (64b), suggesting that a non-thematic *v* head is present and active for agreement even in such contexts. However, in unergative patterns this object agreement is conspicuously absent, even though, by definition, such verbs do have an active, thematic *v* head (64c).

(64)   a. (**U:ṇ**)   **gu**-yɛtsʌ-m.

you.ABS   2SG.OBJ-see-1SG.SUBJ

'I saw you.'

b. Dasín   há-e   le   mó-yan-umo.

girl.ABS   house-OBL   in   3FSG.OBJ-sleep-3FSG.SUBJ.PST

'The girl slept in the house.' (similarly, 'die,' 'wake up,' 'rot,' 'be lost' . . .)

---

[10] This is the full version considered in (Baker 2008: 215). It is worth noting that, in the absence of evidence which would clearly distinguish (37ii) from (37iii), Baker cautiously puts option (37ii) aside in his survey of agreement patterns in 108 languages.

    c. Dasín   há-e   le huruT-umo.

      girl.ABS house-OBL in   sit-3FSG.SUBJ.PST

    'The girl sat in the house.' (similarly, 'dance,' 'walk,' 'cry,' 'come out' . . .)

This absence makes sense if the Direction of Agreement Parameter [DAP] is set to (63ii) in Burushaski. In such a scenario, we would expect both T and *v* to be able to agree with an argument generated within VP (as in 64b), but we would also predict that *v* should not be able to agree with an argument generated in a position it does not c-command (as in 64c) – since T c-commands the external argument in its base position, on the other hand, subject agreement is expected in all examples of (64), as is indeed the case. By virtue of the DAP being set to (63ii), we would also expect predicate adjectives to be unable to agree with their subjects. This prediction is borne out to a certain extent – I refer the reader to Baker (2008: 214-219) for detailed discussion on this and other Burushaski patterns. The main point for our purposes here is that it is rather difficult to come up with an account of the verbal agreement patterns of Burushaski that can be connected to general, familiar grammatical conditions on agreement. Saying, for example, that *v* bears inflectional features only when it selects a thematic VP (yielding some kind of anti-Burzio's Generalization) would make the right predictions for the verbal agreement system (as only unergatives would be expected to lack an object agreement morpheme), but it also reduces the problem to an apparently idiosyncratic property of the language. It is not clear to what extent this would be an explanation, or would help account for other properties of the language Baker notes could be connected to (63ii) – cf. *op. cit.*

3.5 C-command and timing

The previous subsections focused on seemingly necessary amendments to condition (32) on Agree, repeated here in (57).

(65)   The probe must c-command the goal.

These revisions were motivated primarily by work in Baker (2008) and Béjar and Rezac (2009). Evidence from languages belonging to distinct families (including a variety of Indo-European languages, but also languages as diverse as Tariana or Basque, and perhaps a significant subset of Bantu languages) can be pointed out, which strongly suggests that a probe can agree with a matching goal generated outside its c-command domain, thus leading to a revision of condition (65). Baker (2008), in particular, proposes recasting (65) as a directionality parameter.

(66)   i. F agrees with DP/NP only if DP/NP asymmetrically c-commands F, *or*   [*upwards probing*]

         ii. F agrees with DP/NP only if F c-commands DP/NP, *or*   [*downwards probing*]

         iii. F agrees with DP/NP only if F c-commands DP/NP or vice versa.   [*mixed system*]

Setting (66iii) seems to be the default option in Indo-European, as well as in agreement displacement languages. Settings (66i, ii) are comparatively rarer (especially 66ii), but remain, in my opinion, reasonable hypothetical settings given the strength of the cases Baker (2008) builds for the directionality of agreement in Tariana and Burushaski.

We may, of course, consider the alternate possibility that probing systems are always mixed systems (in the sense of 66iii). In such a scenario, one-way probing systems (in the sense of 66i, ii) would in fact stem from different (i.e., not specific to agreement) language-particular properties - say, variation in clause structure - interacting with the agreement system in such a way that probing in a given direction is blocked under certain circumstances. This possibility is given content in Appendix B, where I show that the relevant line of analysis has intrinsic plausibility in some cases, and would thus compete with model (66) in the relevant instances. I refer the reader to that appendix for a treatment in those terms of the Bantu agreement phenomena

seen in section 3.4: it is suggested, for example, that uniform upwards T-agreement in Bantu languages such as Kinande follows from intervention by an intermediate focus head in-between T and vP, which prevents T from probing the domain of Foc. As a result, T can only agree with a potential goal (generated vP-internally) if the latter moves to [Spec, T], that is, it can only agree upwards.

Now, a more fundamental component in the discussion so far is the assumption that the directionality of probing needs to make reference to c-command. However, to the extent that the existence of upwards probing configurations is robustly attested, and that these configurations coexist in a number of instances with downwards probing patterns (as assumed in 57iii, for example), we are entitled to ask whether c-command plays a role in the directionality of agreement at all. Therefore, I would like to entertain here the corresponding possibility, which is that no c-command condition holds on the directionality of agreement. Rather, the relevant condition would be related to derivational timing: Agree must relate a probe and a goal as early as possible in the derivation – ideally, at the step in which the potential second term of the relation is inserted in the structure.

(67)   Agree must obtain as early as possible.

We might immediately raise an objection by pointing out that agreement in the absence of c-command is very rare, and limited to partitive configurations such as (68), where the copula and the predicate adjective agree with the plural complement of the subject DP_2, rather than the subject DP_1 itself.

(68)   [$_{DP1}$ Cada uno   de [$_{DP2}$ los ejemplos]]   son significativos.   (Spanish)
            each one.SG of   the examples.PL   are significant.PL
        'Each example is significant.'

Speakers of Spanish will vary as to how they judge sentence (68). It sounds somewhat degraded to me, but it is definitely not ungrammatical. This kind of pattern is severely restricted, however, as it arises only in contexts involving the quantifier *cada* as the head of DP$_1$.[11] It is reasonable to hypothesize that it is a property of this particular lexical item which underlies the optional interpretation of DP$_1$ as either singular or plural. In other contexts, the relevant agreement pattern is excluded, as illustrated in (69).

(69)   a. [$_{DP1}$ El   primero de [$_{DP2}$ los ejemplos]]   es significativo.

            the first.SG of   the examples.PL is significant.SG

       'The first example is significant.'

     b. *[$_{DP1}$ El   primero de [$_{DP2}$ los ejemplos]]   son significativos.

            the first.SG of   the examples.PL are significant.PL

This restriction is pervasive crosslinguistically. As far as my knowledge goes, it would seem that, in a configuration such as (70), Agree never obtains between a potential WP goal and the F$_{ADJ}$ probe - the agreement-bearing functional head associated to adjectives -, unless semantic factors of the kind considered for (68) hold. Rather, it is XP that controls agreement on the predicate adjective in relevant languages. This is important, because XP, but not WP, stands in a c-commanding relation with F$_{ADJ}$.

---

[11] My own variety does not admit this agreement pattern with a collective noun as the highest head noun in DP$_1$. However, some speakers of my dialectal area do accept this kind of configurations.

(70)

```
                          PredP
                 _____
                XP                      Pred'
            _____              _____
           …WP…                  Pred        F_ADJ P
            ↑                            _____
            |                          F_ADJ      AdjP
            |                            ↑
            |_____|
                        Agree?
```
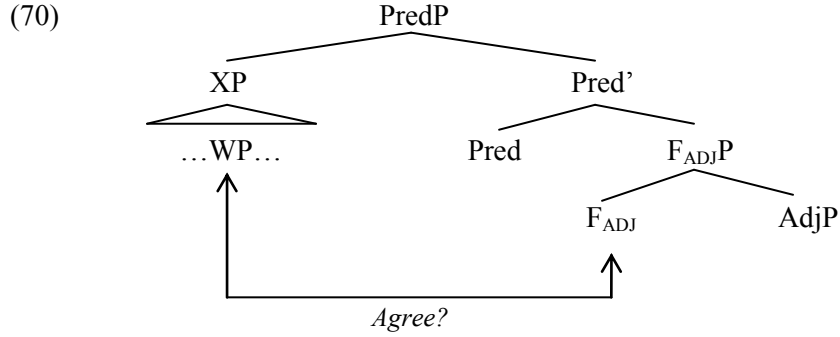
A similar observation can be made for verbal agreement. For example, consider locative inversion in the Bantu language Otjiherero. In such configurations, as is common in Bantu languages (cf., inter alia, Bresnan and Kanerva 1989, Demuth and Mmusi 1997, Marten 2006), the topical preverbal PP controls agreement on the verb, while the postverbal logical subject is focused. The construction is reminiscent of the subject-object reversal configurations discussed in the previous sections.

(71)   mò-ngàndá   mw-á-hìtí   òvá-ndù   (Ojibwo, Marten 2006)

        18-9.house   SM.18-PST-enter   2-people

        'Into the house entered people'

In this case the verb agrees with the PP of class 18, not with the DP of class 9 (*ngàndá*, 'house') in complement position of P. This is relevant for our purposes, because it was assumed in the previous section that reversed configurations of this kind in Bantu involve T agreeing upwards with the constituent in its specifier (whether this is the result of a parametric difference, or a last resort solution for an intervention effect caused by the focused subject, is not immediately important for the current discussion). If so, it is significant that agreement obtains with the PP, rather than with the DP complement of the preposition. Agreement with an inverted locative is a rare phenomenon, and I do not know of any language which would allow the verb to agree with

the DP in [Compl, P]. It is tempting to view this as a consequence of the fact that a c-command relation exists between T and the PP, whereas none holds between T and the relevant DP.

There is an alternative explanation, however. The fact that we dispose of c-command as a relevant notion in determining the directionality of agreement does not mean that we should discard the action of other conditions on agreement (and the role c-command may play in them) in constraining the availability of potential goals. And it is quite clear that the configurations above are instances of what we might call *intervention by dominance*, a subset of A-over-A phenomena (to the extent that not all A-over-A phenomena are about agreement). Thus, when I mentioned the intervention condition in section 3.2, I made so by making strict reference to c-command, and this is indeed how the relevant condition is usually stated.

(72)   There must be no true or defective intervener X between the probe P and the goal G, such that P c-commands X and X c-commands G.

> i. A category X is a *true* intervener if it is available for agreement and matches the unvalued features of P.
> ii. A category X is a *defective* intervener if it is not available for agreement.

But the fundamental notion in intervention patterns is not so much c-command as it is locality: given two potential goals G_1 and G_2 in the domain of P, agreement obtains between P and the closest one. C-command is certainly a metric of closeness in a number of instances, but it is not the only one. The other one is dominance. We do not expect P to agree with XP_2, if XP_1 contains the latter (but does not contain P) and is available for agreement. This is a familiar observation from downwards probing configurations: in transitive sentences, for example, T does not Agree with a DP contained in the external argument, it agrees with the external argument. And this is akin to the pattern we observe in the Spanish and Bantu examples in (69, 71). In both cases one of

the potential goals dominates the other, and in both instances it is the former, not the latter, which controls agreement.

Now, it is in principle possible to appeal to the activity condition instead to explain why the lower goals are unavailable for agreement. In (69) and (71), the lower DP occurs in complement position of a preposition, which might be taken to value the Case feature of the relevant DP. If so, by standard assumptions, we may expect this DP to become inactive for further derivational purposes. This expectation will nonetheless have to deal with the fact that many Bantu languages which exhibit inversion patterns, as in (71), also display hyperactive goals (goals that appear to Agree more than once), thus bringing into question the usual assumptions concerning the activity condition. Recall the following example from section 3.2, in which the derived subject agrees both with the matrix verb and the embedded predicate.

(73)   Chi-saang'i   chi-lolekhana   chi-kona.   (Lubukusu, Carstens 2011)

   10-animal   10SA-seem   10SA-sleep.PRS

   'The animals seem to be sleeping.'

It would then seem that an account in terms of intervention by dominance is more appropriate (or at least less risky), and especially interesting for the thesis of this subsection to the extent that, although intervention patterns were invoked to account for the patterns in (69, 71), no recourse to c-command was necessary.

There are further reasons to think that the proposed condition in (67) is sustainable. First of all, it simplifies the theoretical apparatus bearing on agreement relations. This is not a minor point, given the familiar principle that 'plurality must not be used without necessity'. By virtue of this principle, we must ask why c-command should be necessary between a probe and its goal. The first answer to this question is given in Chomsky (2001), who notes the 'absence of evidence to the contrary'. This observation is no longer valid, as we have now several reasons to think that a

probe can agree with a goal generated outside its c-command domain. Once this evidence is taken into account, a second possible answer is that no agreement ever obtains between a probe and a goal that do not stand in a c-command relation. This seems to be true, but it does not mean that c-command *needs* to be made reference to in the definition of Agree, as it is in the original condition (65). We do not need to make reference to it when tackling examples (69, 71), because there is an independently needed condition which rules out the possibility of agreement obtaining in the absence of c-command, namely, the intervention condition. This condition is needed anyway to account for the fact that a probe which c-commands (or dominates) DP_1 *and* DP_2, will agree with DP_1 if the latter also c-commands, or *dominates*, DP_2 - this cannot just be inferred from the postulate that a probe must c-command (or be c-commanded) by its goal. One might of course think of more complex configurations in which the potential goal is more deeply embedded in a distant constituent that the probe does not c-command, and ask why, if c-command is not necessary between them, agreement does not obtain in that particular case. As the structure becomes more complex, however, both the intervention condition, and what Baker (2008) calls the *phase* condition, become more significant players. The formulation of the latter as given in section 3.2 is repeated in (74).

(74)   Agree (P, G) holds if both terms of the relation are found within the same derivational domain, usually recognized as the phase.

Given standard assumptions on clause structure, it is difficult to think of a hypothetical particular agreement configuration, taking place in the absence of c-command, which could not be ruled out in terms of these two locality conditions, rather than by enforcing c-command between the probe and the goal. This seems to be so because once the phrasal projections of C, *v*, D, and possibly P (all potential barriers for agreement by virtue of both conditions) are taken into account, there is relatively little space left in the standard tree for the kind of structural complexity needed for a

probe and a DP goal to agree in the absence of c-command. To the extent that the c-command relation between the probe and its goal can be seen as a natural by-product of the relevant locality conditions, the question remains as to why a reference to c-command in the definition of Agree itself, as in (65), should be necessary.[12] I propose that it is not.

A second reason why the proposed condition in (67) is sustainable is that it makes a testable prediction which, as far as I can see, seems to be correct. The prediction is that in a language which allows both upwards and downwards probing, there should be a consistent bias for a probe to seek a goal within its c-command domain, rather than outside this domain. In other words, a configuration such as (75), in which *v* agrees with the external argument EA even though the internal argument IA is available for agreement, is predicted to be deviant if evidence suggests that agreement with the IA is possible.

(75)

Agree (v, EA)
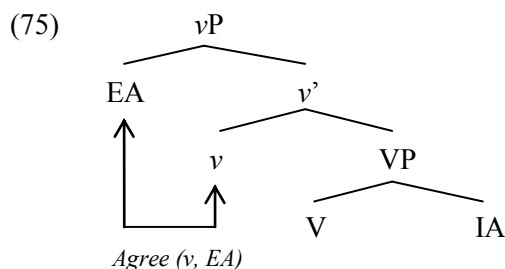
Spanish gives us some hints that this is correct. In this language, both downwards and upwards agreement are possible, as suggested by the fact that it allows both (i) T-agreement with the postverbal logical subject in existential constructions (a test for downwards agreement, cf. 76a), and (ii) predicate adjective agreement with the subject (a test for upwards agreement, cf. 76b).

---

[12] In this context, a third possible answer is that agreement is a dependency, and as such, is subject to the Dependency Axiom, which in some cases does enforce a c-command relation between the terms of the dependency. I will get back to this issue in chapter 7, where I will argue that a distinction must be drawn between the *operation* Agree, and its outcome, an agreement configuration. The latter is the one the DA acts upon: I see no particular reason why Agree, the operation in charge of establishing the dependency in syntax, should also be subject to it. I will also argue that the form of the DA that agreement is subject to is not the c-command licensing principle, but the principle of independence, which can be satisfied in the absence of c-command.

(76)   a. Había-n   un-os   lingüista-s   en el fondo de la pirámide.

           be.PST.IPFV-3**PL** one-M**PL** linguist-**PL** in the bottom of the pyramid

           'There were some linguists at the bottom of the pyramid.'

           b. L-as   muchach-as eran gord-as.

           the-**FPL**   girl-**FPL**   were fat-**FPL**

           'The girls were fat.'

The language also exhibits an object clitic system which has frequently been analyzed in terms of agreement (cf. Suñer 1988, Franco 1993, Rodríguez-Mondoñedo 2008, among many others). Following much related literature, I will assume that the object clitic spells out agreement on *v*. This form of overt verbal agreement is usually found in presence of definite and highly animate objects: it is optional with full DP objects (77a), and obligatory with pronominal objects (77b, c).[13]

(77)   a. Alexandra   (lo)   vio   al   muchacho.

           Alexandra.F   3MSG saw.PST.PFV.3SG the.ACC boy

           'I saw the boy.'

---

[13] A complication here is that there is some evidence that accusative objects in Spanish are found in shifted positions. This is relevant, because the point I am trying to make in this passage relies on *v* agreeing with a VP-internal DP – thus suggesting that downwards *v*-agreement is possible. But if the objects under consideration are found outside VP, the point is not made obvious. However, I will show in chapter 3 that there are strong reasons to think that the relevant form of obligatory object shift in Spanish comes as a consequence of agreement with *v*, rather than the other way around – in a very similar way to the form of Hindi object shift described in chapter 1. If true, this means that *v*-agreement with the internal argument cannot be delayed.

b. *(Lo)   vi   a   el.

    3MSG   saw.PST.PFV.1SG   ACC   he

    'I saw him.'

c. *(Lo)   vi pro_{3MSG}

    3MSG   saw.PST.PFV.1SG

    'I saw him/it.'

Interestingly, while some speakers might find clitic doubling degraded in contexts such as (77a), the language completely excludes the possibility for the external argument to control *v*-agreement as in (78).

(78)   *Alexandra   la   vio   al   / el   muchacho.

    Alexandra.F   3FSG   saw.PST.PFV.3SG   the.ACC/ the   boy

    (Intended: 'Alexandra saw the boy.')

This suggests that Spanish does not admit configuration (75), even though both upwards and downwards agreement are in principle available in the language. This fact goes unexplained, unless condition (67) is admitted, in which case (75) is ruled out because it involves skipping an agreement operation between *v* and the IA at an earlier stage of the derivation.

The matter has further ramifications. One might say, for example, that (75) is impossible, not because it involves skipping Agree between *v* and the IA, but because it would block subsequent agreement between T and a lower goal, thus leading to a crash. The problem is illustrated in (79).

(79)

```
              T'
         ┌────────┴────────┐
         T                 vP
                      ┌─────┴─────┐
                      EA          v'
                      ↑      ┌─────┴─────┐
                      │      v           VP
                      │      ↑      ┌─────┴─────┐
                      └──────┘      V           IA
                   Agree (v, EA)
```
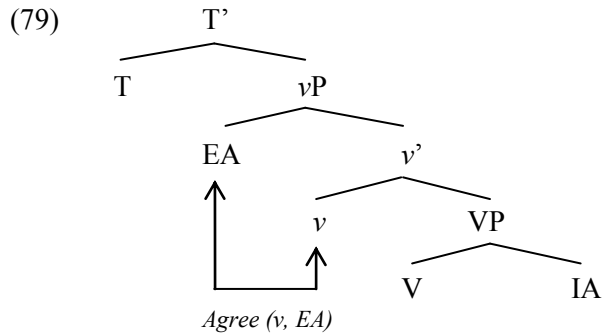
Once agreement obtains between *v* and the EA, one might assume that the latter becomes inactive for agreement (presumably because the activity condition in an Indo-European language is stricter than it appears to be, say, in Bantu), and furthermore stands as a defective intervener between T and the IA. This prevents the agreement features of T from being valued, and (on the assumption that the valuation of the Case feature of the IA is also required for the expression to be well-formed) fails to license the IA. This would explain why the external argument cannot be cross-referenced twice on the verbal form, as in (78). But in this scenario, one might also ask why the intervention effect could not be circumvented by moving the IA across the EA towards, say, the [Spec, T] position. We know that this movement can take place in Bantu subject-object reversal constructions (cf. 3.4 and relevant discussion in Appendix B), and we may assume that in those cases the IA controls agreement on T via upwards probing.

(80)

```
                  TP
         ┌─────────┴──────────────┐╌╌╌╌╌╌╌╌╌╌╌╌╌╌╮
        IA  ⇐╌╌╌                  T'                  ╎
         ↑              ┌──────────┴──────────┐       ╎
         │              T                     vP      ╎
         │              ↑              ┌───────┴───┐  ╎
         └──────────────┘              EA          v' ╎
           Agree (T, IA)               ↑     ┌──────┴──────┐
                                       │     v            VP
                                       │     ↑       ┌─────┴─────┐
                                       └─────┘       V         (IA)
                                    Agree (v, EA)
```
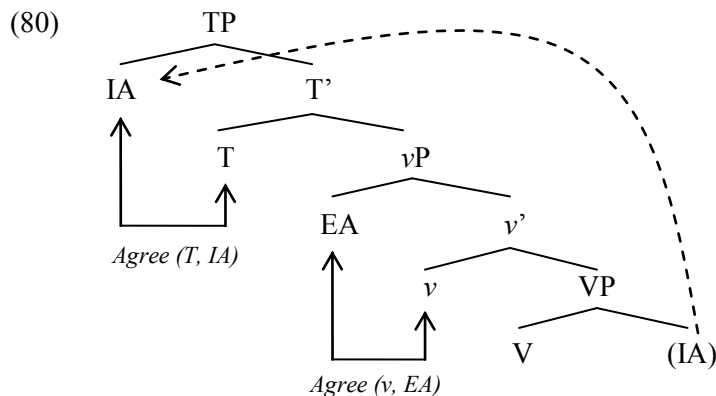
In this scenario, involving a regular transitive pattern, the internal argument would become more prominent than the external argument, and would control the agreement slot corresponding to the higher inflectional head in the A-system. However, such a structure never arises in Spanish, and to my knowledge, neither does it in any other Indo-European language.[14] The fact that it provides no obvious elements to understand why the configuration in (80) could not obtain in a language such as Spanish is a problem for the suggested intervention approach to the deviance of (75). Accounting for this deviance through the proposed condition in (67) is much more intuitive and simple.

A third reason why (67) is sustainable is that it is not necessary to postulate it as a primitive of agreement, as it can be derived from more general principles on syntactic operations. In particular, there is a relatively robust consensus in mainstream generative syntax on the idea that syntactic operations should obtain as soon as the conditions are met for them to (cf., inter alia, Pesetsky 1989, Collins 1997). (67) is a corollary of this general principle in the domain of agreement. From this perspective, the problem with (75) does not stem from the subsequent intervention effect this configuration will induce once T is inserted in the structure. The problem with (75) is rather that the uninterpretable features hosted on v could have been dealt with earlier in the smaller v' domain, by Agree applying on the pair (v, IA), but this operation did not take place.

Let us then conclude by taking a brief look at the two main models of directionality of agreement that emerge from this discussion. The first model is the one proposed in Baker (2008). In this model, the directionality of agreement is stated in terms of c-command holding between the probe and the goal, and its variation across languages is handled through a specific parametric approach regulating the types of c-command that might or might not obtain, as repeated in (81).

---

[14] The structure does arise in Bantu (next to regular SVO transitives), but it involves an intermediate focus projection, which presumably triggers the intervention effect. This point is discussed in Appendix B.

(81) i. F agrees with DP/NP only if DP/NP asymmetrically c-commands F, *or*   [*upwards probing*]

  ii. F agrees with DP/NP only if F c-commands DP/NP, *or*   [*downwards probing*]

  iii. F agrees with DP/NP only if F c-commands DP/NP or vice versa.   [*mixed system*]

I have entertained, in this and the previous subsection, the possibility of an alternative model, in which c-command plays no role in the relation between the probe and the goal. Rather, this relation would be established as early as possible in the derivation, by virtue of standard economy conditions. The emergence of c-command relations in actual structures is attributed to properties of clause structure and the action of locality conditions on agreement, such as the intervention condition and the phase condition. By virtue of the earliness condition (67), this model predicts a bias in favor of downwards agreement (i.e., agreement between the probe and a goal within its c-command domain), as upwards agreement (that is, agreement between a probe and a goal generated outside its c-command domain) is predicted to be possible only under failure of downwards agreement. This might occur if no goal is available in the c-command domain of the probe, or if the language under consideration has a particular structural property that blocks downwards agreement (for example, by inducing intervention).

One might imagine a number of potential intermediate possibilities between these models. Distinguishing between these is a complex question, with both conceptual and empirical aspects. I will remain agnostic with respect to which one of the main models, or their relevant intermediate possibilities, is more appropriate. Both seem to me to be useful ways to model the relevant phenomena, and I will keep a pragmatic approach. While the two main models interact differently with the theory of agreement and the DA to be developed in the rest of the chapter, this interaction takes place more at the architectural level than the analytical level (as I will make clear when relevant), and does not affect the main ideas of the theory.

4. Agreement and the Dependency Axiom

4.1 Agreement as a dependency

We are now ready to tackle the issue of the connection between agreement and the Dependency Axiom. Our starting point is recognizing agreement as a dependency. In order to do so, it is useful to look at it from a relatively theory-neutral way. From such a perspective, we might start defining agreement as an identity relation in specifications for a particular set of features, holding between two grammatical terms (typically a nominal and a verb or adjective - or in more theoretically-engaged terms, a DP and an inflectional head) in a given syntactic domain. This much is a necessary condition for a grammatical relation to be recognized as agreement, but it is not sufficient. Perhaps a deeper property of this relation is that the feature-sharing elements are not on equal ground. To illustrate this, consider first the following example from Spanish.

(82) Est-as   minifalda-s   son   un   exito.

these-FPL miniskirt.F-PL are   a.MSG   success.M

'These miniskirts are a success.'

In this copular sentence, the values for number and gender of the subject noun phrase do not match those of the predicative noun phrase. Despite these different featural specifications (i.e., despite the lack of agreement, as identity in featural specification is a necessary condition for it), however, the sentence is perfectly fine. This suggests that noun phrases (or DPs, in our more theoretically-oriented terminology), whose number and gender are inherently defined (as a lexical or a discourse-related property), do not require sharing their feature values with other elements in the sentence. Given this state of affairs, consider now an example involving a predicate adjective.

(83)   Estas   minifaldas   son exitos-as   / *exitos-a   / *exitos-o   / *exitos-os

these-FPL miniskirt.F-PL are successful-FPL / successful-FSG / successful-MSG / successful-MPL

'These miniskirts are a success.'

There is a sharp contrast in grammaticality between this example and the previous one, just in case the adjective does not match the featural specifications of the subject noun phrase. In other words, we are forced to establish a featural identity relation. The main point, however, is that the obligatory character of this relation cannot be induced by the subject noun phrase, since, as discussed, noun phrases do not require matching features with other elements in the sentence. Hence, it must come from the adjective. The latter lacks an autonomous way to define the values of its number and gender, and must pick those values from some element in its environment. This is what is captured in formal approaches to agreement by saying that the noun phrase in (83) is the *controller* of agreement, while the adjective is the *target*. This is also what is captured in current generative syntax by saying that the inflectional head associated to the adjective bears uninterpretable, misplaced features, i.e. features that cannot have any intrinsic value because their host is not of the right type. As a result, this inflectional head must obtain values by copying them from another element in its syntactic environment, typically a DP. This task is performed by a specialized syntactic operation we call Agree.

Thus, the fact that agreement involves an identity relation is not its defining property. Even though there is identity between the featural specifications of the DPs in (84), we would not call this relation agreement in any deep sense, by virtue of examples such as (82).

(84)   Estas   minifaldas   son un-as   bombas   de tiempo.

        these-FPL miniskirt.F-PL are a-FPL bomb.FPL   of time

        'These miniskirts are a bunch of time bombs.'

In this case, the feature values of the relevant DPs just happen to coincide. On the other hand, not

only is identity in featural specification forced in examples such as (83), but it is preeminently

antisymmetrical, as one of the elements provides the features the other element copies, and the

reverse scenario is impossible: by definition, an inflectional head (which lacks inherent featural

specifications, as 83 suggests when compared to 82) cannot control the feature values of some

neighboring DP. The relation only goes in one direction. In other words, we might plausibly

define agreement as a relation holding of an ordered pair consisting (typically) of a DP and an

inflectional head [IH], as follows.

(85)   Agreement<DP, IH> iff a set of features β belonging to IH is a function of a set of

        features α belonging to DP, such that $\beta \equiv \alpha$.[15]

---

[15] This definition, which characterizes agreement in terms of the identity function, will cover the most straightforward cases. However, as Jonathan Bobaljik (p.c.) notes, it will not be sufficient to deal with agreement mismatches, which can sometimes take dramatic shapes. In Jingulu, for example (cf. Corbett 2006:151-154), which exhibits a four gender system (masculine, feminine, neuter and vegetable), noun-adjective agreement exhibits the following alternative patterns: (i) the adjective bears the same gender as the noun; (ii) the adjective bears masculine irrespective of the gender of the noun; (iii) the adjective bears neuter even though the noun is vegetable. Characterizing agreement in terms of an identity function is only sufficient to cover pattern (i). It seems therefore necessary to go beyond identity functions in order to define agreement. The Jingulu gender agreement system can in fact be characterized in terms of a surjective function f, which might be stated simply in extensional terms, as follows (masculine = M, feminine = F, neuter = N, vegetable = V; <X, Y> refers to the pair <controller, target>): f = {<M, M>, <F, M>, <N, M>, <V, M>, <N, N>, <V, N>, <F, F>, <V, V>}. This naturally leads to the question on what types of functions (beyond the identity function) could play a role in the characterization of agreement. I leave this topic for future research: it would take us too far afield to address it here without, in my view, being essential to our purposes.

This fits pretty well the definition of a grammatical dependency proposed early in this chapter. As the reader will recall, we defined the relevant kind of dependency as an antisymmetrical relation holding between two grammatical terms, such that a set of properties belonging to one of these terms (say, B) is determined by the other (say, A). In other words, a grammatical dependency is an ordered relation R associated to the condition in (86).

(86) R<A, B> iff a set of features β belonging to B is a function of a set of features α belonging to A.

We called A the *controller* of the dependency, and B its *target*. This choice of terminology, of course, was not innocent. Agreement, a relation arising from the application of the operation Agree, is exactly the type of antisymmetrical relation falling under the scope of (86).

It is important to insist on this conceptual line between agreement, a type of grammatical dependency any theory has to account for, and Agree, the operation which, as is standardly thought in minimalist syntax, establishes the relevant dependency. Allow me to elaborate on this point. A grammatical module, such as the syntactic component, manipulates particular states of information. A syntactic object encodes a certain state of information, which includes various types of dependencies holding between its structural subcomponents. A syntactic operation, in turn, is a function that takes one or several syntactic objects as its arguments, manipulates them, and retrieves a new syntactic object. By positing Agree as the latter kind of procedure, we are hypothesizing that the occurrence of antisymmetrical feature-sharing as seen in (83) is something that is created in syntax under a specialized operation, and is therefore part of the set of dependencies included in the syntactic object that is the outcome of the operation. This is equivalent, for all practical purposes, to saying that agreement is a syntactic phenomenon. This is not a minor claim, for at least two reasons. The first is that it follows from this assumption that agreement should obey general restrictions holding on syntactic configurations. As it turns out,

this is a relatively familiar issue, in which much has yet to be understood - section 3.2 gave us a glimpse of the relevant problems. For the particular purposes of this dissertation, the fact that (at least some) agreement relations are born in syntax leads us to the expectation that they obey the same kind of structural restrictions other syntactically encoded dependencies do. This point is the main focus of this chapter. The second, related reason is that it does not follow from absolute necessity that agreement *has* to be part of syntax. The notion of an antisymmetrical feature-sharing relation does not require being expressed in narrow syntax in order to be viable – such a notion is commonplace, for example, in phonological analysis, starting with assimilation patterns. And, as a matter of fact, even though there are reasons to think that at least some of agreement obtains in the syntactic component under a specialized operation (for example, intervention effects are a hallmark of agreement when it is instantiated in syntax), not all forms of agreement behave as would be expected from just this assumption. I will get back to this point in chapter 3.

4.2 The mismatch and its solution

Once agreement is recognized as a grammatical dependency, some consequences follow. In particular, if we operate under the common assumption that the dependency is encoded in syntax under a successful application of Agree, we would expect it to be subject to the Dependency Axiom. The relevant principle (or family of principles), as proposed in section 2, is repeated here in (87).

(87)   *The Dependency Axiom*

Map dependency relations onto c-command relations.

a.   *Weak c-command relation: The Independence Principle*

A controller cannot be c-commanded by its target.

b.   *Strong c-command relation: The C-command Licensing Principle*

A controller must c-command its target.

The DA, a well-formedness condition on syntactic objects, constrains the class of c-command relations which can hold between a controller and its target. Perhaps the most important restriction, the one that both the strong and the weak DA enforce, is that the target cannot c-command the controller. In the domain of syntactically encoded agreement, this translates to saying that the probe is forbidden to c-command the goal.

This consequence has a number of ramifications. As discussed in some length in section 3, Agree allows two fundamental kinds of configurations: (i) configurations in which a probe relates to a matching goal *within* its c-command domain, and (ii) configurations in which a probe relates to a matching goal *outside* its c-command domain.

Type (ii) configurations are not in immediate danger, since in such structures, the probe does not c-command the goal. Furthermore, as discussed in section 3.5, there are some reasons to think that type (ii) configurations in which no c-command relation holds at all between the probe and the goal are ruled out, by virtue of the intervention condition and the phase condition – perhaps the reason is even deeper, as suggested by Baker (2008), who assumes that a c-command relation between the probe ad the goal is a condition for Agree to obtain. If this is true, then type (ii) configurations reduce to structures in which the goal c-commands the probe, which in turn satisfies either form of the DA. If it is not true, and it turns out to be possible for agreement to obtain in the absence of c-command, then the relevant type (ii) configurations would violate the DA just in case agreement dependencies are subject to the strong form of the DA, i.e., the C-

command Licensing Principle [CLP]. We will find below some reasons to think that agreement is not subject to such a condition, and that the status of type (ii) configurations is not problematic overall.

Type (i) configurations are a different matter. They always involve the probe c-commanding the goal, thus yielding a consistent violation of the weak form of the DA, the Principle of Independence [INP]. There is no type (i) configuration that does not violate it. In most discernable cases, they also violate the strong form of the DA: the only exception arises when the goal is not asymmetrically c-commanded by the probe, i.e. when both are sister constituents. In such cases the CLP is satisfied - but the INP still rules out such a configuration, as noted.

Our main focus in this subsection is the set of type (i) configurations which violate both forms of the DA, as a starting point to understand how the DA applies, and how the grammar deals with DA violations. The relevant pattern involves the probe asymmetrically c-commanding the goal, as illustrated in (88). This structure is recurrent in the domain of verbal agreement because, under standard assumptions on clause structure, lexical/argumental projections are typically embedded in complement position of the main functional projections of the clause, and, as a result, verbal-related functional heads end up c-commanding the positions where thematically-marked DPs are generated.

(88)

$$P'$$

P
[+α]

XP

…G…
[+α]
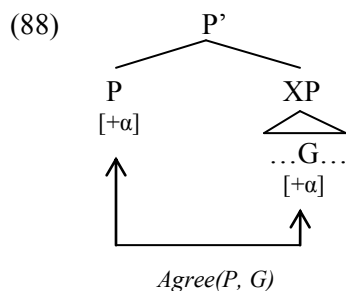
Agree(P, G)

Assume then that Agree(P, G) is successful in (88), yielding a syntactic dependency holding of the ordered pair <G, P>, where G is the controller of the dependency, and P its target. The

problem is that P asymmetrically c-commands G, yielding a mismatch between the directionality of c-command and that of the dependency. This, as noted, is a violation of either form of the DA. How does the grammar deal with such violations?

The answer I propose is based on two related ideas. The first one is that the DA is not evaluated at each step of the derivation. If it were, the occurrence of Agree(P, G) in (88) would automatically make the derivation crash. But if P' is not the derivational step at which the DA is evaluated, there might still be a possibility for the grammar to salvage the derivation. Put another way, the configuration in (88) is a *potential* violation of the DA. The second idea, which is the main hypothesis of this dissertation, is that a potential violation of the DA licenses an instance of syntactic movement, if such an operation can repair the offending configuration. This, I claim, is the crux of the agreement-movement connection, and is a pervasive means used by natural language to adapt the outcome of syntactic operations to legibility conditions.

In order to see how this mechanism works, it is useful taking a look at an apparently disconnected phenomenon involving binding patterns in German A-scrambling contexts, already mentioned in section 4.1. I propose that there is in fact a deep connection with our current discussion, which has to do with the DA. The relevant examples are given in (89). In (89a), the reciprocal in indirect object position cannot be bound by the direct object it c-commands - nor could it be by the singular subject, for independent reasons. Since the reciprocal lacks an appropriate clausemate antecedent, the sentence is ungrammatical. However, A-scrambling of the DO across the position of the reciprocal in (89b) creates the right configuration for the dependency, thus allowing for the derivation to converge.

(89)   a. *…weil   ich einander$_i$ diese Frauen$_i$ vorgestellt habe.   (Webelhuth 1989)

               because I   each.other these   women   introduced have

           (…because I introduced these women to each other)

b. …weil ich diese Frauen$_i$ einander$_i$ __ vorgestellt habe.
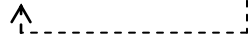
It is commonly held that A-movement of this kind *creates* new binding configurations (cf. Chomsky 1981, Deprez 1989, Mahajan 1990, Corver and van Riemsdijk 1994, Haider 2005, among many others). This particular formulation of the relevant property of A-movement is somewhat equivocal, however, as it hides the assumption that before the application of movement, the anaphoric relation could not exist. This might be true, and would straightforwardly account for the ungrammaticality of (89a), but it does not follow from conceptual necessity. There is in fact an alternative view, which is more interesting in our particular setting because it allows us to connect the binding patterns in (89) to the agreement pattern in (88) in terms of the DA, i.e., in terms of a deep principle on how grammatical dependencies can be expressed syntactically. Thus, we might assume that the anaphoric dependency between [*diese Frauen*] and [*einander*], rather than being established after movement takes place, can in fact be created as soon as the reciprocal is inserted in the structure (perhaps the relation obtains under Agree, as suggested in Kratzer 2009, Reuland 2011, inter alia[16]).

(90)

[$_{DP}$ einander]

[$_{DP}$ diese Frauen]   V
                            vorgestell-

Binding <[$_{DP}$ diese Frauen], [$_{DP}$ einander]>
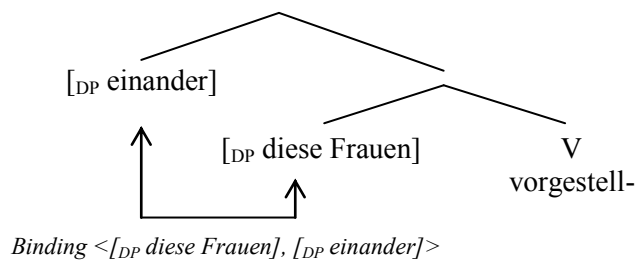
Since the target (the bindee) c-commands its controller (the binder), the structure in (90) potentially violates, here again, either form of the DA. If this state of affairs persists, the derivation will crash. According to our theory, a potential violation of the DA licenses an instance

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[16] In these approaches, the role of inflectional heads in allowing binding is crucial. I omit that factor here, as it is not essential to the point I am trying to make.

of internal Merge, if such an operation is available in the first place – for example, if the language offers a potential target position for movement to obtain before the derivation reaches the step at which the DA is evaluated. As is well-known, German offers the possibility of moving an object DP to a higher position in the middle field (cf. Webelhuth 1989, Haider 2005). Hence, in this particular language, it is possible for the direct object to scramble across the reciprocal, yielding the structure in (91).

(91)

[_DP diese Frauen]

[_DP einander]

([_DP diese Frauen])

V
vorgestell-

Binding <[_DP diese Frauen], [_DP einander]>
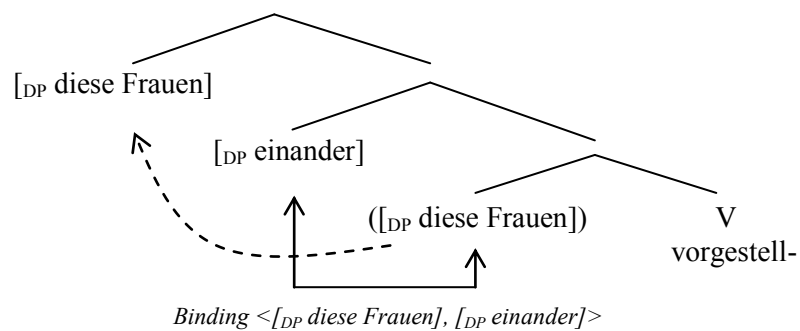
The higher copy of the controller c-commands the target from the newly created position, thereby providing a configuration which satisfies either version of the DA before the derivational point at which the latter is evaluated. I suggest that this repair mechanism underlies a range of cases of syntactic movement, which would stem from the need for elements standing in a given dependency relation to reach a configuration compatible with the DA. This would hold of anaphoric relations, as well as agreement relations, the immediate cases at hand.

On these grounds, consider again structure (88). Assuming that the specifier of P is an available target for movement, it is possible to obtain a licit configuration in terms of the DA by moving G to [Spec, P].

(92)

```
              P'
          /        \
        G            P'
       [+α]        /      \
          ↖      P          XP
           \    [+α]        /‾‾\
            \           …(G)…
             \          [+α]
              _____/
```
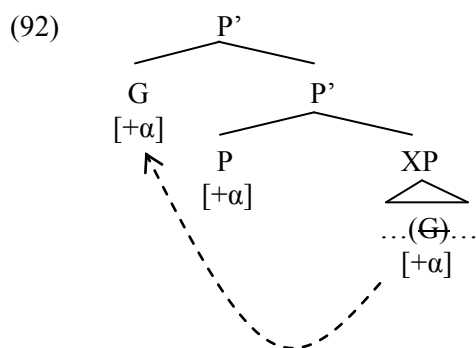
I argue that this is exactly what happens in the Hindi and Swedish Object Shift [OS] patterns introduced in the first chapter, which I will re-explore here in some detail, putting to use the new tools offered by the DA theory of the agreement-movement connection.

4.3 Revisiting the Hindi and Swedish OS patterns

Consider first the case of Hindi. In this language, as discussed, the occurrence of covert agreement is revealed by an intervention effect arising in ditransitives. Thus, in monotransitive configurations, a highly specific object such as the proper noun *Bill* must escape the VP. We know this because *–ko* marking, which only appears on theme objects when these occupy a derived position, is obligatory in the relevant configurations.

(93) John-ne   Bill*(-**ko)** piiTaa   hai.   *Monotransitive structure*

      John-ERG   Bill -KO   beat-PFV be

      'John has beaten Bill.'

The very same direct object behaves differently in ditransitives. In presence of an indirect object, the proper noun *Bill* can either stay in situ, as in (94), or move across the IO, as in (95) where it appears to its left. As expected, in the former case, *-ko* marking of the DO is impossible, while in the latter case, it is obligatory.

(94)   John-ne   Mary-ko   Bill(*-ko)   diyaa.   *Ditransitive structure*

      John-ERG   Mary-KO   Bill   give.PFV

      'John gave Bill to Mary.'

(95)   John-ne   Bill-ko   Mary-ko   diyaa.

      John-ERG   Bill-KO   Mary-KO   give.PFV

      'John gave Bill to Mary.' (*John gave Mary to Bill.)

In other words, movement of a DO such as *Bill* is obligatory in monotransitive environments, but remains optional in ditransitive ones. The latter case is relatively unsurprising in a scrambling language such as Hindi, which, if anything, exhibits even more word order flexibility than German. But the former case *is* surprising, for the very same reason. The obligatoriness of object movement in (93) suggests that we are not dealing with a regular scrambling procedure. The insertion of an indirect object above the direct object disrupts the phenomenon, thus pointing to the conclusion that we are facing a regular intervention effect. Put another way, the purpose of obligatory object movement in (93) is not to satisfy a requirement of the object itself. Rather, it follows from some other requirement, which (as suggested by 94, 95) is presumably satisfied by the higher available DP in the structure.

As argued in chapter 1, these facts can be straightforwardly modeled in terms of agreement, on the basis of three assumptions. First of all, we assumed that Object Shift follows from agreement obtaining in some feature between v and the higher available object in the VP domain. The resulting configuration, which is an instance of the pattern in (88), is a potential violation of the DA, which must be repaired through movement. This would be the purpose of Object Shift in (93), and the reason why it is obligatory in a language otherwise well-known for its word order flexibility. Second, concerning the identity of the feature involved in the agreement procedure, we

assumed that *v* bears an uninterpretable specificity feature [uSP] (cf. Mykhaylik and Ko 2008), which must be valued via Agree with a nominal in the VP domain. It is reasonable to assume that the feature [SP] is the one involved in the relevant procedure, insofar as it provides a direct characterization of the class of objects which must undergo Object Shift in monotransitive environments, i.e. specific nominals (Mohanan 1994). Finally, we assumed that the feature under consideration is privative. The reason is that only specific nominals undergo Object Shift in monotransitive contexts, whereas non-specific nominals are not subject to the relevant procedure (Mohanan 1994, Montaut 2004). If, according to the first assumption, Object Shift is triggered by agreement, it is plausible to assume that no agreement obtains between *v* and non-specific nominals. This makes sense if the feature involved in the agreement is privative.

Consider then (93) under these assumptions. In the derivation of this particular example, *v* first agrees in specificity with the single object of a monotransitive verb. The resulting configuration, in which the target c-commands the controller, is a potential violation of the DA. [17]

(96)
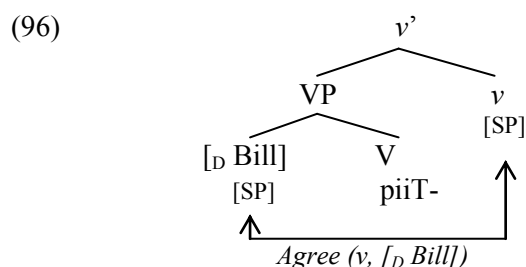
This potential violation licenses an instance of syntactic movement as a repair mechanism. The operation turns out to be possible because Hindi, like many other SOV languages, routinely allows scrambling (cf. Mahajan 1990, 1997, Deprez 1994, Kidwai 2000). Assuming that the

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[17] In this example, I assume that accusative –*ko* marking is determined post-syntactically on the basis of the surface position of the specific object, under a case competition scenario (Marantz 1991). In this scenario, -*ko* marking would follow from the object being assigned dependent case whenever it shares the same case assignment domain as the subject – for example, in Object Shift contexts. It is worth noting that this particular interpretation has to deal with the fact that –*ko* marking persists when the subject is marked with inherent ergative.

target of movement in our particular scenario is the first specifier of *v*, we obtain the structure in (97).

(97)

$$
\begin{array}{c}
v\text{'} \\
\end{array}
$$

[D Bill-ko]
[SP]

v'

VP

v
[SP]

([D Bill])
[SP]

V
piiT-

Agree (v, [D Bill])
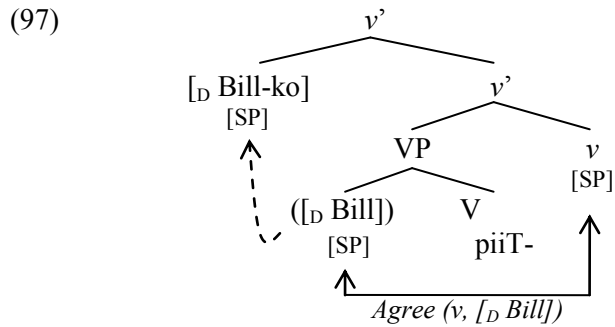
In this new configuration, the higher copy of the goal c-commands the probe, thus satisfying the DA. This accounts for the obligatory character of direct object movement in (93).

Now, the picture will be different in ditransitive environments. The basic idea is that in (94), for example, an intermediate applied argument disrupts the possibility for *v* to agree with the specific direct object. The relevant ditransitive structure was assumed to be an applicative configuration associated to a semantics of transfer of possession. The relevant pattern is illustrated in (98), in which two scenarios can be distinguished: either *v* agrees with the specific applied argument, or it agrees with the lower specific object.

(98)

Scenario 1: Agree (v, [D Mary-ko])

v'

VP

v
[uSP]

ApplP

V
diy-

[D Mary-ko]
[SP]

Appl'

[D Bill]
[SP]

Appl

Scenario 2: Agree (v, [D Bill])
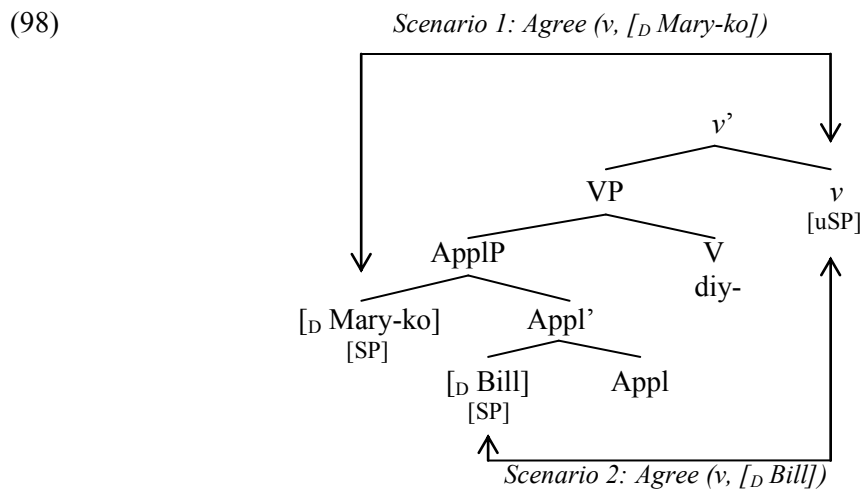
Since *v* c-commands both objects, but the applied object c-commands the theme object, scenario 2 is severely restricted by virtue of the intervention condition, repeated here in (99).

(99)   There must be no true or defective intervener X between the probe P and the goal G, such that P c-commands X and X c-commands G.

> i. A category X is a *true* intervener if it is available for agreement and matches the unvalued features of P.
>
> ii. A category X is a *defective* intervener if it is not available for agreement.

This condition leaves very little chance for scenario 2 to obtain. We would expect it to be possible only if those cases in which the indirect object is a true intervener *and* lacks the feature [SP]. Let us elaborate on this point. Consider first the possibility that the indirect object DP (98) is a defective intervener, i.e., that it is not available for agreement, as described in (99). In such a situation, agreement between *v* and the lower direct object (scenario 2) would be ruled out in all cases. The pattern is familiar from dative intervention in languages such as Icelandic. The following examples illustrate the relevant phenomenon in Icelandic raising environments, in which agreement between T and a lower nominative, as in (100a), is blocked by the presence of an intermediate dative experiencer (cf. 100b).

(100)   a. Henni   virðast   myndirnar   vera   ljótar.
          her.DAT seem.3PL   paintings.the.NOM   be   ugly
          'It seems to her that the paintings are ugly.'   (Sigurdsson and Holmberg 2008)

b. Það   virðist/*virðast   einhverri konu   myndirnar   vera ljótar.

EXPL seems.3SG/*3PL   some   woman.DAT paintings.the.NOM   be ugly

'It seems to some woman that the paintings are ugly.'

Consider in turn the possibility that the indirect object in (98) is available for agreement. In this state of affairs, it would become a true intervener in those cases in which it bears the feature [SP]. We would then expect it to undergo Object Shift, as the DO does in (93) – although it is rather difficult to provide evidence for such a movement. In this particular case, agreement between *v* and the IO would preempt any agreement relation between the former and the DO. The story becomes more interesting, on the other hand, if the indirect object lacks a [SP] feature, i.e. if it is a non-specific nominal. Under the assumption that *v*-agreement is only in specificity, the indirect object would become invisible to the *v*-probe, which would skip it in its search for a matching goal. In such cases, scenario 2 would become possible, and we would expect the DO to undergo obligatory Object Shift across the IO. But this is not what happens, as shown in (101), where the indirect object can be interpreted as non-specific.

(101)   John-ne   sansthaan-ko   Bill   diyaa.

John-ERG   foundation-KO Bill give.PFV.MSG

'John gave Bill to some foundation.'

The fact that scenario 2 is blocked even in those cases in which the IO is non-specific weakens the case for true intervention, and correspondingly increases the likelihood that the IO is a defective intervener, akin to the Icelandic experiencer in (100b). While more complex versions of a true intervention approach are conceivable in terms of a richer *v*-probe (which would require us to test whether DO movement is possible in case the IO lacks all of the features probed for by *v*), I have found no convincing evidence pointing in this direction. It seems therefore reasonable to

conceive the IO as a defective intervener, which blocks the possibility of agreement between *v* and the DO. Under the assumption that obligatory Object Shift in Hindi is a repair mechanism for a potential violation of the DA, this accounts for the fact that DO movement becomes optional in ditransitive contexts, where the DO does not agree with *v*.

The reader will recall that overt number and gender agreement in Hindi do not behave at all like this hypothetical covert specificity agreement on *v*. Thus, inherently case-marked DPs in Hindi, such as the IO of (98) in our interpretation, do not block number/gender agreement from obtaining between the DO and a verb or auxiliary that bears tense inflection – put another way, Agree(T, DO) seems to obtain irrespective of potential inherently case-marked interveners. For example, the minimal pair in (102) shows that T tracks the gender of the unmarked DO, despite the presence of an ergative subject and a dative indirect object.

(102) a. Ravii-ne   Niinaa-ko kelaa   k^hilaay-aa   (Mohanan 1994)

       Ravi.M-ERG Nina-KO   banana.**M**   eat-PFV.**M**SG

       'Ravi fed Nina a banana.'

      b. Ravii-ne   Niinaa-ko roTii   k^hilaay-ii

        Ravi.M-ERG   Nina-KO   bread.**F**   eat-PFV.**F**SG

        'Ravi fed Nina bread.'

This turns out to be an important point for the present approach, for more reasons that just the absence of intervention patterns. I will get back to this matter in chapter 3, where I will try to show that agreement in number and gender in Hindi, and perhaps in other languages as well, is determined post-syntactically. If so, it is not expected to behave as agreement in syntax, and thus it is not required to obey syntactic conditions. I will show that this expectation is borne out, and that the relevant kind of agreement in Hindi is sensitive to PF conditions such as linear adjacency.

Consider now the case of pronominal Object Shift in Swedish from the perspective of the theory proposed in this subsection. Because Swedish OS patterns do not exhibit the same kind of intervention effect as OS in Hindi, linking these patterns to the occurrence of covert agreement is much less straightforward. While it is possible, it also requires a relatively long argument, and it would lead us astray to repeat it here. I will directly assume in what follows that OS in Swedish is triggered by agreement with *v*, and refer the reader to section 3 of chapter 1 for the corresponding argumentation. On the other hand, I will simultaneously assume that *v* optionally probes for a pronominal feature [PRON], in order to account for the fact that only pronouns, not full DPs, can undergo OS in Swedish. The relevant feature is an informal mnemonic for those properties that separate pronouns from definite descriptions, including structural properties (they are typically heads) and referential properties (their antecedent must be part of the common ground). While the matter is somewhat more complex, as was discussed in chapter 1, this provides us with a rough preliminary characterization of the class of shiftable objects in Swedish, which is sufficient for our current purposes.

On these grounds, the DA account of the basic monotransitive OS pattern in (103) is straightforward.

(103)   Jag kysste henne inte [$_{VP}$ t$_{kysste}$ t$_{henne}$]

     I kissed her not

     'I didn't kiss her.'

The occurrence of OS in (22) automatically follows from the assumption that agreement in syntax is subject to the DA. Once agreement obtains between *v* and the DO *henne* at the *v'* stage of the derivation, we obtain a configuration which potentially violates the DA - a particular instance of the general pattern in (88).

(104)

```
                          v'
              ┌───────────┴───────────┐
              v                       VP
           [PRON]          ┌──────────┴──────────┐
                        [Adv inte]               VP
                                         ┌────────┴────────┐
                                         V             [D henne]
                                       kysst-            [PRON]
```

Agree (v, [D henne])
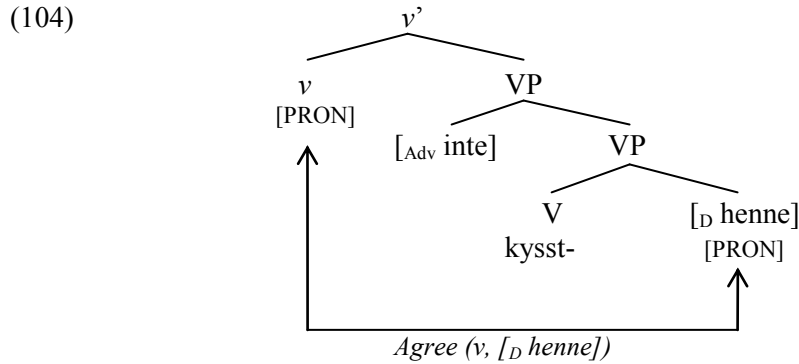
This potential violation of the DA licenses an instance of internal Merge if such an operation is available, as discussed. The specifier of *v* seems to be the designated target in such instances, yielding the structure in (105), which does comply with the DA, insofar as it provides a configuration in which the higher copy of the controller c-commands the target.

(105)

```
                          v'
              ┌───────────┴───────────┐
         [D henne]                    v'
          [PRON]          ┌───────────┴───────────┐
                          v                       VP
                       [PRON]          ┌──────────┴──────────┐
                                    [Adv inte]               VP
                                                    ┌────────┴────────┐
                                                    V            ([D henne])
                                                  kysste            [PRON]
```

Agree (v, [D henne])
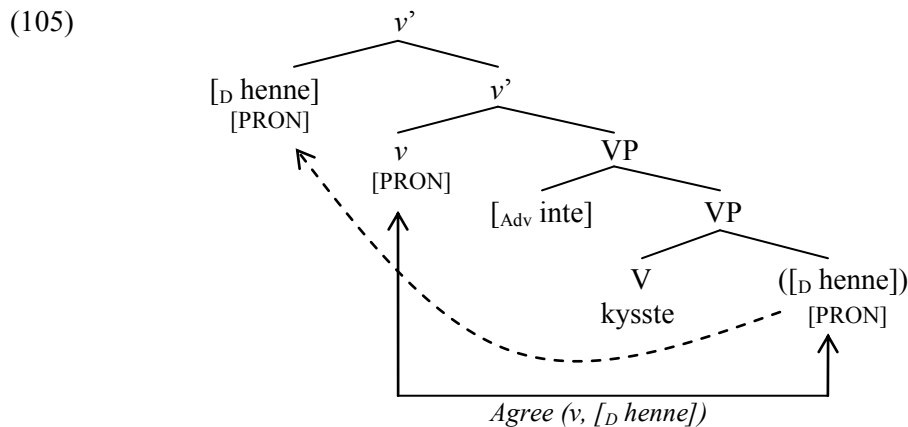
Full DPs, which lack the feature [PRON], do not trigger agreement on *v*, and remain unconcerned by the relevant procedure. This relatively simple picture becomes more intricate in ditransitive environments, in which two object pronouns can simultaneously shift, as shown in (106).

(106) Thomas gav henne den inte [VP tgav thenne tden].

Thomas gave her   it   not

'Thomas didn't give it to her.'

As discussed in chapter 1, the lack of intervention effects in such contexts suggests that *v* agrees simultaneously with both objects, or, in other words, that Swedish is a Multiple Agree language. In this sense, I follow Anagnostopoulou (2005) in assuming that the existence of Single or Multiple Agree in a given language is a parametric property, in this case distinguishing Swedish from the abovementioned patterns of Hindi. If this assumption is on the right track, we do not expect the DA to behave differently in such contexts, even though a single probe is allowed to have more than one controller. Thus the configuration in (107) is a *double* potential violation of the DA, since *v* c-commands both its controllers.

(107)

Agree (v, [$_D$ henne], [$_D$ den])
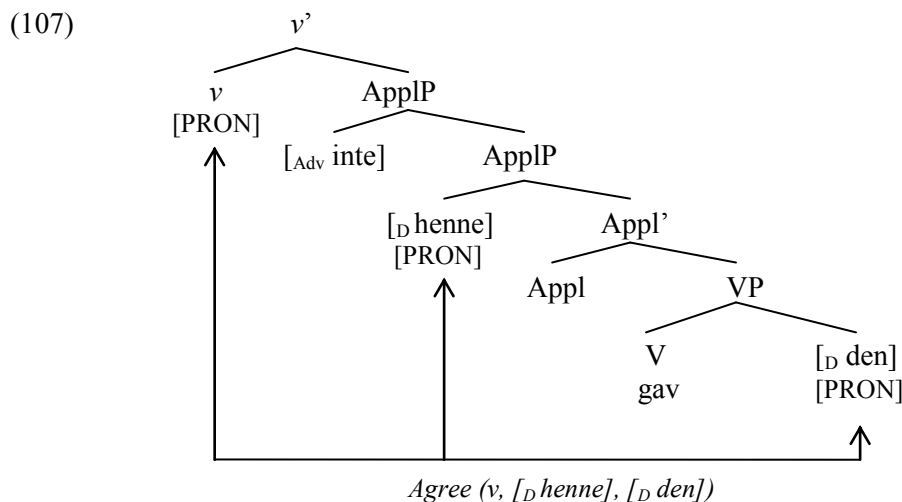
The DA therefore predicts the possibility of multiple OS in those cases in which Multiple Agree obtains, as illustrated in (108).

(108)

Agree (v, [D henne], [D den])
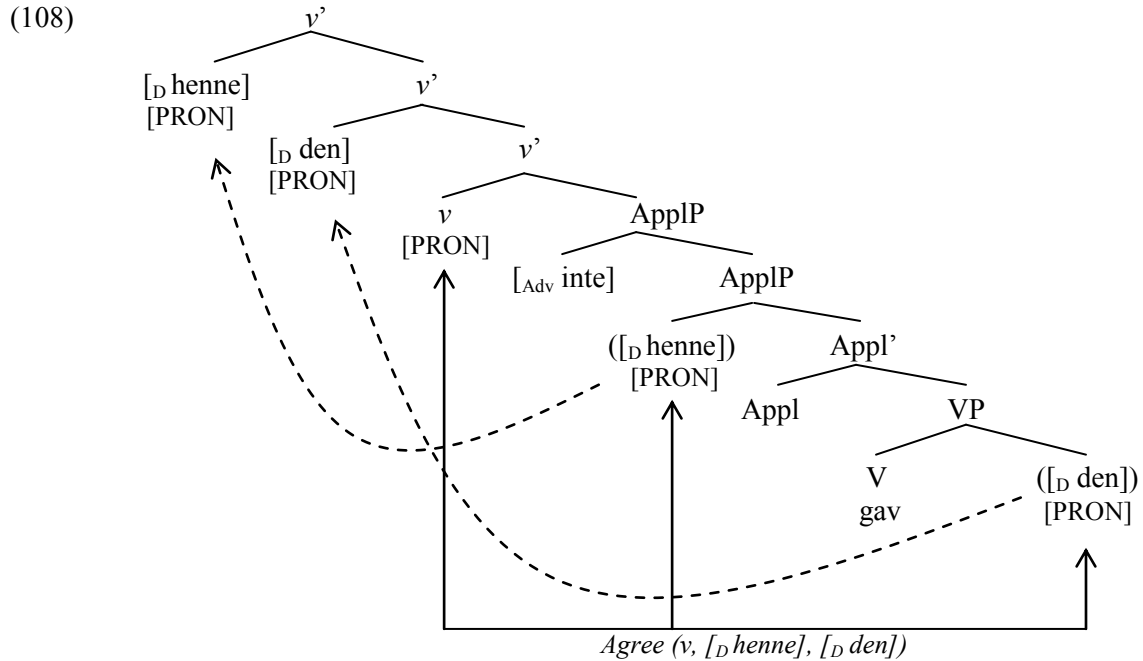
It would therefore seem that the DA approach to agreement can handle the basic OS patterns observed in Hindi and Swedish. Two immediate questions arise, however. On the one hand, it would seem that nothing has been achieved so far at the empirical level that could not be stated in terms of an EPP feature associated to *v*-agreement. Thus, in both the Hindi and the Swedish case, it seems that OS targets the specifier of *v*, which is exactly the target we would predict if we postulated an EPP feature on *v* in such contexts. Putting conceptual considerations aside (with respect to which, I believe, the DA theory of the agreement-movement connection offers significant advantages over EPP feature-based theories), the question must be asked whether the DA approach is not, at the empirical level, a notational variant of an EPP-feature based analysis. On the other hand, we have remained neutral so far with respect to the specific form of the DA which agreement is (by hypothesis) subject to. Since the DA is not a specific principle, but a binary system of related principles, the relevant question is whether agreement in syntax is subject to the CLP or the INP. Summing up, our theory has to face the questions in (109).

(109)   a. Are the DA approach and the EPP-feature based approach to *v*-agreement and OS

empirically equivalent?

b. Is agreement in syntax subject to the CLP or the INP?

4.4 Revisiting the Hindi and Swedish VP-movement procedures

Let us then turn to evidence which seems to simultaneously answer both questions. As discussed in chapter 1, both Hindi and Swedish exhibit a VP movement procedure targeting one of the edges of the clause. Allow me to review the data in some detail. In Swedish periphrastic tense environments, the VP-movement mechanism (called VP-topicalization in the relevant literature, even though it appears to be some kind of focus fronting) is directly observable: it involves leftward fronting of a constituent containing a verbal participle and its objects, as shown in (110) – cf., inter alia, Holmberg (1999), Fox and Pesetsky (2005), Vikner (2007).

(110)   [$_{VP}$ Gett   henne den] har   jag   inte t_{VP}

given her   it   have I   not

'I didn't GIVE it to her.'

In Hindi a VP movement mechanism also exists, which targets the right edge of the clause instead (cf. Bhatt and Dayal 2007). It is, however, more difficult to detect it, because the verb leaves the VP before the latter moves to the edge. As a result, the surface pattern resembles rightward DP movement, but there are reasons to think that this procedure applies on a larger constituent that in fact contains the displaced DP (here again, I refer the reader to chapter 1 for the relevant argumentation). Under the VP-remnant movement analysis, the structure of the sentence in (111) looks as in (112).

(111) Sita-ne   dhyaan-se dekh-aa thaa   Ram-ko.

       Sita-ERG   care-with   see-PFV be.PST Ram-KO

       'Sita had looked at Ram carefully.'

(112)
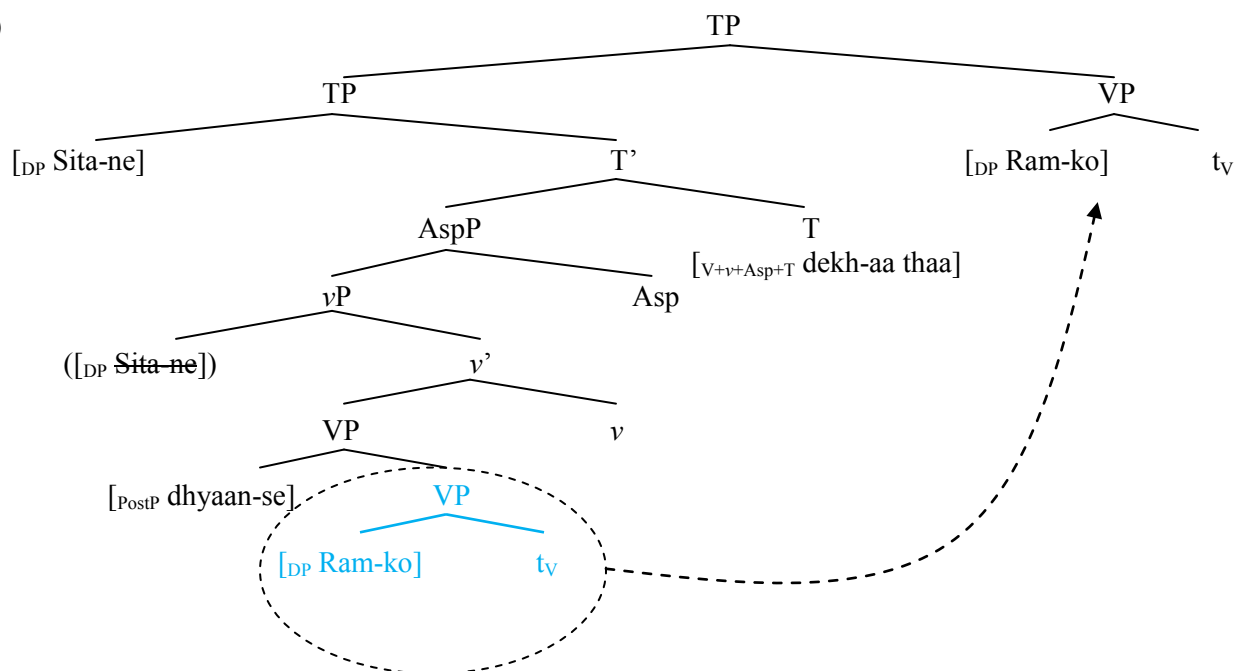
Notice that I am assuming that the *ko*-marked object does not target the specifier of *v* prior to remnant movement of a category containing this object. The reason is that the VP-modifier *dhyaan-se* is not part of the rightward scrambled remnant. If the DO were to undergo OS to [Spec, *v*] (and therefore if it were to cross over the VP-modifier) *before* rightward scrambling takes place, we would predict the structure in (113), in which the VP-modifier is part of the right-scrambled constituent. But this is not the case in (111).

(113)
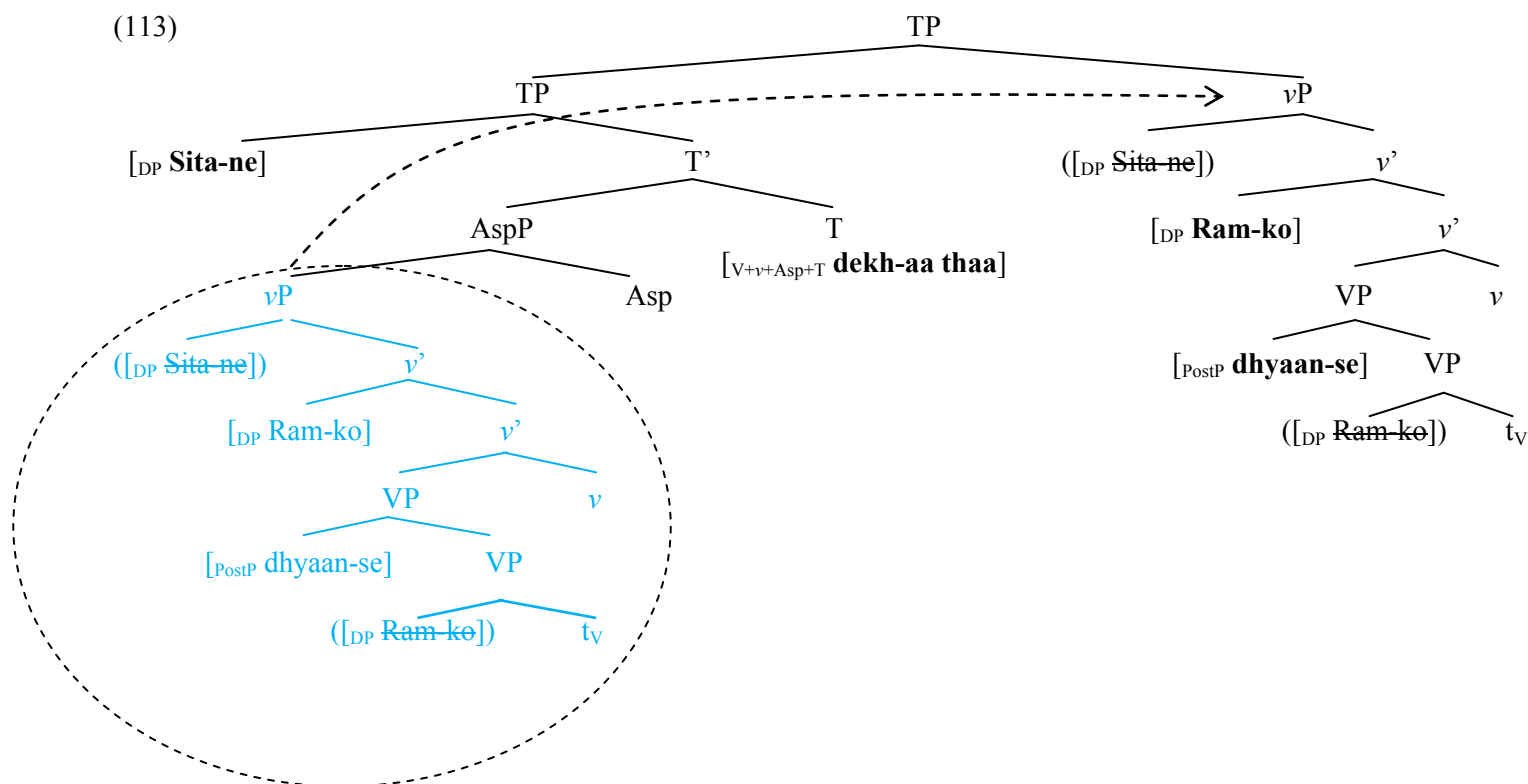
One might say, of course, that the fact that the modifier is not part of the remnant is not due to the absence of OS, but instead to the possibility of adjoining the modifier to a higher projection, such as *v*P, thereby creating a double segment *v*P. In such a scenario, it should be possible for the lower segment of the *v*P remnant (almost identical structurally to the single segment *v*P in 113, the difference being that it lacks the VP modifier) to undergo rightward scrambling (taking the shifted object with it), while the higher *v*P segment (the one the modifier is adjoined to) remains stranded in its base position. While such a mechanism is plausible, it is not likely that this is what is really happening in (111). Thus, when a *ko*-marked object occupies its usual OS position (recall that in transitive contexts, OS of highly specific nominals is obligatory in Hindi), it is normally found to the left of a VP-modifier (cf. 114a). The opposite order, in which the *ko*-marked object follows the modifier, is degraded in such contexts (cf. 114b).

(114) a. John-ne   mujh-ko thoDaa saa chuumaa   hai.

　　　　John-ERG me-KO   a.little.bit   kiss.PFV.MSG AUX

　　　　'John kissed me a little bit.'

　　　 b. ?? John-ne   thoDaa saa mujh-ko   chuumaa   hai.

　　　　　John-ERG a.little.bit   me-KO   kiss.PFV.MSG   AUX

　　　　'John kissed me a little bit.'

It is interesting for the current discussion that (114b) is degraded, rather than fully ungrammatical. We saw in (93) that the failure of a highly specific DP to undergo OS in a monotransitive context yields an ungrammatical outcome. But (114b) is not entirely ungrammatical, which suggests that the *ko*-marked personal pronoun occupies its designated shifted position. If so, comparison of (114a) and (114b) points to the conclusion that it is the point of adjunction of the modifier which distinguishes the relevant sentences. In (114a), the modifier is found in its canonical position, presumably [VP, VP], and the sentence is fine. In (114b), the modifer is adjoined to a higher projection (perhpas *v*P), and the result, though not completely ungrammatical, is not good. We would expect a similar effect to hold generally. Since it is absent in (111), we are led to the conclusion that in that sentence, the VP-modifier occupies its canonical position. If so, it must be the case that the marked object does not target the [Spec, *v*] position before rightward scrambling takes place, as suggested above.

The VP movement procedures found in Swedish and Hindi are relevant to us, because they interact with the object shift system of both languages in a way that allows us to distinguish between a DA approach and an EPP-feature based approach to *v*-agreement. More importantly for the purposes of this chapter, this interaction also allows us to determine whether agreement in syntax is subject to the CLP or the INP.

Let us then focus on these main pieces of data. Let us start with Swedish, where the relevant pattern involves a combination of OS and VP-topicalization in ditransitive environments. It is a well-known configuration, discussed in Holmberg (1999) and Fox and Pesetsky (2005), in which the direct object moves to the usual OS position, while the indirect object (also pronominal) stays within the VP-remnant undergoing fronting to the left edge. The pattern is illustrated in (115).

(115) [$_{VP}$ Gett henne t$_{den}$] har jag den inte t$_{VP}$.

given her   have I   it   not

'I have not GIVEN it to her.'

This example is remarkable, because, under the assumption that OS is triggered by v-agreement, it follows that the direct object pronoun in (115) must have agreed with v. Put another way, we require at least Agree(v, DO) to obtain in the following structure, which illustrates the first v' stage of the derivation of the sentence in (115). Whether we entertain a DA approach or an EPP-feature based approach to v-agreement, such a relation is necessary for OS of the DO to obtain.

(116)

Agree (v, [$_D$ den])
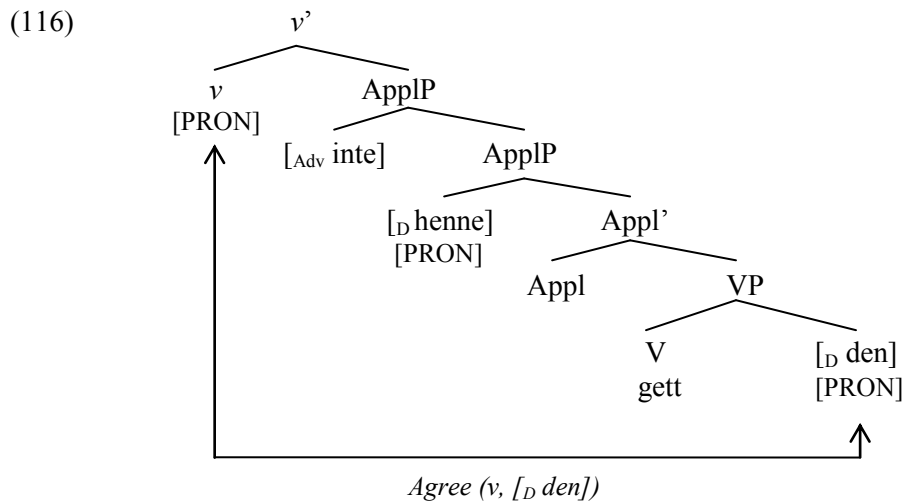
This configuration is anomalous, however, because the *v*-probe skips the indirect object, which also bears a [PRON] feature, and is therefore visible for agreement. While it is true that we have assumed Swedish to be a Multiple Agree language, and that in this kind of languages the intervention condition does not emerge as clearly as in Single Agree languages, the relevant assumption does not make Swedish exempt from obeying minimality. In this respect, it is instructive to take a look at the case of the Bantu language Sambaa (Riedel 2009). This is a transparent Multiple Agree language, in which the verb can (but need not) agree with multiple objects. In the following example, the verb cross-references its two objects, and even a locative adjunct, in the absence of any hint at an intervention effect.

(117)   N-   za- ha-   chi-   m-   nka   Stella   kitabu   haja

       SM.1SG- PFV-OM.16- OM.7-   OM.1-   give   1.Stella 7.book 16.DEM

       'I gave Stella a book there.'
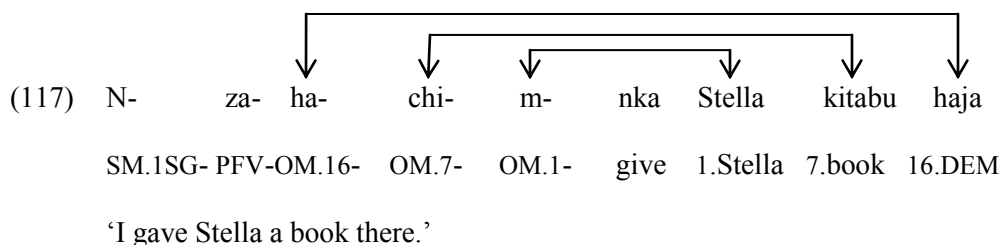
In the object agreement system of Sambaa, only pronouns and proper nouns must be obligatorily agreed with. Otherwise object agreement remains optional, but it is not free from structural constraints. The one constraint that is of interest for us here is that, while it is possible for a ditransitive verb to cross-reference the indirect object without cross-referencing the direct object (cf. 118a), the opposite is not possible (cf. 118b).

(118)   a. N-   za-   **m**-   nka   **Stella**   kitabu.

       SM.1SG-PFV.DJ-**OM.1**-give   **1.Stella**   7.book

       'I gave Stella a book.'

b.*N-   za-   **chi-** nka   Stella   **kitabu**.

SM.1SG-PFV.DJ-**OM.7**-give   1.Stella   **7.book**

(Intended: 'I gave Stella a book.')

In fact, the only way for such a verb to agree with its direct object is by agreeing with its indirect object as well, as shown in (117) above, and (119) below.

(119)   N-   za-   chi-   m-   nka   Stella   kitabu.

SM.1SG-PFV.DJ-OM.7-OM.1-give   1.Stella   7.book

'I gave Stella a book.'

I assume that Sambaa and Swedish, beyond their superficial differences, work the same way. Under this assumption, the configuration in (116) is deviant, and it must instead be the case that Agree obtains with both pronouns simultaneously, as in (120), which repeats a pattern we saw in (107).

(120)

Agree (v, [$_D$ henne], [$_D$ den])
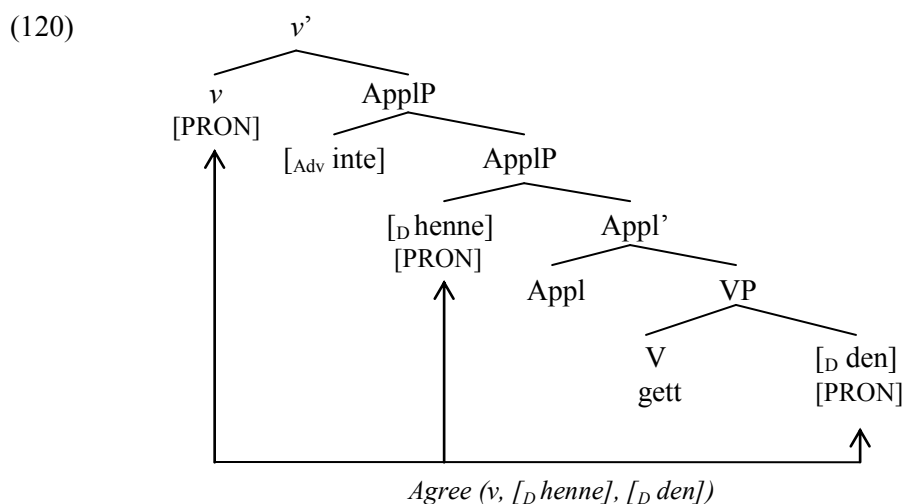
What is then remarkable about example (115) is that *henne*, despite agreeing with *v*, never undergoes OS and, rather, stays within the fronted VP. The relevant derivation is illustrated in (121). I am assuming here that the fronted constituent is in fact a participial projection PartP (generated in-between *v*P and ApplP) whose head attracts the verb stem. This helps capturing both the verbal morphology and the surface V-IO-DO order.

(121)

Agree (v, [_D_ henne], [_D_ den])
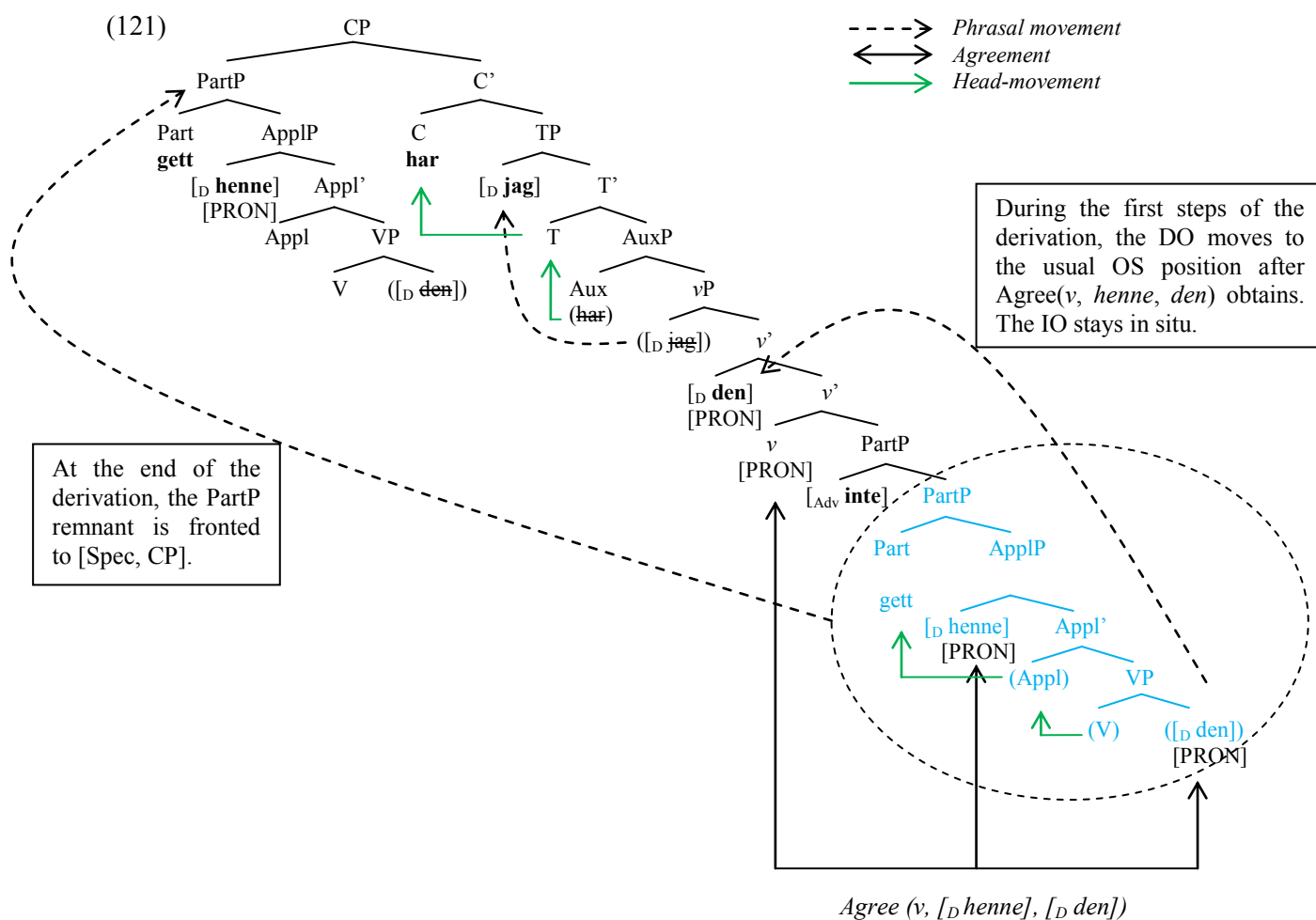
The position of *henne* in (115, 121) is the first piece of evidence that will allow us to answer the questions in (109). The second piece of evidence is a Hindi right-scrambling pattern, in which a pronominal object stays within the dislocated remnant, leaving a VP-modifier stranded behind. Notice that the sentence is not degraded, suggesting that the VP-modifier is in its canonical

position. This suggests, as discussed above, that *mujh-ko* does not undergo OS prior to the VP movement procedure.

(122) John-ne   thoDaa saa   chuumaa   hai   mujh-ko.

 John-ERG   a.little.bit   kiss.PFV.MSG AUX   me-KO

 'John kissed me a little bit.'

This example is important, because it turns out that in Hindi, personal pronouns such as *mujh-ko* must be licensed through verbal agreement. I take this restriction to stem from what Béjar and Rezac (2003, 2009) call the *Person Licensing Condition*, according to which 1st and 2nd person nominals (and sometimes 3rd person animate, dependingon the language) require the verb to agree with them in order for the derivation to converge. This helps explain why a first person DO can never be found in situ in Hindi ditransitive configurations, as shown in (123).[18]

(123) *John-ne   Mary-ko   maĩ   / mujh-ko   diyaa.

 John-ERG Mary-KO   me-NOM   me-KO   give.PFV

 (Intended: 'John gave me to Mary.')

The reason is that the indirect object disrupts the possibility of *v* agreeing with the lower DO pronoun, as mentioned in the discussion on (98). In the absence of agreement which licenses the pronoun, the derivation crashes. Hindi provides a means to bypass the intervention effect, as suggested in chapter 1: by undergoing preliminary scrambling across the IO (and targeting, say, [ApplP, ApplP]), the DO is able to reach a position where the *v* probe can reach it. As a result, it

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[18] The reader might recall that v-agreement with local person objects likely includes person agreement, which is the type of agreement that, under Béjar and Rezac (2009)'s theory, licenses such objects. I omit that component of the analysis here in order to avoid too many digressions.

is possible to find a first person pronoun in the normal OS position. This is what I argue is happening in sentence (124). The structure in (125) illustrates the relevant mechanism.

(124)　John-ne　　mujh-ko　Mary-ko　　diyaa.

　　　　John-ERG　me-KO　　Mary-KO　　give.PFV

　　　　'John gave me to Mary.'

(125)

*Agree (v, [*D* mujh])*
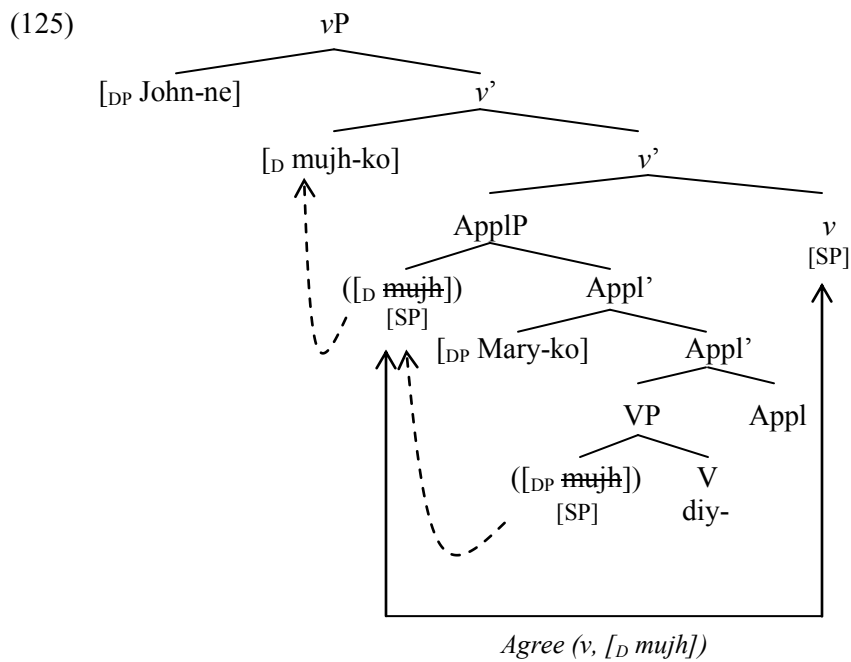
Since 1st person pronouns need to be licensed through agreement, the fact that sentence (122) is grammatical suggests that agreement between *v* and the DO obtains before VP movement takes place. In turn, the fact that a VP-modifier is stranded behind without ill effects indicates, as mentioned, that the DO does not undergo OS prior to the VP movement mechanism. If so, the structure of (122) can be described as follows.

(126)

```
                                            TP
                      TP                                        VP
      [DP John-ne]                  T'                  [D mujh-ko]        tV
                          AspP                    T        [SP]
                    vP              Asp    [V+v+Asp+T chuumaa hai]
            ([DP John-ne])        v'
                    VP              v
                                   [SP]
        [Adv toDaa saa]      VP
                      [D mujh-ko]      tV
                        [SP]

                    Agree (v, [D mujh-ko])
```
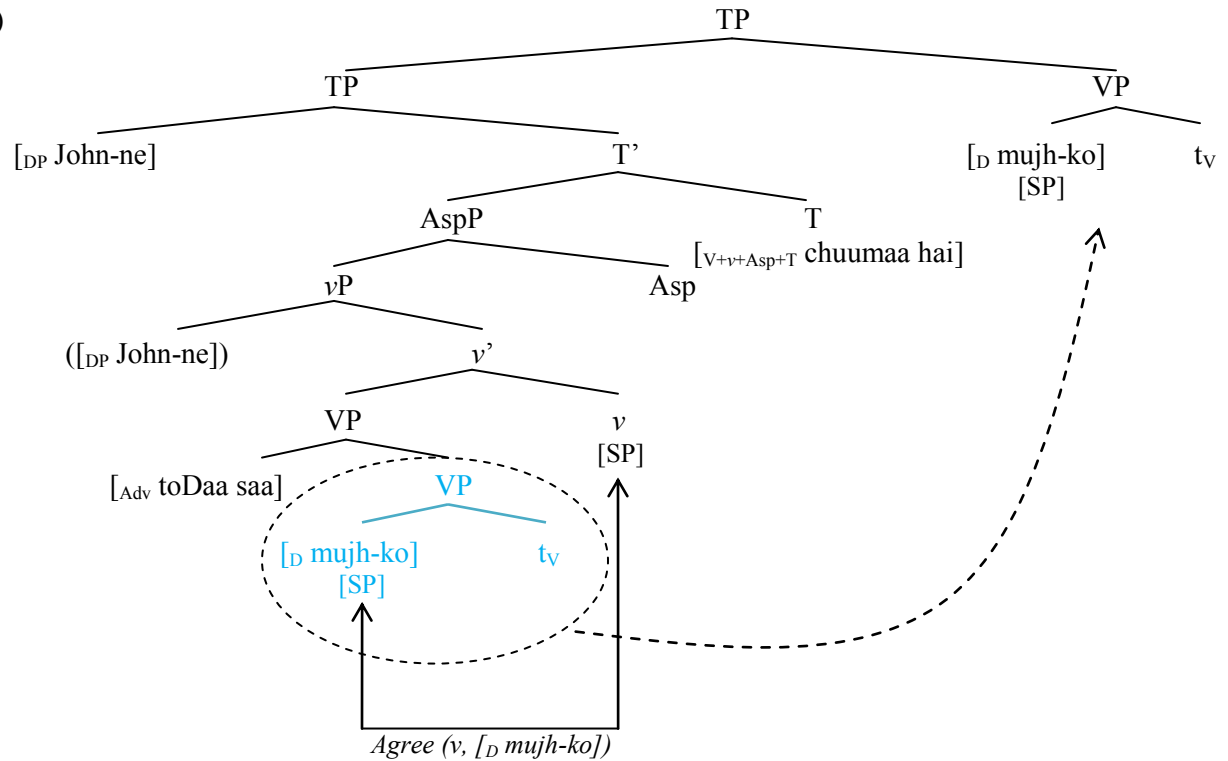
The position of *mujh-ko* in (122, 126), as well as that of *henne* in (115, 121), are the pieces of evidence that allow us to face the questions in (109), repeated here in (127).

(127) a. Are the DA approach and the EPP-feature based approach to *v*-agreement and OS equivalent?

b. Under a DA approach, is agreement in syntax subject to the CLP or the INP?

The data we just saw provide us with configurations in which, on the one hand, the controller of agreement on *v* (or at least one of the controllers) does not move to [Spec, *v*], and, on the other hand, no c-command relation holds between the higher copy of the controller and the target. These configurations are a tough nut to crack for an EPP-feature based approach to *v*-agreement and OS, because such an approach requires the controller of agreement to target the specifier of

the *v*-probe before it undergoes any kind of movement to the edge of the clause. This is unlikely to be the case in Hindi, as I have suggested above based on example (122), and it is definitely not the case in example (115) from Swedish, where it is transparent that the indirect object *henne*, despite undergoing Agree with *v*, never targets [Spec, *v*]. The implementation of an EPP-feature based approach to *v*-agreement therefore requires auxiliary hypotheses.

Can the DA approach to agreement provide us with a cleaner account of the Hindi and Swedish data in (122, 115)? This question leads us to consider two potential scenarios, since the DA is not one, but two related principles on the syntactic expression of grammatical dependencies, as follows.

(128)   *The Dependency Axiom*

　　　Map dependency relations onto c-command relations.

　　　　a. *Weak c-command relation: The Independence Principle (INP)*

　　　　　A controller cannot be c-commanded by its target.

　　　　b. *Strong c-command relation: The C-command Licensing Principle (CLP)*

　　　　　A controller must c-command its target.

Consider first a scenario in which agreement is subject to the CLP. In such a scenario, we would expect a goal G, generated within the c-command domain of the probe P, to target a position it would c-command the latter from, as a repair mechanism to avoid a potential violation of the relevant form of the DA. But in both (121) and (126), the higher copy of the goal – *henne* in (121), *mujh-ko* in (126) - does not c-command the probe (*v* in both cases), and neither is there a lower copy of the goal which would. These configurations violate the strong form of the DA, and nonetheless the resulting sentences are perfectly grammatical. It would therefore seem that agreement relations (or at least this kind of agreement relations) are not subject to the CLP.

Consider then the possibility that agreement is subject to the weak form of the DA, the Independence Principle. Since the INP only requires that the target does not c-command the controller, it admits both (a) configurations in which the controller c-commands the target, and (b) configurations in which no c-command relation holds between them. The ability of the INP to account for type (b) configurations sets it apart from the other two alternatives, the EPP-feature based approach and the CLP approach to agreement, which both reject such configurations. This is decisive, because the relation between the probe *v* and the goals *henne* and *mujh-ko* in structures (121) and (126) respectively, is precisely a configuration of type (b). It would therefore seem that we can think of the VP (or PartP) movement procedures obtaining in the derivation of the relevant structures as operations that repair a potential violation of the INP (in addition to whatever their syntactic or semantic motivation is, if different). This is because before VP/PartP movement takes place, *v* c-commands a constituent it agrees with, thus potentially violating either form of the DA. The movement procedure salvages the derivation, by restablishing a suitable configuration for agreement in terms of the INP. This is shown in (129) and (130).

(129)

CP
- PartP
  - Part **gett**
  - ApplP
    - [D **henne**] [PRON]
    - Appl'
      - Appl
      - VP
        - V
        - ([D ~~den~~])
- C'
  - C **har**
  - TP
    - [D **jag**]
    - T'
      - T
      - AuxP
        - Aux (~~har~~)
        - vP
          - ([D ~~jag~~])
          - v'
            - [D **den**] [PRON]
            - v'
              - v [PRON]
              - PartP
                - [Adv **inte**]
                - PartP
                  - Part gett
                  - ApplP
                    - [D henne] [PRON]
                    - Appl'
                      - (Appl)
                      - VP
                        - (V)
                        - ([D den]) [PRON]

No c-command holds between the higher copy of the controller *henne* and the target *v*, thus satisfying the INP. It follows that the movement of the PartP remnant to [Spec, C] repairs a potential violation of the INP.

This is the original position of the PartP remnant.

Agree (v, [D henne], [D den])

(130)

TP
- TP
  - [DP John-ne]
  - T'
    - AspP
      - vP
        - ([DP John-ne])
        - v'
          - VP
            - [Adv tʰoDaa saa]
            - VP
              - [D mujh-ko] [SPEC]
              - tV
          - v [SPEC]
      - Asp
    - T [V+v+Asp+T chuumaa hai]
- VP
  - [D mujh-ko] [SPEC]
  - tV

No c-command holds between the higher copy of the controller *mujh-ko* and the target *v*, thus satisfying the INP. It follows that the movement of the VP remnant to [TP, TP] repairs a potential violation of the INP.

Agree (v, [D mujh-ko])

Hence, the assumption that agreement is subject to the INP allows us to account not only for the basic Hindi and Swedish OS patterns in which the controller moves to the specifier of the target (these are configurations of type a), but also for these more complex structures in which no c-command relation holds between them. On these grounds, I propose the following hypothesis, which is the core of the DA approach to agreement.

(131)   *DA-INP approach to syntactic agreement*

Dependency relations formed by Agree are subject to the Independence Principle.

5. Conclusion

As a result of (131), all configurations in which a probe P c-commands a goal G, as in (132), are illicit, and must be repaired by moving G out of the c-command domain of P before the derivational point at which the DA is evaluated. One way this can be achieved is by remerging G itself in some position from which it c-commands P, as in (133). One such position could be the specifier of P, if available. But, in languages that offer such mechanisms, it should also be possible to satisfy the INP by pied-piping a larger category X, such that X contains G, but not P, as in (134).

(132)

P

G   Agree(P, G)

(133)

G

P   Agree(P, G)

<G>

(134)

Agree(P, G)
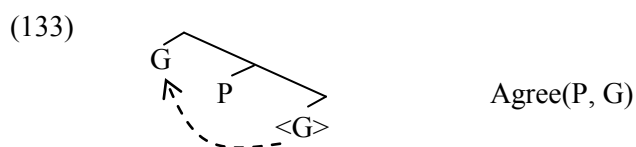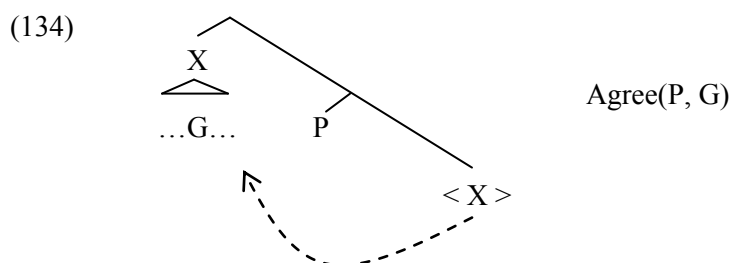
Such a hypothesis provides better empirical coverage than an EPP-feature based alternative when it comes to the Hindi and Swedish data set considered in this subsection. Furthermore, it does so by appealing to a deep principle on the syntactic expression of grammatical dependencies, and thus connecting the relevant Hindi and Swedish facts to apparently unrelated phenomena, such as inverse linking, NPI licensing, or heavy pied-piping in relatives – which, as discussed in section 2, seem to share the requirement that the controller is not c-commanded by the target. While it remains to be explained why these phenomena should be subject to the weak form of the DA, the current approach allows us to look at the relevant Hindi and Swedish OS and VP movement facts not just as an accident, but as the natural outcome of a fundamental principle of grammar.

The DA-INP raises some outstanding issues, however, which should be clarified as soon as possible. These involve (i) a potential inconsistency in admitting that Agree, a component of the grammar, can generate structural relations which contervene the DA, another component of grammar; (ii) how Case theory and the theory of the DA interact; and (iii) the existence of downwards agreement which does not trigger movement. We will turn to these issues in Chapter 3.

Chapter 3

Meeting the challenges

1. Introduction

This chapter deals with some specific challenges to the DA theory of the relation between agreement and movement. Section 2 tackles two conceptual challenges, which force us to spell out more precisely the kind of model of grammar presupposed by the theory, as well as the way in which the theory is supposed to work within that model. Section 2.1 deals with the potential conflict arising from the fact that Agree is allowed to generate structural relations that countervene the DA, while section 2.2 focuses on compatibility issues between the DA theory and (standard and non-standard) Case theory.

Section 3, which is the heart of this chapter, explores potential solutions to the empirical problem posed by the frequent occurrence across languages of downwards agreement with no concomitant movement of the controller. Thus, in many languages, constructions do exist in which a probe agrees with a goal that it seems to c-command (e.g. existential constructions, long-distance agreement, etc.). This is an obvious problem for the DA theory of agreement, which makes the strong prediction that, if Agree obtains between a probe P and a goal G, the latter should be found outside the c-command domain of P at the point at which the DA evaluates the structure. In many of the problematic cases, however, it is not obvious that the controller (G) is ever found outside the c-command domain of its target (P). I will explore in detail a number of possible solutions to this problem, and ultimately discard a case-per-case approach in favor of a unified analysis of the relevant patterns based on the idea that, in all the relevant constructions, agreement does not

obtain in syntax, but at PF. This conclusion is supported by evidence from *closest conjunct agreement* phenomena that suggests that agreement in these constructions does not obey syntactic locality, and is instead sensitive to linear adjacency. This is a welcome result, because it is in fact predicted by the theory of the DA that the forms of agreement under consideration should not obtain in syntax.

2. Two conceptual issues

This section discusses two issues that have a number of theoretical and methodological implications for the theory of the DA.

Section 2.1 focuses on the possibility that there could be an inconsistency in admitting that Agree can generate structures that will be subsequently ruled out by the DA. The problem has its roots in the assumption that Agree can obtain between a probe and a matching DP in contexts in which the former asymmetrically c-commands the latter. However, this particular kind of configuration violates either version of the DA, and thus it is legitimate to ask whether it is sensible to assume that two different components of grammar can conflict in this particular way. I will claim that it is, and that the conflict under consideration would only be a cause for concern in a strictly derivational model of grammar, in which well-formedness conditions apply at each derivational step. In such a model, a local violation of the DA (for example, agreement between a probe and a goal which it asymmetrically c-commands) would induce a derivational crash. Crucially, I do not assume such a model. The DA theory I propose tacitly presupposes a *generate-and-filter*-style framework, in which expressions are built via free application of the operations, and then evaluated with respect to well-formedness conditions at a certain point of the derivation (not *every* point). In such a model, the existence of potential conflict between, on the one hand, the outcome of an operation and, on the other hand, a well-formedness requirement is not only possible, it is actually an explanatory tool. The DA theory of the movement-agreement

connection crucially plays on the mismatch between the potential outcome of Agree and the kind of configurations the DA requires in order to explain the occurrence of syntactic movement.

Section 2.2, in turn, tackles the question of how the DA theory of agreement interacts with the two most influential theories of case: (i) the standard theory (Chomsky 1981, 1986, 1991, 2000, 2001, inter alia), which states that case assignment is a syntactic mechanism related to agreement, and (ii) what I will call the *case-at-PF* theory (Marantz 1991, McFadden 2004, inter alia), which holds that case is assigned post-syntactically via a specialized algorithm (this is the theory we espoused in previous sections, without it being crucial to the development of the DA framework). The purpose of this inquiry is to determine whether the DA theory is flexible enough to adapt efficiently to a framework in which one of (i) or (ii) is adopted. It would be potentially problematic for our theory of the DA if it turned out to be fundamentally incompatible with one or both of the main approaches to case assignment, and thus, a priori, the issue deserves some consideration. The resulting examination turns out, in fact, to be rather instructive, in that it reveals not only some advantages of the theory of the DA, but also some gaps in it, which we will have to address. Thus, on the one hand, we will see that the DA theory is not only compatible with the case-at-PF theory, but that their combination yields an interesting tool for crosslinguistic explanation. For example, it is predicted that DA-related movement after agreement obtains might displace the controller DP into a different case assignment domain. Since this only holds of those DPs that are able to trigger the relevant form of agreement, we end up predicting differential case marking patterns based on intrinsic properties of the DP under consideration. This is a welcome result, since at least some Differential Object Marking systems exhibit the expected correlation between agreement-induced (object) movement and case marking (Hindi exhibits such a system, as seen in the previous chapters).

On the other hand, we will see that the DA theory of agreement is not as straightforwardly compatible with standard case theory. Thus, in this theory, agreement between P(robe) and G(oal) is a two-way street: P depends on G for feature valuation, but G depends in turn on P for case

assignment. Now, assume that P asymmetrically c-commands G. Once the DA enters the picture, we may identify the agreement dependency as a potential violation of the DA, but, interestingly, the case assignment dependency would not violate the DA at all: the controller of the relevant dependency (P) sits outside the c-command domain of its target (G). We therefore seem to reach a paradox: it is necessary for G to escape the domain of P in order to repair the structural expression of the agreement dependency, but wouldn't this in turn induce a potential violation of the case assignment dependency, in case G ends up c-commanding P? My answer to this problem is a DA evaluation protocol, which takes advantage of the copy theory of movement, and states the evaluation of the DA in terms of copies rather than the surface position of the controller. This will dissolve the paradox, ensure the compatibility between the DA theory and standard case theory, and, perhaps more importantly for our purposes, uncover and solve an already existing problem concerning my own assumption that movement leaves copies of the displaced constituent behind. The problem is that, if G escapes the c-command of P in order to satisfy the DA, it is still the case that a copy of G sits within the c-command domain of P. Since, after movement, there is still an instance of G in a position that violates the DA, it is not obvious that movement can repair a potential DA violation. The proposed DA evaluation protocol (which in fact restates the theory of the DA in terms of copies), however, will ensure that the right copies are taken into account at the point of the derivation in which compliance to the DA is assessed. Under this protocol, movement will be able to repair a potential violation of the DA without inducing others.

2.1 The conflict between Agree and the DA

One might feel uncomfortable with the idea that Agree can allow configurations that either version of the DA will subsequently rule out. This concern seems perfectly legitimate. On the one hand, I claimed that agreement, by virtue of its antisymmetrical character, is a grammatical

dependency. On the other hand, in chapter 2 (section 4.2), I admitted the possibility that Agree, the syntactic operation which creates the relevant dependency, can produce a configuration such as (1).

(1)

```
                    P'
                  /    \
               P         XP
             [+α]        /\
                      …G…
                      [+α]
```

Agree(P, G)
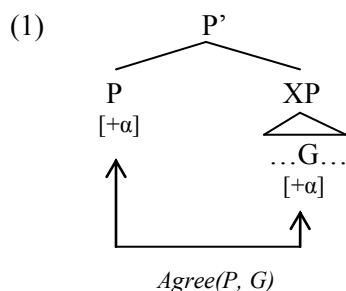
But (1), as discussed, violates the very principle which regulates the syntactic expression of grammatical dependencies. The question therefore arises as to why Agree should allow configurations in which the probe c-commands the goal in the first place. Part of the answer to this was hinted to in section 3.5 of chapter 2, when I discussed the possibility that Agree did not make reference to c-command, but it is time now to enter into the details.

I presuppose a model of grammar in which the basic syntactic operations, Merge and Agree, apply rather freely, and their outcome is filtered at some point of the derivation by general conditions on syntactic objects. In this context, the distinction between a syntactic *operation* and a syntactic *object* becomes important. As discussed in chapter 2 (section 4.1), a syntactic object encodes a certain state of information, including a given phrase structural state relating a set of lexical items (which may be stated in terms of set-membership), and various types of dependencies holding between the subcomponents of this structure. A syntactic operation, in turn, is a function that takes one or several syntactic objects as its arguments, manipulates them, and retrieves a new syntactic object. On this basis, I assume that the DA, and possibly other constructs such as the intervention condition, are well-formedness principles which constrain the possible shape of syntactic objects *at a given point of the derivation*, by filtering out those

syntactic objects that violate them. Crucially, I assume that these conditions do not apply at every step of the derivation. As a result, I do not expect a derivation to crash as soon as an application of Merge seems to violate, say, some locality condition (and as a matter of fact, I assume that Merge is able to generate structures of this sort). Rather, I expect the derivation to proceed until the point at which the relevant restriction is evaluated. The resulting syntactic object will then be ruled out by virtue of the relevant condition, unless the potential locality violation has been salvaged by the application of some other operation.

The idea that syntactic operations can generate objects which are later ruled out by well-formedness conditions is, of course, hardly innovative. With some nuances, this kind of approach underlies much work in the GB stage of the Principles and Parameters framework, such as Chomsky (1981) on theta-theory, or Lasnik and Saito (1984, 1992) on Affect-α. The relevant strategy survives in minimalist syntax, despite a significant theoretical trend favoring more constrained derivational procedures (cf. Collins 2001, Frampton and Gutman 2002). An instructive, well-known example of this *generate and filter* approach is Chomsky (2004)'s proposal that compliance to the Minimal Link Condition [MLC], rather than being evaluated at every derivational step, is evaluated at the phase level. This hypothesis makes it possible to account (among other phenomena) for the contrast between the Icelandic raising constructions in (2a, b) - cf. Chomsky (2001, 2004), Legate (2003). The problem raised by these sentences is that a dative experiencer in situ blocks raising of the embedded nominative *Ólafur* (cf. 2a), but the lower copy of a wh-moved dative experiencer does not (2b).

(2) a. * [TP Ólafur   myndi þá   hafa virst **mér**   / **morgum studentum** [(Ólafur)

Olaf.NOM would then have seemed **me.DAT many students.DAT**   Olaf.NOM

vera gáfaður]]

be intelligent

'Olaf would have seemed to me/to many students to be intelligent.'

b. ? [CP **Hverjum**   myndi [TP Ólafur   þá   hafa virst **(hverjum)** [(Ólafur) vera gáfaður]]]?

whom.DAT would   Olaf.NOM then have seemed whom.DAT   Olaf.NOM be intelligent

'To whom would Olaf then have seemed to be intelligent?'
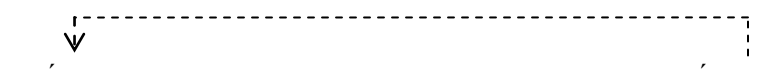
A straightforward account of the ungrammaticality of (2a) is that it contains a violation of the
MLC. The nominative *Ólafur* has been raised to the matrix [Spec, T] position (an application of
Internal Merge), even though the dative experiencer is closer to that position in terms of c-
command. In fact, as expected under the MLC, the grammatical alternative to (2a) is a
configuration in which the dative experiencer targets the relevant position while the nominative
remains in situ, as in (3).

(3)   Honum   mundu virðast [þeir   (vera) hæfir.]]   (Sigurdsson and Holmberg 2008)
       him.DAT   would   seem   they.NOM   be   competent
       'They would seem competent to him.'

Now, it is legitimate to ask how the MLC exactly applies in order to rule out sentences such as
(2a). One reasonable way is to assume that the MLC directly constrains the potential application

of Merge. There are essentially two ways to look at this. Either the MLC is a condition on the application of Merge itself, or it is a well-formedness condition that applies at every step of the derivation, and thus never ignores a wrongful application of Merge. There is a nuance between these options: in the former case, an object such as (2a) can never be generated; in the latter case it can, but then the derivation automatically crashes by virtue of the MLC.

However, if this analysis is on the right track, it is somewhat surprising that (2b) is *not* ungrammatical. The reason is that, at the matrix TP level of the derivation of this sentence (i.e., before wh-movement of *hverjum* takes place), the structure seems identical, in relevant aspects, to (2a). In terms of c-command, the dative wh-phrase is closer to the surface subject position than the embedded nominative.

(4)   [TP Ólafur   myndi   þá   hafa   virst   **hverjum**   [(Ólafur)   vera   gáfaður]]]

        Olaf.NOM would then have seemed whom.DAT   Olaf.NOM   be   intelligent

        'To whom would Olaf then have seemed to be intelligent?'

Both the conception of the MLC as a condition on the application of Merge, and its interpretation as a condition that holds at every step of the derivation, rule out (4), and would therefore block the generation of (2b), yielding an unwelcome prediction. An uncomfortable inconsistency therefore emerges under these strongly derivational approaches to the MLC: we need raising over the dative to be prohibited in (2a), but we need the same operation to be allowed in (2b).

The problem can be tackled instead by assuming, with Chomsky (2004), that the MLC is evaluated at the phase level, rather than at every step of the derivation. Under this assumption, the possibility arises that an application of Merge yields a configuration which *potentially* violates the MLC (as in 4), without this preventing the derivation from proceeding further, until the CP

phase level is reached.[1] In other words, there would be nothing wrong *per se* in raising the nominative across the dative in both examples of (2) - the fact that Merge is not locally constrained by the MLC in fact predicts this possibility. What is wrong is not doing anything about a potential violation of the MLC before the point at which the relevant principle is evaluated (in which case it will become an *actual* violation of this principle). In this context, the extra wh-movement step in (2b) seems to be the crucial factor, in that it somehow salvages the potential violation of the MLC: only if the dative is wh-moved, as in (2b), does the derivation converge. Following Chomsky (2004), this can be accounted for if only the heads of chains count as interveners for purposes of the MLC.[2] This provides us with an account of the contrast between (2a) and (2b). The former is ungrammatical because the experiencer chain is single-membered, and therefore counts as an intervener between the higher and the lower copy of *Ólafur*. This triggers an MLC effect at the CP level. Sentence (2b) is grammatical, on the other hand, because the lower copy of the dative experiencer (which is the constituent the nominative raises across), not being the head of its chain, cannot trigger an MLC effect at the CP level.

---

[1] Following Chomsky (2001: 8-9), I assume that the matrix *v*P in raising constructions, if any, is not a phase. The matter has not been settled, however, cf. Epstein and Seely (2002), Legate (2002), Safir (2010).

[2] I am leaving aside, for expository purposes, the issue concerning the A or A-bar status of the chains involved, given that they do not affect the immediate matter at hand. But the reader might find it relevant that in the variety of Icelandic under consideration, traces of A-moved constituents do appear to trigger intervention effects which are not present with traces of A-bar-moved elements (cf. Holmberg and Hroarsdottir 2003. Sigurdsson and Holmberg 2008). Notice that the effect is consistent with a relativized minimality account, based on the idea that A- and A'-chains do not interact: once the dative experiencer undergoes wh-movement and its theta-position becomes part of an A'-chain, it does no longer interact with the nominative raising procedure . One potential issue, however, is that the intervention effect persists if the dative experiencer is topicalized (Legate 2003). Since in English, topicalization has the properties of A'-movement, this might be conceived as a counterexample to the relativized minimality analysis just suggested. While I do not have data on the properties of topicalization in Icelandic which would allow us to identify the type of movement it involves (in his discussion of topicalization, Thrainsson 2008 does not test its behavior with respect to parasitic gaps or reconstruction), it may be worth recalling that in chapter 2, we saw that Swedish topicalization, contrary to wh-movement in the same language, cannot license parasitic gaps. This, of course, does not provide us with any compelling reason to identify Icelandic topicalization either as an A- or an A'-movement procedure, but it does tell us that characterizing a movement procedure as *topicalization* is not informative with respect to its status as A- or A'-movement.

I assume that the DA functions in a very similar way to the MLC as conceived by Chomsky, that is, as a filter on the output of syntactic operations. This filter does not apply at every step of the derivation, and thus it is possible that a local violation of the DA is subsequently salvaged by a movement operation which, if available, establishes an appropriate syntactic configuration for the dependency to be encoded, before the derivational point at which the DA is evaluated (I leave open here the issue of the stage of the derivation at which this evaluation takes place). This *generate and filter* approach to the DA presupposes a certain degree of conflict between the potential structural relations the operations can generate, and the requirements imposed by the filters. This is certainly the case concerning the relation between Agree and the DA, as described in detail in the previous subsection. Under the assumption that a c-command requirement is not built in the operation Agree, as suggested in chapter 2 (section 3.5), this conflict only arises at the computational level: Agree does not 'care' about c-command, it only cares about applying as soon as possible, and so it may generate a set of configurations that the DA will not admit. In this case the conflict is indirect, arising as a by-product of independently defined grammar components: it does not follow from conceptual necessity that Agree applying sooner entails a potential violation of the DA. The potential violations (in particular in the verbal agreement domain) arise, instead, because of the way in which the clause is structured. If, on the other hand, we assume that Agree does incorporate c-command in its definition, and furthermore, that the way in which this obtains is parameterized (as suggested in Baker 2008), then the conflict between Agree and the DA takes place at the architectural level in languages of the set defined by parameters (5ii, iii) below.

(5)   i. F agrees with DP/NP only if DP/NP asymmetrically c-commands F, *or*   [*upwards probing*]

ii. F agrees with DP/NP only if F c-commands DP/NP, *or*   [*downwards probing*]

iii. F agrees with DP/NP only if F c-commands DP/NP or vice versa.   [*mixed system*]

In downwards probing languages, in particular, every application of Agree will create a potential violation of the DA. This is not an accident stemming from a particular clause structural arrangement. Rather, the conflict is built in the definitions of (parameterized) Agree and the DA, and does follow from conceptual necessity. The choice of one model over the other, however, does not affect the main premise of the DA approach. In either scenario, it is still the case that the movement-agreement connection emerges from the computational system repairing a mismatch between the way in which Agree applies, and the requirement the DA imposes.

Let us then address the original concern of this subsection. Should we feel uncomfortable with the idea that Agree can allow configurations that either version of the DA will subsequently rule out? My answer is that we should, just in case we are striving for a strictly derivational model of grammar, whereby the generative power of operations is highly constrained, and every condition applies locally. However, I do not assume such a model of grammar, nor do I lean towards a strictly representational system. On the one hand, strongly derivational (online) models often head into paradoxes of the kind illustrated for Icelandic above (cf. Lasnik 2001, inter alia). On the other hand, developments stemming from (at least originally) strongly representational models (such as GB or Optimality Theory) have conceded some (or much) space to derivation-based versions of the theory (cf. the transition from GB syntax to minimalist syntax, or the emergence of stratal OT, cf. Bermúdez-Otero 1999, Kiparsky 2000). I see no compelling reason to force the analysis to follow a purely derivational or representational model: our primary commitment is to *useful* explanations of the data, in this case a valid theory of competence. Under this pragmatic premise, I adopt an intermediate position, which seeks to exploit what seems to me to be the best of both worlds: I assume that structure building takes place through (mostly) successive

application of syntactic operations, while well-formedness principles apply at a given stage of the derivation – which might differ depending on the principle. Under this perspective, it is not unexpected at all that the outcome of syntactic operations could not comply with principles of grammar. It is in fact built in the system, as a way to capture the data under consideration.

2.2. Case, the DA, and the DA evaluation protocols

The second issue I would like to discuss here is the interaction between the theory of abstract and morphological case and the theory of the DA. As is well-known, there is an ongoing debate concerning the place, and role, of case assignment in the architecture of grammar. The current standard position, based on Chomsky (1981, 1986, 1991, 2000, 2001) - with sources in Vergnaud (1977) and George and Kornfilt (1981) -, is that case assignment is a syntactic procedure related to DP licensing, and that it takes place under agreement. Thus, the unvalued abstract case feature of a (non-inherently case-marked) DP would receive a particular value depending on the nature of the inflectional head it agrees with (e.g., nominative if the latter is T, accusative if it is v). Under this perspective, morphological case would be the PF expression of abstract case. The relation between abstract and morphological case might turn out to be indirect, however, depending on the morphophonological resources of the particular language under consideration (cf. Legate 2008). The main alternative to this position (which can be traced back to Marantz 1991 and has been developed, among others, in McFadden 2004) is that case assignment takes place at PF, and that it is not related to syntactic licensing. While the value of the case assigned to a given DP is determined by an algorithm which is sensitive to syntactic information, the procedure itself would not be part of syntax proper - put another way, only morphological case would be real. In the most straightforward cases, an overtly marked case (called *dependent* case in the relevant approach) is assigned to one of two DPs sharing the same syntactically defined case assignment domain – while the other DP remains unmarked. Some languages mark the higher DP in terms of

c-command, while others mark the lower one: the former are ergative languages, while the latter are accusative languages. In addition, the algorithm gives priority to the kinds of case assignment which depend on lexical properties of the items involved: as a result, the assignment of lexical case takes precedence, and can therefore bleed, that of dependent case.

I will *not* take a particular position in this dissertation with respect to the ongoing controversy surrounding the locus of case assignment in the architecture of grammar. The question I would like to address here is <u>whether it has any outstanding effect on the DA theory of the agreement-movement connection that case is assigned either syntactically, or postsyntactically, or in both manners</u>.

2.2.1 The DA theory of agreement and the case-at-PF theory

We can already note that some indirect interaction is expected between the DA theory of agreement and the *case-at-PF* theory. The latter assumes case assignment to be a postsyntactic procedure with no direct relation to agreement or DP licensing, while the former bears on agreement relations established in syntax. Thus, they belong to different domains, but it is still the case that the outcome of a postsyntactic algorithm will be in part determined by properly syntactic operations which determine the structure PF has access to. In this sense, we might expect some degree of indirect interaction between the syntactic effects of the DA, and the postsyntactic outcome of the case assignment algorithm. In order to illustrate how this interaction could arise, let us first consider the syntactic effects of the DA on a simple monotransitive structure, in which *v* probes for a specificity feature [*u*SP]. In (6), the object DP_2 lacks the relevant feature, and thus stays in situ. In such a configuration, the DA does not have any particular effect (I abstract away here from T-agreement, as well as from the possibility that *v* agrees with the external argument DP_1 after failure of agreement with DP_2, not because these matters are unimportant, but because they are not directly relevant for the issue under discussion).

(6)

```
                    TP
            ┌────────┴────────┐
          DP₁              T'
                      ┌─────┴─────┐
                      T          vP
                            ┌─────┴─────┐
                          (D̶P̶₁)        v'
                                   ┌─────┴─────┐
                                   v          VP
                                 [uSP]    ┌────┴────┐
                                          V        DP₂
```
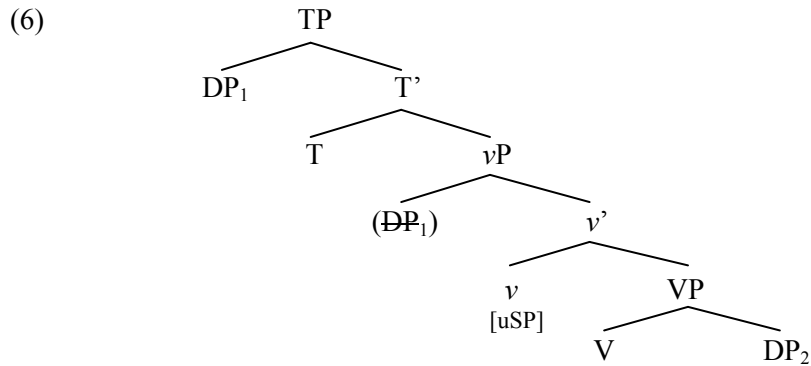
In (7), on the other hand, the object DP is specific and triggers agreement on *v*. As a result, Object Shift (which I assume to target [Spec, *v*]) obtains as a repair mechanism to salvage a potential violation of the DA.

(7)

```
                    TP
            ┌────────┴────────┐
          DP₁              T'
                      ┌─────┴─────┐
                      T          vP
                            ┌─────┴─────┐
                          (D̶P̶₁)        v'
                                   ┌─────┴─────┐
                                  DP₂         v'
                                  [SP]   ┌─────┴─────┐
                                         v          VP
                                       [SP]    ┌────┴────┐
                                               V      (D̶P̶₂)
                                                       [SP]
```

Agree(v, DP₂)
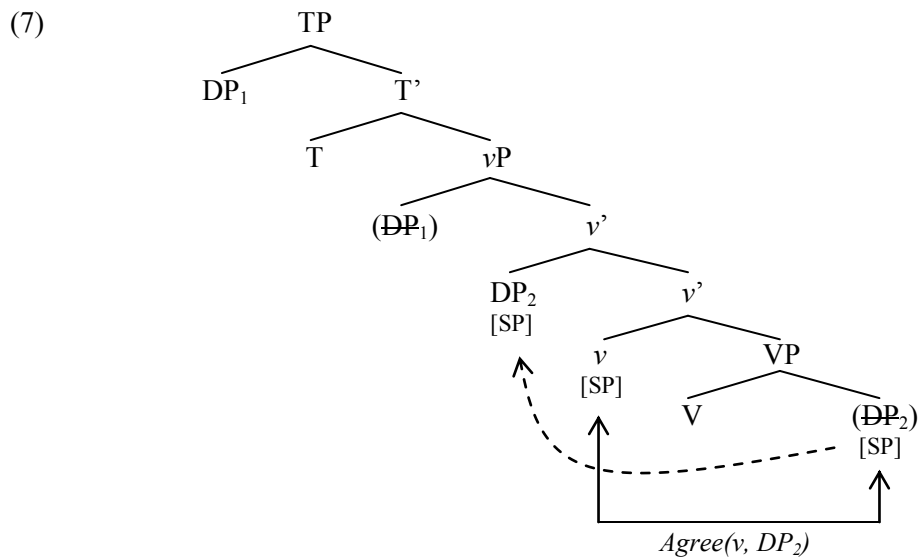
Thus, the crucial difference we are entertaining between (6) and (7) is the occurrence (or not) of Object Shift, which (if it obtains) results in specific DPs escaping the Spell-Out domain corresponding to the *v*P phase, and thus ending up in the same Spell-Out domain as the external argument. As it turns out, this one difference can be crucial in terms of case assignment at PF, depending on our particular assumptions concerning the domain of case assignment, i.e. the space

in which the case assignment algorithm applies. For example, suppose that case assignment domains [CADs] coincide with Spell-Out domains.[3] This assumption seems natural, inasmuch as Spell-Out domains, by definition, are the basic blocks of structure PF must deal with. The fact that Spell-Out does not take place until the phase level is reached, in turn, allows PF to 'know' which DPs must be pronounced and which not, based on there being or not copies of these DPs at the edge of the phase. This is relevant, as we may assume that an unpronounced copy will be invisible for the Case assignment algorithm.

Assuming this basic scenario, it would follow that DP_1 and DP_2 are found in different CADs in (6), while they share the same CAD in (7). For (6), this means that no instance of dependent case will be assigned, because the algorithm does not find more than one DP with phonetic content in each CAD, as illustrated in (8). As a result, both the subject and the object remain unmarked.

(8)

The subject is the only DP in its CAD. As a result, it receives unmarked case.

The object is the only DP in its CAD. As a result, it receives unmarked case.
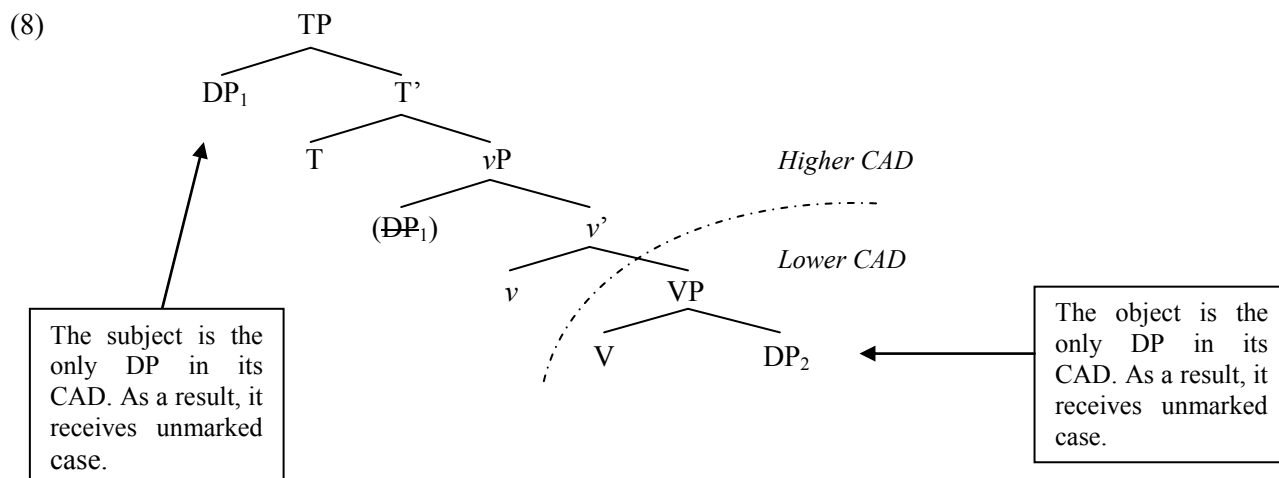
The picture is different in (7). In this case, the algorithm finds two DPs with phonetic content sharing the same CAD, and thus one of them must receive dependent case.

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[3] Cf. McFadden 2004:204 for a similar idea, although McFadden explores the possibility that the whole phase, and not just its Spell-Out domain, is the metric the case assignment algorithm makes reference to.

(9)
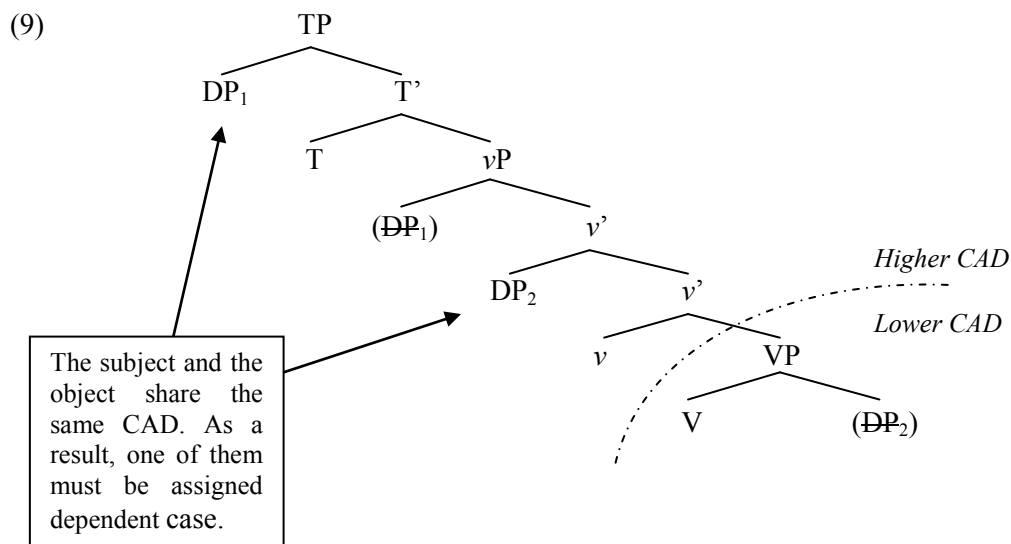
This kind of mechanism might be used to account for Differential Object Marking [DOM] patterns in languages such as Chaha (cf. Richards 2010). In this semitic language, objects are found in different positions depending on whether they are specific or not. Thus, non-specific objects appear to the right of VP-adverbs, in strictly preverbal position (cf. 10a, b). Specific objects, on the other hand, show up to the left of such adverbs (cf. 10c, d).

(10)　　a. C'amʷɨt nɨmam　　ambɨr　　tɨcəkɨr

　　　　　C'amʷɨt normally cabbage cooks

　　　　　'C'amʷɨt normally cooks cabbage.'

　　　　b.*C'amʷɨt　ambɨr　　nɨmam　　tɨcəkɨr

　　　　　 C'amʷɨt cabbage normally cooks

　　　　c. C'amʷɨt ambɨr　　xʷɨta nɨmam　　tɨcəkʷɨnn

　　　　　 C'amʷɨt cabbage the　　normally cooks

　　　　　'C'amʷɨt normally cooks the cabbage.'

d. *C'amᵂɨt nɨmam ambɨr xᵂɨta tɨcəkᵂɨnn

C'amᵂɨt normally cabbage the cooks

Richards (2010) claims that specific objects (contrary to non-specific objects) obligatorily undergo Object Shift, which is why they appear to the left of VP modifiers. A consequence of this movement, from our perspective, is that specific objects end up in the same CAD as the subject. As a result, we might expect one of the subject or the object to be assigned dependent case, following the scenario in (9). This is not exactly what happens, however. In example (10c), for example, neither the subject nor the shifted object carries any special case morphology. It turns out that Chaha imposes an additional condition for case to be assigned, which is that both the subject and the shifted object in a CAD must be *animate* - a very frequent restriction in DOM languages. We may account for this requirement by positing that only animate DPs are visible to the case assignment algorithm (cf. Aissen 2003 and Richards 2010 for similar ideas, couched in different theoretical settings). Once this condition obtains, Chaha is parametrically set to assign dependent case (which takes the form of the prefix *ye-*) to the lower DP in the CAD, as shown in (11).

(11)   Gɨyə yə-fərəz nəkᵂəsənim   (Shifted animate object)

dog   yə-horse bit

'A dog bit a (specific) horse'

No such marking occurs, on the other hand, if the animate object is non-specific (cf. 12), irrespective of the subject being animate or not.

(12)   Gɨyə fərəz nəkəsəm   (Non-shifted animate object)

        dog   horse bit

        'A dog bit a (non-specific) horse'

This is of course expected under the relevant analysis. Non-specific objects, as in (12) and previously in (10c), remain unmarked (irrespective of their being or not animate) because they never leave their own CAD, following the scenario in (8). The result is a Differential Object Marking pattern (distinguishing specific animate objects from other kinds of objects in contexts in which the subject is also animate), which, under this approach, is a PF by-product of the properly syntactic requirement that specific objects undergo movement to the edge of vP. [4]

We are of course not forced to conceive Object Shift in Chaha as a side effect of agreement in specificity. We may for example follow Diesing (1992) in assuming that the basis for such movement is to be found in the requirement that specific DPs target the layer of the clause which is interpreted as presupposed information – by hypothesis, outside VP. Is there any particular advantage to be gained by pursuing instead an approach to Chaha Object Shift in terms of a DA effect associated to agreement, as in (6, 7)?

A priori, it would seem not, because the language lacks the kind of intervention effects in ditransitives which could suggest that OS in monotransitive environments is induced by agreement. Thus, the presence of an indirect object does not prevent OS of a specific theme object to take place (Degif Petros, p.c.).

However, there are Differential Marking languages in which these intervention effects do appear. One of them, Hindi, was the object of detailed discussion in the previous chapters. In this language, OS and DOM (*ko*-marking) are both blocked in presence of an indirect object, even if

---

[4] The approach to Chaha DOM considered here is largely inspired from Baker and Vinokurova (2010). Baker and Vinokurova do assume that at least some types of case in Sakha are assigned via an algorithm à la Marantz (1991), which (as in our hypothetical scenario) takes VP, and not vP, as a CAD. However, they find some reasons to sustain that the algorithm applies in narrow syntax, rather than postsyntactically.

the object under consideration is of the kind that would obligatorily undergo OS and receive *ko*-marking in monotransitives. We previously accounted for the loss of obligatory OS in such environments as an intervention effect on *v*-agreement: the higher object disrupts the possibility of agreement between *v* and a specific theme object, and thus no potential violation of the DA (involving a configuration as in 1) arises involving these two items. As a result, the direct object can be found in situ even if it is specific, contrary to the situation in monotransitive contexts. The concomitant absence of DOM on these in situ specific DOs, in turn, can be accounted for by saying that the DO is the only nominal in its CAD that is visible to the case assignment algorithm.[5] The other DP in the same Spell-Out domain is the indirect object, which bears inherent dative (i.e., *ko*-marking which systematically correlates with the theta-role of the relevant DP, rather than any of its inherent features: this marking is also found on the subject of some experiencer verbs in the language, cf. Mohanan 1994, Woolford 2006). The fact that the indirect object has lexical case bleeds the possibility of assigning dependent case to the lower object, as dependent case assignment depends on there being two non-lexically marked DPs in the relevant CAD. As a result, the specific direct object is assigned unmarked case.

Evidence of the same strong correlation between agreement-induced Object Shift and DOM can be found in other languages, such as Spanish (cf. in particular Torrego 1998). This crosslinguistic correlation can be explained in terms of a combination of a DA-INP approach to Object Shift, and a theory of postsyntactic case assignment, as illustrated in (6-9). This is relevant for our purposes here, because it shows that a postsyntactic approach to case is not only potentially compatible with a DA theory of the agreement-movement connection, but that their combination yields an efficient tool for crosslinguistic explanation.

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[5] Unlike in Chaha, it is not necessary to assume here that the algorithm can only 'see' animate DPs, as *ko*-marking can also be found on inanimate theme objects.

2.2.2 The DA theory of agreement and the Agree approach to Case assignment

2.2.2.1 A problem for the DA theory: mismatch in the directionality of different dependencies involving the same terms

Let us then turn to an entirely different possibility. Suppose now that case is assigned in syntax *and* related to agreement, so that the unvalued case feature [uCase] of a DP must be assigned a value via Agree with an inflectional head (i.e. standard Case theory). Notice that, in this scenario, case assignment is a syntactically encoded antisymmetrical relation between two elements, the case assigner (an inflectional head) and the case assignee (a DP), and as such we would expect it to be subject to the DA. From this perspective, the mechanism of case-assignment looks extremely similar to the agreement procedure as conceived in the DA theory of the agreement-movement connection. Since, additionally, they involve the same elements under the same operation, it becomes necessary to ask whether they interact, and furthermore, whether they are compatible.

As it turns out, a potential compatibility problem arises rather quickly in those configurations in which a probe P c-commands the position where a matching goal G is generated. In such configurations, Agree would create two dependencies simultaneously: Case-assignment (through valuation of the Case feature of the goal) and agreement (through valuation of the uninterpretable phi-features of the probe).

(13)

P'

P
[α phi]

XP

…G…
[α phi]
[β Case]

Agree(P, G)
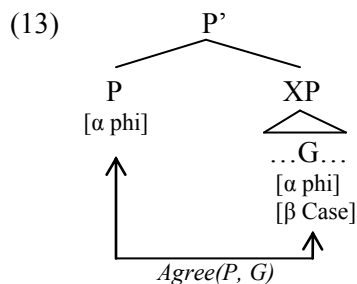
On the one hand, Case valuation yields the antisymmetric relation <P, G>, which happens to coincide with the directionality of c-command. Thus, the controller of the dependency (the probe P) c-commands the target of the dependency (the goal G). This configuration is not a potential violation of the DA, and thus we do not find any immediate reasons for concern. Phi-feature valuation, on the other hand, yields an antisymmetric relation <G, P>, which does not match the directionality of c-command. In this case the target P c-commands the controller G, and, as a result, this configuration *is* a potential violation of the DA. I suggested that such a violation can be repaired by moving the goal outside the c-command domain of the probe before the derivational point at which the compliance of the structure to the DA is evaluated – i.e. before it becomes an *actual* violation of the DA. Thus, one possibility (apparently the most widespread one) is that the goal G internally merges to P', as in (14).

(14)

```
                        P'
           _____
          G                        P'
       [α phi]              _____
       [β Case]    P                         XP
                [α phi]                    /\
                                      …(G)…
                                     [α phi]
                                     [β Case]
```
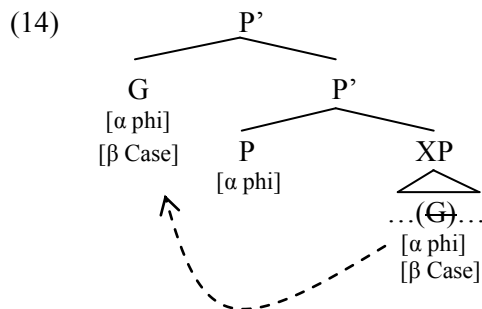
This is where the problem arises. Once this movement has taken place, it turns out that the target of the Case-assignment dependency, the goal G (or at least its higher copy), c-commands the controller of the relevant dependency, the probe P. It would therefore seem that, by moving the goal across the probe in order to fix the structural expression of the agreement dependency, we are disrupting the well-formed structural expression of the Case-assignment dependency – which, as noted, did not violate the DA in (13). We must therefore ask whether the movement in (14),

while aiming at repairing the potential violation of the DA relative to the agreement dependency

<G, P>, does not end up creating a potential violation of the DA relative to the Case-assignment

dependency <P, G>.

2.2.2.2 The deeper nature of the problem

If anything, it would seem that a similar problem was already present in my proposal that the

movement of G out of the c-command domain of P salvages the agreement dependency by

making it compliant with the DA. The reason is that I have been operating under the assumption

that movement (Internal Merge) creates copies of the constituent targeted by the operation. Under

this assumption, one might ask how moving G outside the c-command domain of P (as in 14)

solves at all the potential violation of the DA relative to the agreement dependency, insofar as it is

still the case that the original copy of the controller G is c-commanded by the target P.

(15)
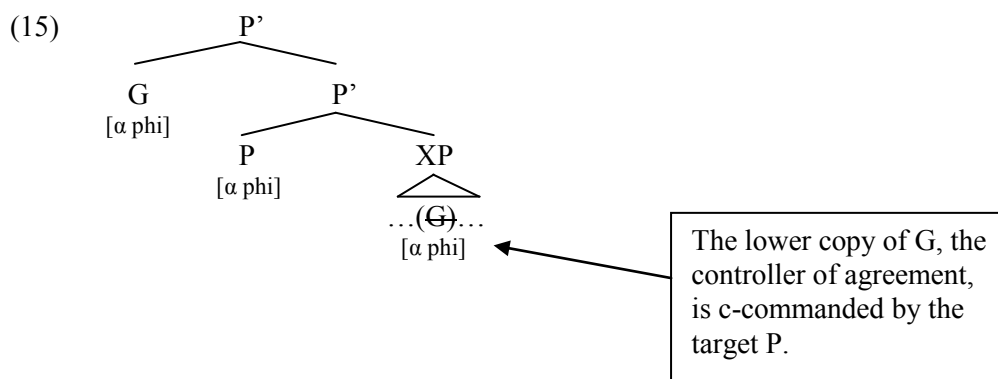
All along, I have been tacitly assuming that the lower copy of G does not count towards the

evaluation of the structural expression of the dependency by the DA. With respect to the status of

the Case-assignment dependency in (14), it seems that we are led to the mirror image of this

assumption: the higher copy of G cannot be taken into account when the DA evaluates the

structural expression of the Case-assignment relation. Two questions therefore arise: first, what makes the DA able to not take into account a given copy when it evaluates the structure? In (14), for example, it must not take into account the lower copy of G when it evaluates the agreement dependency <G, P>. Second, what makes the DA able to relativize which copy must be taken into account, and which not, depending on the particular dependency under consideration? The question is relevant because in (14), as noted, it is necessary that the DA ignores the lower copy of G when it evaluates the agreement dependency <G, P>. But it is also necessary that it ignores the higher copy of G when it evaluates the status of the Case-assignment dependency <G, P>. Imagine then that the DA operates blindly, so that if a copy is ignored for a given dependency, it must be ignored for all other dependencies. In such a scenario, neither copy of G in (14) would be available, making evaluation of the relevant dependencies impossible – a theoretically unviable scenario. For the DA theory of the agreement-movement connection to be compatible not just with standard Case theory, but with theories concerning other dependencies as well, it is necessary that, when the DA ignores a given copy, this copy be ignored only for a given dependency and not necessarily for others. In example (14), the lower copy of G, which must be ignored relative to the agreement dependency <G, P>, must be taken into account in the evaluation of structural expression of the Case-assignment dependency <P, G>. The opposite scenario holds with respect to the higher copy of G. Similarly, we would expect that the higher copy of G is not taken into account when the DA evaluates the theta-assignment and selection dependencies G is a term of. The question is what mechanism underlies this capacity of the DA to discriminate between copies depending on which dependency is evaluated.

2.2.2.3 The DA evaluation protocols

It is quite clear that, for the DA approach to the agreement-movement connection to be viable at all under the copy theory of movement, it cannot penalize the occurrence of a configuration in

which the controller is c-commanded by the target. If this were so, movement would never be able to repair a potential violation of the DA without deletion of the original copy, whose existence remains necessary for other dependencies to be well-formed. Thus, what the DA should sanction instead is the absence of a configuration which satisfies it, in a way to be made precise. The concrete mechanism I propose is as follows. At the point at which the DA evaluates the structure, it has access to a syntactic object K, a given state of information. This information includes a set of items, a set of dependencies they enter into, and a set of structural relations they enter into. I then assume that the DA evaluates the structure according to the following protocols.

(16)   a. *Strong DA (DA-CLP) evaluation*

The DA-CLP is satisfied at the point of evaluation K iff for each dependency <A, B> in K such that it is subject to the CLP, there is a copy of B within the c-command domain of A.

b. *Weak DA (DA-INP) evaluation*

The DA-INP is satisfied at the point of evaluation K iff for each dependency <A, B> in K such that it is subject to the INP, there is a copy of A outside the c-command domain of B.

Let us illustrate how these protocols are supposed to work. Suppose, for the sake of exposition, that Case-assignment is subject to the strong form of the DA (if anything, a plausible assumption, given the lack of evidence to the contrary). Given this assumption, consider the possibility that compliance to the DA is evaluated at P' in (13). Structure P' encodes a number of dependencies, including theta-assignment, selection, and perhaps others, in addition to the agreement and Case-assignment dependencies holding between P and G. We are only interested in the latter two. Consider first the Case-assignment dependency <P, G>. It is subject to the CLP, and therefore to protocol (16a), which mandates that there is a copy of the target of the dependency within the c-

command domain of the controller. The structure satisfies this protocol, because there is a copy of G within the c-command domain of P. Let us turn next to the agreement dependency <G, P>. This one is subject to the INP, and therefore to protocol (16b), which requires that there is a copy of the controller of the dependency outside the c-command domain of the target. The structure does not satisfy the protocol, however, because there is no copy of G outside the c-command domain of P. The structure P' would therefore be ruled out by the DA as ill-formed, and movement of G will not be able to salvage the structure.

Consider now the possibility that the DA applies at the upper P' level in (14) – or even above that -, rather than at the lower P' level. Again, we evaluate the status of the agreement and Case-assignment dependencies involving P and G with respect to the DA. On the one hand, the Case-assignment dependency <P, G> is evaluated on the basis of protocol (16a). The structure satisfies this protocol, because there is a copy of the target G within the c-command domain of the controller P. Note that it does not matter that there is also a copy of G *outside* the c-command domain of P, since it is not required by the protocol that *every* copy of G stands in the right c-command relation with P. One is sufficient. Similar considerations arise concerning the status of the agreement dependency <G, P> in (14), which is evaluated on the basis of protocol (16b). The structure satisfies this protocol as well, because there is a copy of the controller G outside the c-command domain of the target P. This is sufficient to satisfy the DA-INP: the fact that there is also a copy of G within the c-command domain of P is irrelevant under (16b).

It follows that, under the relevant assumptions, both the agreement and the Case-assignment dependencies in (14) satisfy the DA. But it is worth noting that the result would be the same if Case-assignment dependencies were subject to the INP rather than the CLP. In such a situation, the Case-assignment dependency <P, G> in (13) and (14) would be evaluated with respect to protocol (16b). The result is successful in both cases, since, in either configuration, there is a copy of the controller P outside the c-command domain of the target G.

Note that the protocols in (16) are not motivated by a need to make the DA theory of the agreement-movement connection compatible with standard Case theory. They are independently needed by the DA theory to ensure that movement, when it is understood as an Internal Merge operation, functions as a repair mechanism for potential violations of the DA – by making, in practice, the lower copy of a controller invisible to the DA in case it is c-commanded by its target. I conclude that the DA approach to the agreement-movement connection, including the protocols in (16), is generally compatible with, but logically independent of, the standard hypothesis that case is assigned in syntax via Agree.

3. Downwards agreement without movement

3.1 The problem

Natural language provides many examples of downwards agreement patterns in which the controller of agreement stays in situ, or at least does not move across the target of agreement in any perspicuous way. These include rather well-known constructions such as the following.

(17)   *Agreement with a lower associate in existential contexts*

    a. English

       There **are$_{PL}$** believed to be **[many linguists]$_{PL}$** inside the pyramid.

b. Spanish

Había**n**_{PL}　　　　[**muchos lingüistas**]_{PL} dentro de la pirámide.

be.PST.IPFV.3PL　　**many　linguists**　　inside　of　the pyramid

'There were many linguists inside the pyramid.'

(18)　　*Agreement with nominative/absolutive objects in quirky/ergative subject constructions*

a. Hindi

Rahul-ne　**kitaab**　par:h-**ii**　　th**ii**　　　　　　　　(Bhatt 2005)

Rahul-ERG **book.F**　read-**PFV.F**　be.PST.**FSG**

'Rahul had read the book.'

b. Icelandic　　　　　　　　　　　　　　　　　　　　(Sigurdsson and Holmberg 2008)

Honum　lík**a**_{3PL}　**þeir**.

him.DAT　like.3PL　they.NOM

'He likes them.'

(19)   *Long-distance agreement* (LDA)

    a.   Hindi

       Vivek-ne   [**kitaab** par:h-n**ii**]   chaah-**ii**   (Bhatt 2005)

       Vivek-ERG **book.F** read-INF.**F** want-PFV.**FSG**

       'Vivek wanted to read the book.'

    b.   Tsez

       enir   [užā **magalu**   bāc'rułi] **b**-iyxo   (Polinsky and Potsdam

       2001)

       mother boy bread.**III**.ABS ate   **III**-know

       The mother knows the boy ate the bread.

(20)   *Complementizer agreement*

    a.   West Flemish

       Kpeinzen **dan-k** (**ik**) morgen   goan.   (Carstens 2003, from Haegeman

       1992)

       I-think   that-I   (I) tomorrow go

       'I think that I'll go tomorrow.'

b. Tegelen Dutch

Ich dink **de-s** **doow** morge kum-s. (van Koppen 2005)

I think that-2SG you.SG tomorrow come-2SG

'I think that you will come tomorrow.'

(21) *Agreeing prepositions* *(examples from Welsh)*

a. arnaf i (Borsley, Tallerman and Willis 2007)

on.1SG me

'on me'

b. arnat ti

on.2SG you.SG

'on you (SG)'

c. arno fo

on.3MSG him

'on him'

d. arni hi

on.3FSG her

'on her'

e. arnon   ni

on.1PL   us

'on us'

f. arnoch   chi

on.2PL   you.PL

'on you (PL)'

g. arnyn   nhw

on.3PL   them

'on them'

The theory I have proposed so far is based on the fundamental idea that agreement, as a grammatical dependency, is subject to a general principle that imposes that a certain structural relation holds, or is at least prohibited, between the terms of the dependency. In particular, the theory predicts that the controller of agreement should move across a c-commanding target. The problem the constructions in (17-21) represent for such a theory is obvious. In all of these examples, the controller of agreement does not appear to move across its target, under plausible assumptions concerning the various types of structures involved (cf. references cited, as well as Chomsky 1986, 2000 for the pattern in 1a). It is therefore legitimate to ask what the place of such constructions is in a DA approach to the agreement-movement connection.

The outline of section 3 is as follows. Section 3.2 focuses first on showing that it is not so obvious that the constructions in (17-21) exemplify *actual* violations of the DA. Based on the diverse literature on these constructions, I will examine in detail the possibility that the DA could in fact have been satisfied in the relevant examples, by reanalyzing them in terms of three distinct hypotheses. Thus, section 3.2.1 focuses on the hypothesis that the position of the controller,

despite superficial appearances, lies outside the c-command of the target. Section 3.2.2 discusses the alternative of a covert movement analysis, based on the idea that the controller has silently escaped the c-command domain of the target. Section 3.2.3 closes the section by considering the possibility that, after the controller escapes the c-command domain of its target in order to satisfy the DA, the target itself undergoes head-movement across the derived position of the controller, thus obscuring the original DA-driven procedure. This hypothesis gives rise to a number of potential analyses, which will be examined in some detail.

Next, in section 3.3, we will see that, although the hypotheses in 3.2.1-3.2.3 provide us with a potential safety net to handle the apparent violations of the DA in (17-21), they fail to account for a common property of all these construction types, which is that they allow agreement with one conjunct. Building on this fundamental observation, I will develop a unified approach to the relevant set of constructions based on the idea that the forms of agreement in them are created in the post-syntactic component, and are therefore not subject to the DA. Section 3.3.1 develops first an argument in favor of the idea that both first and last conjunct agreement violate syntactic minimality, a claim that will be further substantiated through the examination of the properties of conjunct agreement in Hindi (section 3.3.2) and Welsh (section 3.3.3). That conjunct agreement seems to obtain in violation of syntactic locality is significant, to the extent that such agreement is a frequent characteristic of the constructions in (17-21), where the DA appears to be violated as well. On these grounds, the main claim of section 3.3 as a whole is that the apparent violations of the DA in (17-21) can be straightforwardly explained through the assumption that the relevant forms of agreement obtain in the post-syntactic component, where the DA, by definition, does not apply. This allows us to account for the fact that they do not obey syntactic minimality, and that they display instead unexpected adjacency effects, a result that is not available through the structural reanalyses proposed in section 3.2. Section 3.3.4 then provides a summary of the theory of PF-agreement that emerges from the discussion on conjunct agreement. Section 3.4 briefly concludes the discussion.

3.2 First pass: structural reanalysis

There are in fact several ways to tackle the apparent violations of the DA in (17-21), based on the rich literature on the constructions involved. I will review some preliminary analytical options in this section (cf. 6) - before turning to a different hypothesis, which, I believe, is the most promising.

(22)   a. *Hypothesis 1*

Contrary to appearances, the surface position of the controller is outside the c-command domain of the target.

b. *Hypothesis 2*

The controller moves covertly outside the c-command domain of the target. There is therefore a copy of the controller that satisfies the DA-INP protocol (cf. 16b), but this copy is either not visible in the constructions under consideration, or not obviously a copy.

c. *Hypothesis 3*

The controller escapes the original c-command domain of the target earlier in the derivation, therefore satisfying the DA-INP protocol. However, the target itself subsequently undergoes head-movement across the derived position of the controller, yielding the final configuration in which agreement appears to take place in violation of the DA.

Let us work out in some detail how each of these hypotheses is supposed to help us understand what is happening in constructions such as (17-21), and what the shortcomings of the relevant analyses could be. I would like to remind the reader that the various analyses we will be implementing in this section are not the approach I will ultimately adopt concerning the constructions under consideration. These analyses are instead intended to show, with a considerable degree of detail, that it is not obvious that the DA is actually violated in (17-21), contrary to superficial appearances.

3.2.1 Hypothesis 1

3.2.1.1 Chandra (2007) on Hindi LDA constructions

Consider first hypothesis 1 (22a). Its main idea is that, even though it would seem that the controller is c-commanded by the target in the constructions under consideration – given plausible, standard assumptions on their structure -, it has in fact moved across the position of the target. It just so happens that this movement is string vacuous, and therefore not evident. An approach along these lines has been suggested for Hindi LDA constructions (cf. 19a) by Chandra (2007). The basis of Chandra's approach is a previous, well-established observation in the Hindi literature that the controller of an LDA construction can scope over the matrix verb (cf. inter alia Davison 1988, Mahajan 1990, Bhatt 2005), as shown in (23). This interpretation is not available when no LDA occurs (cf. 24).

(23)   Naim-ne   har   kitaab   parhnii   chaah-ii.   (Bhatt 2005)

Naim-ERG every book-FSG read-INF.FSG want.PFV.FSG

'Naim wanted to read every book'

Want > every book

Every book > want

(24)   Naim-ne   har   kitaab   parhnaa   chaah-aa.

Naim-ERG every book-FSG read-INF.DEF   want.PFV.DEF

'Naim wanted to read every book'

Want > every book

*Every book > want

Chandra's proposal, in a nutshell (and sweeping some non-trivial claims under the rug), is that the difference between the scope properties of (23) and (24) comes from the possibility of moving the object of the infinitive to the matrix clause before QR takes place. In (24), this preliminary movement operation does *not* obtain. As a result of QR being clause bound (cf. Farkas 1981, Fox 1999, Cecchetto 2004), the object of the infinitive cannot take scope over the matrix predicate. In (23), on the other hand, the object overtly moves to the matrix clause. Because it lands below the surface position of the subject, and the language is verb-final, this movement is string vacuous, but it has semantic consequences. In particular, it is now possible for the quantified object to take scope over the matrix predicate, given that they share the same QR domain.

Chandra (2007) also ties the occurrence (or not) of LDA to the occurrence (or not) of the relevant movement. Under her approach, agreement on the matrix predicate is not optional, but instead requires strict locality between the agreeing elements. It is therefore not possible for this agreement to take place if the object stays in situ, as in (24), but it must obtain if the object

scrambles to the higher clause, as in (23). Put another way, LDA is not really 'long-distance' under Chandra's conception.

Abstracting away from Chandra's view of agreement as arising from a very local relation between controller and target, the idea that there is a non immediately obvious structural difference between (23) and (24), such that it underlies the scope facts and the agreement facts, directly feeds a potential analysis in terms of the DA. Thus, agreement is only possible whenever the object of the infinitive (the controller of agreement) occupies a high position within the matrix clause, presumably outside the c-command domain of the target. It is not possible if the object stays in situ, because in such a situation the controller would be contained in the c-command domain of the target, thus violating the DA.

3.2.1.2 On extending hypothesis 1

Now, it is difficult to see how this strategy, however appealing it might be when applied to the Hindi LDA facts, can be extended to the rest of constructions in (17-21) in a straightforward, natural way. The reason is that in most of the relevant cases, the target precedes (rather than follow) the controller, thus requiring the postulation of string-vacuous rightward extraposition of a fair amount of material in order to obtain the kind of structure which would both comply with the DA and underlie the observed linear order. Consider for example the existential construction in (17a), repeated here in (25).

(25)   There **are**$_{PL}$ believed to be **[many linguists]**$_{PL}$ inside the pyramid.
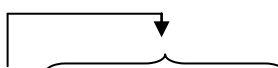
Under the assumption that the controller is in fact outside the c-command domain of the target (presumably T), we are led to analyze (25) as involving rightward extraposition of (minimally) the controller along with all material to its right. The relevant structure could be represented as in

(26), in which the complement of the copula (arguably a small clause [SC], following the classic analysis of Stowell 1978) is taken to right-adjoin to TP.

(26)   [TP [TP There **are**PL believed to be _] [SC **[many linguists]**PL inside the pyramid]].

The rest of constructions belonging to head-initial languages in (17-21) would require a similar analysis under hypothesis 1. This would involve, for example, TP-extraposition in cases of complementizer agreement (as in 27) or D-extraposition in prepositional agreement patterns (as in 28).
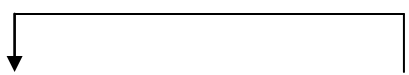
(27)   a. Kpeinzen *dan-k* (ik) morgen   goan.   (West Flemish, Carstens 2003)

         I-think   that-I   (I) tomorrow go

         'I think that I'll go tomorrow.'

         b. [CP Kpeinzen *dan-k* _] [TP (ik) morgen goan]].

(28)   a. arnaf   i   (Borsley, Tallerman and Willis 2007)

         on.1SG me

         'on me'

         b. [PP arnaf _] [D i]]

These analyses require a fair leap of faith, however. It is relatively reasonable to assume that string vacuous scrambling takes place in Hindi LDA contexts. Leftward DP scrambling is, after all, a garden variety procedure in the relevant language. On the other hand, assuming that rightward extraposition of various kinds plays a role in salvaging potential violations of the DA in languages such as English or West Flemish is a completely different matter. It is not clear that such languages exhibit such varied procedures independently of those contexts in which the DA must be satisfied (a case in point is small clause extraposition, which, as far as my knowledge goes, is not otherwise attested). It is not clear, either, what drives the choice of the category to be extraposed. In particular, we might ask why the entire small clause must be pied-piped together with the controller in (26), even though leftwards extraction of the latter is perfectly possible, as in (29).

(29)   [DP Many linguists] are believed to be [SC _ inside the pyramid].

Hypothesis 1 should also have to account for the fact that the associate of the expletive (the controller of agreement) in existential contexts such as (30) *must* be interpreted in the scope of the matrix verb, even though, by hypothesis, its surface position is found outside the c-command domain of the matrix T.

(30)   There seems to be [someone from Lima] at the party.   (adapted from Bobaljik 2002)

                              Seems > someone from Lima

                              *Someone from Lima > seems

This leads to the conclusion, internal to an approach in terms of hypothesis 1, that the extraposed small clause undergoes radical reconstruction at LF. The existence of such a mechanism is

controversial, however, as it presupposes that movement can take place without any effect on the semantic output (cf. the literature on Japanese scrambling, in particular Saito 1989, 2004, Boskovic and Takahashi 1998, Miyagawa 2006). The problem further complicates if we consider that, in addition to the absence of semantic effects, hypothesis 1 also requires extraposition to be string vacuous: since this hypothetical operation has no real LF or surface order effects, it is indeed difficult to provide it with independent justification.

3.2.1.4 Summary of 3.2.1 on hypothesis 1

It would therefore seem that hypothesis 1 requires a fair amount of auxiliary assumptions, some of which have a clear ad hoc aftertaste. While the relevant hypothesis cannot be discarded in those contexts in which it is especially useful, such as the Hindi LDA patterns, we are entitled to question the plausibility of extending this kind of analysis to the rest of constructions in (17-21).

3.2.2 Hypothesis 2

3.2.2.1 The precedents

Consider next hypothesis 2, repeated here in (31).

(31)   *Hypothesis 2*

         The controller moves covertly outside the c-command domain of the target. There is

         therefore a copy of the controller that satisfies the DA-INP protocol (16b), but this copy

         is either not visible in the constructions under consideration, or not obviously a copy.

This kind of approach has a well-established tradition in generative syntax. It was especially influential during the early minimalist period, in which it was widely assumed that all the arguments of the verb would target the specifier of a specialized agreement projection above VP. On this basis, differences in word order between languages could be accounted for in terms of whether such movement took place before the single point of Spell-Out (overt movement, corresponding to attraction by a *strong* agreement head) or after this point (covert movement, corresponding to attraction by a *weak* agreement head). The latter option, according to Chomsky (1993), was more economical – insofar as phonological features were out of the picture -, and thus the grammar (through a principle called *Procrastinate*) would make pressure on DPs so that they only move after Spell-Out, unless a strong feature forced overt movement. Hence, at this particular point in the development of generative syntax, the idea that a DP could have covertly moved across an agreeing head was not a far-fetched assumption. Although the *Procrastinate* approach has been largely abandoned since (together with the Y-model), the possibility of covert movement triggered by an agreement head subsists as a natural expectation arising from the copy theory of movement. If chains exist (and some may be associated to agreement), then there is no reason in principle why PF could not spell out the lower copy of the chain, rather than the higher one. Concrete instances of covert movement that can be directly linked to the phi-feature system are very rare, however, perhaps because PF privileges the pronunciation of the copy with fewer unchecked features, as suggested by Nunes (1995, 2004) - therefore creating a bias in favor of the pronunciation of high copies. There is nonetheless some evidence that they exist. According to Potsdam and Polinsky (in press), for example, covert A-movement associated to agreement can be observed in some raising constructions of the Northwest Caucasian language Adyghe. The phenomenon is signaled by a case-marking alternation on the subject of raising structures: the relevant nominal can either appear in absolutive (32a) or ergative case (32b).

(32)   a. a-xe-r   pjəsme-r   a-txə-new   ∅-fjež'a-ʁe-x

           DEM-PL-ABS   letter-ABS 3PL.ERG-write-INF 3ABS-begin-PST-3PL.ABS

           'They began to write a letter.'

       b. a-xe-me   pjəsme-r   a-txə-new   ∅-fjež'a-ʁe-x   / *a-fjež'a-ʁ

           DEM-PL-ERG letter-ABS 3PL.ERG-write-INF 3ABS-begin-PST-3PL.ABS / 3PL.ERG-begin-PST

           'They began to write a letter.'

The focus of Potsdam and Polinsky's argumentation is on the subject of (32b) (*axeme*), which exhibits mixed properties. On the one hand, its case marking suggests that it has not undergone raising, as Adyghe ergative nominals are only found in presence of an object DP. On the other hand, it behaves as an absolutive DP in matrix subject position would: among other properties, it controls absolutive agreement on matrix T (ergative agreement being ungrammatical in this context, rather surprisingly), and it can take scope over matrix negation, as illustrated in (33a) - also a raising construction. The latter property is relevant because it is not shared by the ergative subjects of infinitival complements in non-raising constructions (cf. 33b).

(33)   a. a ʔwəfə-r   ze 'emjə a- ə-new   wəxe-ʁ-ep

         this work-ABS all.ERG   3PL.ERG-do-INF stop-PST-NEG

         'All did not stop doing this work.'   ALL > NEG

         'Not all stopped doing this work.'   NEG > ALL

b. ze ʼemjə ʔwəfə-r   a- ə-new   jane   je-λʔwə-ʁ-ep

all.ERG   work-ABS 3PL.ERG-do-INF mother OBL-ask-PST-NEG

'Mother did not ask that all do the work.'   NEG > ALL

*'Mother didn't ask anyone to do the work.'   *ALL > NEG

Potsdam and Polinsky interpret this duality as evidence that Adyghe allows either copy of a raising chain to be spelled out. The case of each copy is, in turn, determined from its syntactic environment: the higher copy, which is found in the domain of the matrix intransitive verb, is marked with absolutive. The lower copy, which is found in a transitive domain and is the subject of the relevant verb, is marked with ergative. This state of affairs is schematized in (34), where the angle brackets highlight the copies composing the raising chain.

(34)   <a-xe-r>   [<a-xe-me>   pjəsme-r   a-txə-new   ]   ∅-fjež'a-ʁe-x

DEM-PL-ABS   DEM-PL-ERG   letter-ABS 3PL.ERG-write-INF   3ABS-begin-PST-3PL.ABS

'They began to write a letter.'

Whether it gets pronounced or not, a copy of the infinitive subject sits in matrix [Spec, T], which controls matrix agreement, and enables the raising chain to take scope over matrix clause material.

3.2.2.2 Implementing a covert movement approach: existential constructions

Given these precedents, how viable could it be to analyze the constructions in (17-21) in terms of the controller covertly moving outside the c-command domain of the target (so that, as suggested in hypothesis 2, the DA is satisfied, despite superficial appearances)?

As it turns out, the assumption that the controller of agreement moves covertly used to be a recurrent theme in the analysis of expletive constructions such as (17a), repeated here in (35).

(35)   There **are_{PL}** believed to be **[many linguists]_{PL}** inside the pyramid.

The theme has its sources in Chomsky (1986, 1991)'s suggestion that the associate replaces the expletive at LF, under the assumption that the latter, being semantically empty, is not a legitimate LF object. We have already seen, however, that in such constructions, the associate cannot take scope over the matrix verb in sentences such as (30), even though this possibility is predicted if we assume that the associate replaces the expletive at LF (cf. den Dikken 1995, Hornstein 1999). This is problematic for the expletive replacement hypothesis (as well as for hypothesis 2, as applied to downwards agreement in existential constructions), but Bobaljik (2002) shows that there is still some advantage to be gained from the assumption that the associate moves covertly. His point is based on an apparent empirical gap in the typology of movement procedures predicted by the copy theory of movement. Thus, given a two-copy chain, it is possible that the high copy gets both interpreted at LF and spelled out at PF, yielding overt movement. Alternatively, it is possible that the high copy is interpreted at LF while the low copy is spelled out, yielding covert movement. The third possibility is that the low copy is interpreted at LF but the high copy is spelled out, yielding reconstruction. These three possibilities are robustly attested. However, there is a fourth, rarely considered possibility, which is that the low copy gets both interpreted at LF, and spelled out at PF. While this movement procedure would have no effect on the output, it is nonetheless a logical possibility emerging from the copy theory of movement. In this context, Bobaljik's proposal is that expletive constructions such as (35) are in fact instances of this procedure, which he calls the Lower Right Corner [LRC] effect. The idea is that in such sentences as (35), there is a copy of the associate in the matrix subject position, but it so happens that this copy is not chosen for interpretation at either interface. From an early

minimalist perspective, in which agreement was assumed to obtain in a Spec-head configuration, this analysis would provide a straightforward way to explain the agreement pattern in (35). More importantly from a current standpoint, it allows to explain why the locality conditions holding between the expletive and the associate are identical to standard conditions on A-movement.

This approach has also interesting consequences concerning the potential nature of the EPP, which forces expletive insertion in English. Since there is a copy of the associate in the matrix subject position, it cannot be the case that expletive insertion is required because the subject position is empty. Rather, expletive insertion must follow from the fact that this copy is not *pronounced*, which amounts to say that the EPP is actually a PF requirement connected to admissible material at the left edge of the clause. This analysis therefore provides us with a clear rationale for the insertion of the expletive. While it does not posit any strong link between LRC and expletive insertion, it leaves open the possibility of both phenomena overlapping in contexts in which the silent character of the high copy would fail to satisfy some phonological condition that the edge of TP is filled.

It is easy to see the appeal of either a covert movement analysis (in which the high copy is chosen for interpretation at LF, but is not pronounced) or an LRC analysis (in which the low copy is chosen for interpretation both at LF and PF) of the constructions in (17-21) for the theory of the DA. Both provide a principled explanation from the copy theory of movement to the fact that the controller of agreement is found (and sometimes interpreted) within the c-command domain of target, despite the DA theory expectation that it should have escaped the relevant domain. Hence, in either scenario, a silent high copy of the controller of agreement outside the c-command domain of the probe would satisfy protocol (16b). Given this basic assumption, the expletive patterns (cf. 17, 30) in which the controller of agreement seems to be interpreted in its low surface position may be analyzed in terms of an LRC effect, following Bobaljik (2002). In turn, the patterns found in Hindi LDA (cf.19a, 23) or in Adyghe raising constructions, in which the

controller seems to be interpreted in a higher position than the one in which it is pronounced, feed the possibility of a covert movement analysis.

3.2.2.3 Where the covert movement approach is not sufficient

It is not completely obvious that a covert movement or an LRC account can be applied to the rest of the construction types in (17-21), however. There seems to be no independent support for either analysis in the study of complementizer or prepositional agreement. The reason is that (contrary, for example, to English existentials or Adyghe raising constructions) we never find instances of the controller being pronounced outside the c-command domain of the target, nor do we observe – as far as my knowledge goes - any scopal effect which would suggest that covert movement has in fact obtained. The problem is even more critical when we consider in such terms the Icelandic quirky subject pattern in (18b), repeated here in (36).

(36)   Honum   lík**a**$_{3PL}$ **þeir**.

       him.DAT like.3PL   they.NOM

       'He likes them.'

The pattern is problematic for hypothesis 2 because we know that quirky subject verbs of the *like*-class in Icelandic (contrary to those of the *please/suit*-class, as well as passivized ditransitives) do not admit raising of the nominative object to the matrix subject position across the dative experiencer. The following examples from Sigurdsson (2004) illustrate this fact – note that the initial adverb controls for V2, and thus the subject position immediately follows the auxiliary, which has undergone T-to-C movement.

(37)   a. Líklega   hafa   **henni**   líkað   þeir.

   probably have.3PL her.DAT liked   they.NOM

   'She has probably liked them.'

   b. *Líklega hafa **þeir** líkað henni.

Compare this to the pattern found with *please/suit*-class verbs, in which either the nominative object (controlling agreement) or the dative experiencer can target the subject position.

(38)   a. Líklega   hafa   **henni**   ekki hentað þau.   (Sigurdsson 2004)

   probably have.3PL her.DAT not   suited they.NOM

   'Probably, they were not suitable to her.'

   b. Líklega   hafa   **þau**   ekki hentað henni.

   probably have.3PL they.NOM not   suited   her.DAT

   'Probably, they didn't suit her.'

We have therefore no independent distributional evidence that the nominative object position in (36) can be related to the subject position by movement. This is relevant for a potential LRC analysis: since this kind of approach posits no observable effect on the output, its plausibility in a given context is severely weakened in absence of overt analogs to the hypothetical LRC movement – in the English existential patterns, it is precisely the possibility that the associate can overtly move to the position otherwise occupied by the expletive which, under current assumptions, lends the LRC analysis some plausibility.

Could we instead analyze (36) in terms of covert movement of the nominative object to the subject position? There is some evidence, after all, that in some languages the edge of TP can

host more than just one DP (cf. in particular the analysis of the Japanese double nominative construction in Miyagawa 2001). This alternative seems to hold little promise, however, as suggested by evidence from NPI licensing in contexts similar to (36). The relevant fact is that a NPI in an A-position cannot be interpreted outside the scope of negation: in (39a), for example, the NPI in subject position fails to be licensed, as it is found outside the scope of the adverb of negation (usually analyzed as a VP-adverb in the relevant language). An NPI is nevertheless licit in nominative object position (cf. 39b). This is unexpected if it had to be interpreted outside the scope of the adverb, as previously suggested. It is relevant to our current concerns that it still controls agreement from its apparently low position, as the relevant example shows.

(39)   a. *Neinum ketti   líka$_{3PL}$ ekki hundar   (adapted from Harley 1995)

        any   cat-DAT likes.3PL   not   dogs-NOM

        'Any cats don't like dogs.'

    b. Fifi líka$_{3PL}$ ekki neinir hundar
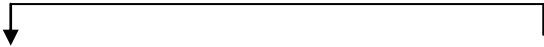
       Fifi likes.3PL   not   any   dogs-NOM

       'Fifi doesn't like any dogs.'

What seems to be left is the possibility of an LRC analysis of (36) whereby the nominative object would target the V2-related [Spec, C] position, as illustrated in (40). The angle brackets here indicate that the copy under consideration is not pronounced.

(40)   [$_{CP}$ < þeir$_{NOM}$ > C [$_{TP}$ honum$_{DAT}$ líka$_{3PL}$ [$_{vP}$ <honum> v [$_{VP}$ V   þeir$_{NOM}$]]]]

The idea of this analysis is that, even though the nominative object is remerged in the [Spec, CP] position, only the lower copy is interpreted at either interface. This LRC analysis finds some support in the fact that potential overt counterparts to this kind of structure do exist with *like*-class verbs. One such example is given in (41).

(41)   Guðmundur hefur mér   alltaf   líkað < Guðmundur >.   (Barðal 2001)

         Guðmundur have me.DAT always liked

         'Guðmundur I have always liked.'

A first problem is that the analogy is not perfect. If (36) were a hidden V2 construction with a copy of the nominative in [Spec, CP], we would expect T-to-C movement to have taken place, as a filled C is, by definition, the hallmark of a V2 construction. As it seems, the relevant analysis forces us to assume that T-to-C movement does not obtain if the filler of [Spec, C] is not pronounced. In the absence of interpretive effects triggered by this hypothetical filler, however (cf.39), this assumption becomes untestable, and thus theoretically suspicious. Now, a second, perhaps even more serious problem with the analysis in (40) is that the [Spec, CP] position of V2 contexts can be overtly filled by something else than the nominative object in contexts where the latter controls agreement. We saw such an example in (37a), repeated here in (42), in which an adverb sits in the relevant position.

(42)   Líklega   hafa   henni   líkað þeir.

         probably have.3PL her.DAT liked   they.NOM

         'She has probably liked them.'

This is significant, because V2 fronting is restricted to one constituent. It is thus possible to front an adverb (as in 42) or an object (cf. 43a), but not an adverb and an object simultaneously (cf. 43b). We know that this restriction is related to the number of fronted constituents rather than the position of the finite verb, because multiple fronting remains ungrammatical even if we try to create a V2 order by placing the finite verb immediately after the first fronted constituent (cf. 43c).

(43)   a. Ostinn   hefur álfurinn étið   í gær.   (Thráinsson 2007)

          cheese-the has   elf-the   eaten yesterday

          'The cheese, the elf has probably eaten.'

     b. *Í gær   ostinn   hefur álfurinn étið.

       yesterday   cheese-the has   elf-the   eaten

     c. * Í gær   hefur ostinn   álfurinn étið.

       yesterday   has   cheese-the elf-the   eaten

This property of V2 structures seriously undermines the possibility of analyzing (42) in terms of LRC movement of the nominative object as in (40). In such an analysis, it would become necessary to assume that both the adverb and this nominative object have been fronted (even though the latter is neither pronounced nor interpreted in the fronted position), but it turns out that this kind of multiple fronting has no overt counterpart. We therefore lack a direct overt analog to the hypothetical LRC movement of the nominative object, which would support the relevant analysis in the absence of distributional or interpretive effects.

3.2.2.4 Summary of 3.2.2 on hypothesis 2

Summing up, it would seem that hypothesis 2 does not hold the seeds of a uniform account of the constructions in (17-21), which seem to violate the DA. While an approach to Hindi LDA or English existentials in terms of hypothesis 2 would seem to have some plausibility, it is much less obvious that the relevant strategy can be extended to prepositional/complementizer agreement, and, in particular, agreement with nominative objects in Icelandic dative subject constructions.

3.2.3 Hypothesis 3

3.2.3.1 The mechanics of hypothesis 3

Consider now hypothesis 3, repeated here in (44).

(44)   *Hypothesis 3*

The controller escapes the original c-command domain of the target earlier in the derivation, therefore satisfying the DA-INP protocol (16b). However, the target itself subsequently undergoes head-movement across the derived position of the controller, yielding the final configuration in which agreement appears to take place in violation of the DA.

Let us elaborate on the kind of derivational mechanics presupposed by hypothesis 3. Thus, consider first the structure in (45), which illustrates the state of the derivation after the controller escapes the c-command domain of its target H (in this particular case, through plain movement to [Spec, H]), thereby satisfying the DA.

(45)

```
                    HP
           ┌─────────┴─────────┐
          DP                   H'
       [α phi]          ┌──────┴──────┐
                        H             XP
                     [α phi]        ┌──┴──┐
                                   …(DP)…
                                   [α phi]
```
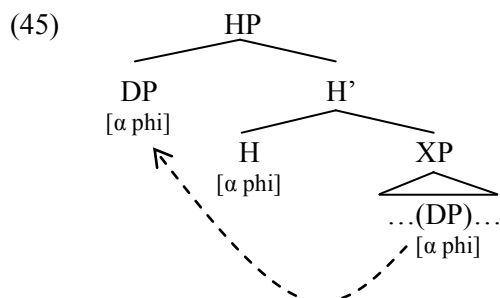
The scenario entertained in hypothesis 3 is that H undergoes head-movement in the following stages of the derivation, so that it ends up in a position from where it seems to c-command the high copy of the DP. In a first step, for example, H could adjoin to the head of the immediately higher projection YP.

(46)

```
                        YP
              ┌──────────┴──────────┐
            H + Y                   HP
          [α phi]           ┌───────┴───────┐
                           DP               H'
                        [α phi]       ┌──────┴──────┐
                                     (H)            XP
                                   [α phi]        ┌──┴──┐
                                                 …(DP)…
                                                 [α phi]
```
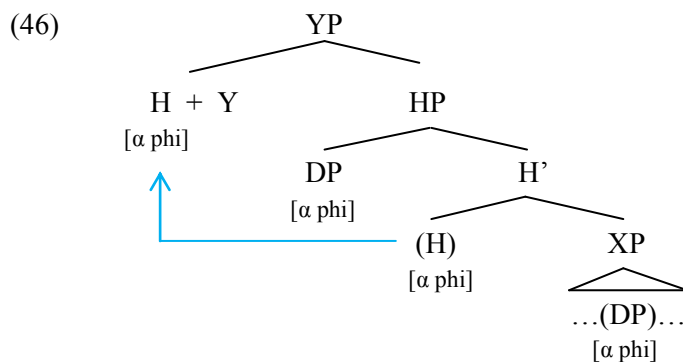
Before we go on, it is worth highlighting the fact that H *seems* to c-command the higher copy of DP from its new position - it is not obvious that it *does*. Under relatively standard assumptions, in fact, head-adjunction as in (46) would result in a binary-branching head structure whose label is determined by the host of adjunction.

(47)   [$_Y$ H Y]

On these grounds, H would not c-command its controller DP after head-movement takes place. This is of some relevance for the theory of the DA: it means that if a phrasal movement operation

salvages a potential violation of the DA, subsequent head-movement of the target cannot create a new configuration in which it c-commands the controller (<u>even though it could create the illusion, based on the resulting surface order, that this new c-command configuration holds, yielding a violation of the DA</u>). I will assume this to be true of structures created by head-movement in general.[6]

Given this fundamental assumption, let us get back to (46). This kind of configuration, as it turns out, is found with some frequency in natural language. A rather common pattern of this sort involves subject-verb inversion in SVO languages that exhibit a certain degree of subject agreement. In English, for example, it takes the particular form of auxiliary inversion.

---

[6] We might, of course, explore the alternate possibility that head-movement allows the displaced head to c-command the material it crosses over. In the concrete case of (46), H would then c-command the controller DP in its derived position, prompting us to ask whether this new configuration violates the DA – and thus, whether it undoes, in some sense, what the movement of the controller DP to [Spec, H] was meant to achieve. It is not possible in the current state of the DA theory to give a meaningful answer to this question, however, because our protocols do not help us distinguish between copies of the target. Consider, for example, the DA-INP protocol, repeated here in (ii).

(ii)   The DA-INP is satisfied at the point of evaluation K iff for each dependency <A, B> in K such that it is subject to the INP, there is a copy of A outside the c-command domain of B.

This formulation does not help us assessing the status of the agreement dependency <DP, H> in (46), because it does not make clear which copy of H should count towards evaluation of the DA. Choosing the lower copy of H satisfies the DA (since there is a copy of DP outside its c-command domain), but choosing the higher copy triggers a potential violation of the DA (since this copy c-commands both copies of DP). Assuming that head-movement creates new c-command configurations would therefore lead us to revisit the formulation of protocol (ii). In such a scenario, I would propose that the protocol makes reference to *some* copy of the target, in the same way as it makes reference (necessarily, under the copy theory of movement) to *some* copy of the controller. The reason is that constructions in which the target moves across the derived position of the controller do exist, and are perfectly grammatical (cf. 48). This would be unexpected if the DA-INP protocol required, for example, *some* copy of the controller to c-command *every* copy of the target. Rather, it would seem that all it takes is for there to be some copy of the controller outside the c-command domain of some copy of the target. We would therefore obtain (iii).

(iii)   The DA-INP is satisfied at the point of evaluation K iff for each dependency <A, B> in K such that it is subject to the INP, there is a copy of A outside the c-command domain of a copy of B.

(48)   [$_{CP}$ Has [$_{TP}$ [$_{DP}$ that linguist] (has) [$_{vP}$ ([$_{DP}$ that linguist]) visited the pyramid]]]?

Agree(T, [$_{DP}$ that linguist])
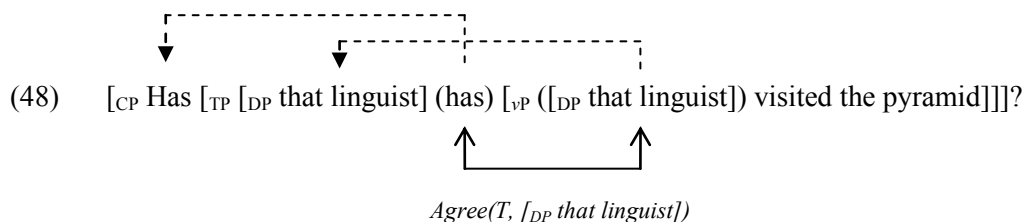
Auxiliary inversion in interrogative contexts is of course not enough to obscure the fact that the subject, which controls agreement, sits in a derived position, outside the c-command domain of the actual agreeing head T. Thus, we know that in declarative contexts the subject actually precedes the auxiliary. We also know that this subject position is probably not where the subject is generated. And we know that in embedded interrogative contexts the auxiliary can never precede the surface position of the subject, except in some varieties of English in which this is only possible if there is no overt interrogative complementizer (cf. Henry 1995, McCloskey 1996, 2000). Taken together, these facts point to the conclusion that neither the auxiliary nor the subject is in its original position in (48), and more concretely, that the relevant construction is an instance of the mechanism described in (46), thus yielding the analysis in (48). The matter could be somewhat more difficult to settle in a given head-initial language if, say, the head bearing subject agreement morphology consistently preceded the subject in all sentence types. It might then become difficult to determine whether the subject or the agreeing head have moved at all. This kind of problem is familiar in the literature on postverbal subjects in VSO languages such as Arabic (cf. Aoun, Benmamoun and Choueiri 2010: ch.3) or Irish (cf. McCloskey 1996), where it is not clear whether or not the subject has escaped the *v*P, and arguments have been proposed in favor of either analys.

Given this background, we might wonder how plausible it is to analyze (at least some of) the constructions in (17-21) in terms of a single-step head-movement, as in (46). The most obvious candidates for such an approach will be those constructions in which the controller and the target appear to be relatively 'close' to one another, as the surface positions of H and DP are in (46). By

closeness here I mean (i) that the controller is (or at least appears to be) minimally embedded within the complement of the target (or, under the relevant analysis, the complement of the head the target adjoins to), and (ii) that no obvious defective/true intervener appears between them. This singles out Spanish existential constructions (17b), complementizer agreement constructions (20), and prepositional agreement constructions (21) as plausible candidates. In what follows, I will evaluate how much each one of these candidates really supports an analysis in terms of local head-movement of the target across the derived position of the controller. I leave out nominative object agreement with T (18) and LDA (19), in which the terms of agreement seem to be farther away in the relevant sense, but we will come back to these cases in the next subsections.

3.2.3.2 Spanish existentials

Consider then first the possibility that a mechanism like (46) underlies the apparent violation of the DA in the Spanish existential construction (17b), repeated here in (49).

(49)   Había**n**$_{PL}$ **[muchos lingüistas]**$_{PL}$ dentro de la pirámide.
        be.PST.IPFV.3PL   **many**   **linguists**   inside   of   the   pyramid
        'There were many linguists inside the pyramid.'

One reason why we might suspect that the agreement is generated in a lower position than the surface order would suggest is that this particular kind of construction excludes the possibility of the subject being preverbal (cf. 50), even though the language allows such alternations in other contexts, including unaccusatives (cf. 51) and regular transitives (cf. 52).

(50)   *[**Muchos lingüistas**]_{PL} había**n**_{PL}   dentro de la pirámide.

        many   linguists   be.PST.IPFV.3PL   inside of the pyramid

        (There were many linguists inside the pyramid.)

(51)   a. Llegaron   los lingüistas a la   pirámide.

         arrived.3PL   the linguists   to the pyramid

         'The linguists arrived at the pyramid.'

        b. Los lingüistas llegaron   a la   pirámide.

         the   linguists arrived.3PL to the pyramid

         'The linguists arrived at the pyramid.'

(52)   a. Encontró   Juan un lingüista en el   ropero.

         found.3SG   Juan a linguist   in the closet

         'Juan found a linguist in the closet.'

        b. Juan encontró   un lingüista en el   ropero.

         Juan found.3SG a linguist   in the closet

         'Juan found a linguist in the closet.'

Given this state of affairs, one possible way to make sense of the restriction in (50) is assuming that, for some reason yet to be determined, T-to-C movement is obligatory in existential constructions. As a result, the finite verb ends up preceding the derived position of the subject.

(53)   [CP habían_PL [TP [DP muchos lingüistas]_PL (habían_PL) [vP ([DP [muchos lingüistas]_PL) dentro de la

       pirámide]]].

Agree(T, [DP [muchos lingüistas])
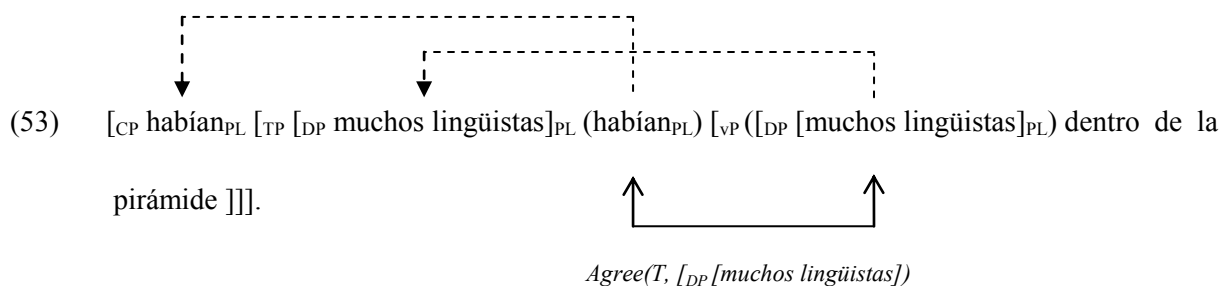
A similar analysis could be applied to the postverbal subject patterns in (51a, 52a), which would explain why the agreeing form precedes its controller, in apparent violation of the DA. The existential construction would therefore only differ from the unaccusative/transitive patterns in that T-to-C movement happens to be obligatory in the former, while it remains optional in the latter.

This approach will have to endure some heavy fire, however. On the one hand, it does not provide a clear motivation why T-to-C movement should not be optional in existentials. As long as the obligatory character of the operation in such constructions is not derived from more general principles, we are merely restating the problem that emerges from comparing the ungrammaticality of (50) to the grammaticality of (51b, 52b). On the other hand, there are some reasons to doubt that the surface position of the logical subject in (49) is actually outside *v*P. Thus, Spanish *haber* constructions exhibit a strong definiteness effect: definite subjects are *never* allowed in such constructions.

(54)   *Habían_PL   [los lingüistas]_PL dentro de la pirámide.
       be.PST.IPFV.3PL   the **linguists**   inside of the pyramid
       (There were the linguists inside the pyramid.)

This is a problem for the analysis in (53), because definiteness effects do not normally hold on derived subjects in a number of languages, including, for example, English and French (cf. 55). When such effects arise, they usually involve a definite DP in a lower position within *v*P (cf. 56).

(55) a. The linguist / a linguist is in the pyramid.

   b. Le linguiste / un linguiste est arrivé.

    the linguist a linguist is arrived

    'The/a linguist has arrived.'

(56) a. There is a linguist / *the linguist in the pyramid.

   b. Il est arrivé un linguiste / *le linguiste.

    EXPL is arrived a linguist the linguist

    'A/ *the linguist has arrived.'

Under the analysis in (53), the strong definiteness effect in Spanish *haber* constructions cannot be associated to the position of the subject. This is because, by hypothesis, the subject of these existential constructions sits in [Spec, T], as do the subjects of other postverbal subject patterns such as (51a, 52a). But the latter do not exhibit any definiteness restriction, as the relevant examples illustrate. The asymmetry is reinforced if we consider that *haber* constructions, unlike the constructions in (51a, 52a), reject preverbal subjects. If anything, this link between the impossibility of preverbal subjects and the definiteness restriction holding on postverbal subjects is something we might want to capture in our analysis of Spanish existentials, given the existence of patterns such as those in (56), which exhibit a definiteness restriction on their low, postverbal 'logical' subject. For example, we could assume that the special character of *haber* constructions

stems from the presence of a null expletive in [Spec, TP] (parallel to that of the overt expletive in the examples in 56), which would block a lower associate from being promoted to subject position. The analysis of (49) along these lines yields the structure in (57).

(57)   [$_{TP}$ EXPL habían$_{PL}$ [$_{vP}$ [$_{DP}$ muchos lingüistas]$_{PL}$ dentro de la pirámide]].

In such an analysis, the definiteness effect could be accounted for in terms of the associate DP being unable to leave the domain of existential closure, following Diesing (1992). This would account for both the definiteness effect and the postverbal position of the 'logical' subject, which seems to give an edge to the analysis in (57) over the one in (53). Now, one potential problem with the former is that the expletive would always have to be present in the relevant constructions, since nothing would prevent the associate to target the preverbal subject position otherwise. In order to capture this, we may assume that *haber*, unlike the verbs in the (55, 56) paradigm, obligatorily selects an expletive in a higher position than the associate (thus making it closer to [Spec, TP], if it is not generated in that very position). This is of course stipulative, but no more so than saying that T-to-C movement must obligatorily take place in (and only in) *haber* contexts. It is therefore not obvious that the analysis in (53) has any specific advantage over (57). In fact, the opposite appears to be the case. It would thus seem that an analysis of the apparent violation of the DA in Spanish existentials based on the mechanism in (46) lacks plausible, independent motivation – even though it seems to be a legitimate approach to the apparent violation of the DA in subject-verb inversion configurations such as (48, 51a and 52a).

3.2.3.3 Complementizer agreement

Consider next the complementizer agreement cases from (20). In such cases, an analysis in terms of (46) leads to a CP-recursion scenario (cf. 58), whereby movement of the embedded subject to

the specifier of a lower CP$_2$ layer (which salvages a potential violation of the DA) is followed by the lower C$_2$ head adjoining to the higher C$_1$ head.

(58)   a. Kpeinzen dan-k (ik) morgen   goan.   (West Flemish, Carstens 2003)

       I-think   that-I (I) tomorrow go

       'I think that I'll go tomorrow.'

b. Kpeinzen [$_{CP1}$ dan-k [$_{CP2}$ ik/pro (dan-k) [$_{TP}$ (ik/pro) morgen goan]]]. [7]
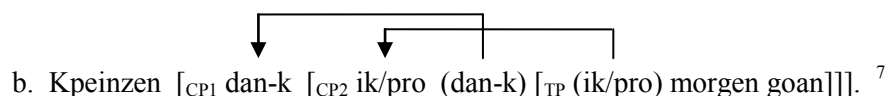
This analysis requires a uniform split-CP structure in embedded clauses, and the existence of an available position for movement in the left periphery of the clausal complement. Potential evidence in favor of such properties is not inexistent, but it is not very promising either.

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[7] An alternative approach in terms of plain T-to-C movement across a subject in [Spec, TP] (so that the subject agreement suffix would adjoin to the complementizer) is also conceivable, and might seem simpler a priori, but it would nonetheless have to deal with the fact that subject agreement and complementizer agreement co-occur, and that they seem to belong to different inflectional paradigms (compare 58 to (i) below, cf. in particular the pairs *dank/daj* and *goan/goat*). In the T-to-C movement approach, we would have to assume that the agreement morphology on T remains undeleted after being copied to C, and that the morphological component assigns different forms to each copy depending on the relevant host.

(i)   Kpeinzen da-j   gie morgen   goat   (Carstens 2003)
      I-think   that-2SG you tomorrow come-2SG
      'I think that you'll come tomorrow.'

The co-occurrence of subject agreement and complementizer agreement, as well as their lack of morphological similarity, are more straightforwardly accounted for if they are generated on different heads. An additional argument pointing in this direction comes from the *external possessor agreement* construction, whereby a DP sitting above the embedded subject but below the C head binds a possessive pronoun in the former.

(ii)   … **omda-n   die venten** tun juste **underen computer** kapot **was**.   (Haegeman and van Koppen to appear)
      because-PL those guys   then just their   computer broken was.SG
      '…because André and Valère's computer broke down just then.'

In this construction the possessor controls plural agreement on C, while the possessum controls singular agreement on T.

As it turns out, sequences of two complementizers do occur in West Flemish (even though their distribution is severely restricted), suggesting that a recursive embedded CP structure might not be a fairy tale. However, they always form a sequence: the subject never precedes, it rather follows, the second complementizer, which is the one that bears the inflection. In order to accommodate this fact under analysis (58b), we would need either an additional C layer above CP_1 (to account for the fact that the agreeing complementizer can be preceded by another C head), or reanalyze sequences of two complementizers as a single, complex head. Since it is necessary to adjust this analysis in order to account for the behavior of sequences of complementizers, the latter cannot be used as empirical support for the former.

What about the existence of a target position for movement in the embedded CP layer? At first sight, it seems unlikely that there is such a position, given a strong ban on embedded topics, which contrasts with the flexibility of the V2 matrix position.

(59)   a. kpeinzen dat zelfs Valère zukken boeken niet leest.   (Haegeman and van Koppen to appear)

        I.think   that even Valère such   books   not reads

      b. ?? kpeinzen dat zukken boeken zelfs Valère niet leest.[8]

        I.think   that such   books even Valère not reads

        'I think that even Valère would not read such books.'

There is one specific construction, however, called *external possessor agreement* by Haegeman and van Koppen (to appear), which provides us with a hint at a potential phrasal position within the relevant layer (cf. 60, as well as fn.7). In this pattern, the possessor DP is sandwiched between the embedded C head (whose agreement it controls, cf. fn. 2) and the possessum *zen koeien*, 'his

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[8] I transcribe here the ?? symbol used to express the relevant author's judgment. Practice concerning the use of this symbol varies, however. Haegeman and van Koppen use it to qualify a very marginal, but nonetheless not completely ungrammatical sentence.

cows'. The latter seems to be sitting in [Spec, TP]: it controls agreement on T (though not on C), and leaves a floating quantifier within the *v*P projection (whose left edge is marked by the adverbial *were*, 'again').

(60)   ... dat Valère tun juste zen koeien were al ziek woaren.   (Haegeman and van Koppen to appear)

          that Valère then just   his cows   again all ill   were

          '…that just then Valère's cows were again all ill.'

The possibility therefore arises that the possessor is in the position we are looking for. However, it seems dubious that it is related to the subject position via movement. On the one hand, this would entail a CED violation induced by possessor raising from a subject. On the other hand, under the assumption that the movement to the first [Spec, CP] is triggered by agreement (as proposed in analysis 58b), the subject projection should disrupt a potential agreement relation between C and a DP contained within it (a case of intervention by dominance). Finally, the external possessor construction, as Haegeman and van Koppen point out, has to be licensed by a focused temporal adjunct (*tun juste*, in example 60). In the absence of this adjunct, the possessor and the possessum behave as part of the same projection, headed by the latter, as suggested by the fact that in such a scenario the possessum controls both subject and complementizer agreement. Taken together, these observations suggest that the possessor in (60) is base-generated in its high position, and that the construction is not created by movement. This, in turn, weakens the plausibility of analyzing complementizer agreement in terms of the mechanism in (46).

3.2.3.4 Prepositional agreement constructions

Finally, consider prepositional agreement constructions, as found in the Welsh example in (21) (repeated here in 61a). In such cases, an analysis in terms of (46), assuming a minimal amount of

additional abstract structure, would first require that the object DP in [Compl, P] targets, say, the specifier of the agreeing preposition, in order to prevent a potential violation of the DA. This operation would then be followed by the agreeing P adjoining to an abstract functional head H, thus restablishing a P-DP order. A more complicated structure arises if we assume that the lexical P does not originally bear the agreement, which would instead be generated on a higher (P-related) functional head. Under this assumption, we are led to posit a three-layer structure as in (61c), where the surface position of the preposition results from successive head-movement targeting a functional head above the landing position of the agreed-with pronoun (P to H to F, with H bearing the agreement as a result of Agree(H, i)).

(61)   a. arnaf   i   (Borsley, Tallerman and Willis 2007)

           on.1SG   me

           'on me'

b. [$_{HP}$ arnaf [$_{PP}$ i   [$_{P'}$ (arnaf) (i)]]]

c. [$_{FP}$ arnaf+F [$_{HP}$ i [$_{H'}$ (arn-af) [$_{PP}$ (arn-) (i)]]

                         Agree(H, i)
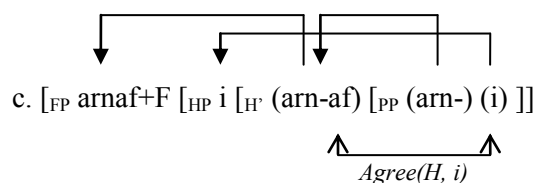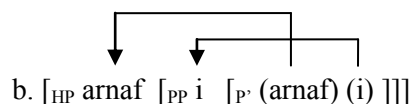
Such analyses are not far-fetched. There is in fact considerable evidence from several languages that prepositions are associated to a richly articulated functional structure (cf. in particular Koopman 2000 for Dutch and Svenonius 2010 for English). Research on this topic has revealed two main functional layers above the lexical P, usually called Place (the lower layer, associated to locative meanings) and Path (the higher layer, associated to trajectory meanings), following

terminology by Jackendoff (1983). The Place layer, in particular, seems to be densely articulated:

Koopman (2000) and Svenonius (2010) assume the following skeletons for this layer.

(62)   a. Koopman (2000), based on Dutch data

C(Place) > DegPlace > Place > P > Agr > lexical P > DP

Assumptions:

Agr licenses the DP via a Spec-head relation (involving movement of DP to [Spec, Agr])

P is the lowest position lexical Ps adjoin to

Place is a locative head

DegPlace hosts head- or phrasal-level modifiers to Place

C(Place) is the projection targeted by r-pronouns in Dutch, which precede their

preposition as well as DegPlace modifiers, and have the property of being able to strand

the prepositional phrase

b. Svenonius (2010), based on English data

p > Deg > Place > AxPart > K > DP

Assumptions:

K is a case particle (as *of* in *in front of*)

AxPart introduces a frame of reference (as *front* in *in front of*)

Place is a locative head (as *in* in *in front of*)

Deg hosts modifiers to Place (as *ten meters* in *ten meters behind the house*) [9]

p relates the reference ground introduced in the place layer to the object whose location is

at issue via a Neo-Davidsonian semantics

The existence of such functional fields in prepositional environments (which I assume, referring

the reader to the references cited for the relevant empirical support) is encouraging for an analysis

of (61a) in terms of (46). However, what is really significant with respect to our purposes is that

there is some evidence that PP-internal movement of the object of the preposition can take place.

Thus, the reader has probably already noticed that Koopman (2000) assumes PP-internal DP

movement (cf. 62a). While this expectation partly stems from her own posture in favor of Spec-

head configurations as the basic licensing mechanism in syntax (cf. Koopman 2006), the

hypothesis that such movement takes place is backed up by several facts involving the behavior

of pronouns (as opposed to that of full DPs) in Dutch PPs. For example, the versatile r-pronouns

(such as *er* 'it/there') systematically precede the preposition that selects them (63a), contrary to

full DPs (63b) and regular pronouns (63c).

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[9] In Svenonius (2010)'s words, the usual denotation of the head Deg is 'a function from vector spaces [introduced by Place] to the regions of space that the vectors pick out'.

(63)   a. *op er / er op   (Koopman 2000)

         on it   it on

         b. op de tafel / *de tafel op

           on the table   the table on

         c. op hem / *hem op

           on him   him on

While regular pronouns never target as high a position as r-pronouns (and, in particular, never

precede the surface position of the lexical P), they nonetheless seem to sit in a higher position

than [Compl, PP]. This is suggested by the fact a quantifier can follow the pronoun denoting the

set it quantifies over (64a), which follows if quantifier stranding takes place as in, say, (64b).

(64)   a. Hij heft [PP met jullie állemaal] gepraat.   (Koopman 2000)

         he has   with you   all   talked

          'He has talked with all of you.'

         b. [FP met [HP jullie [H' (met) [PP (met) [QP állemaal (jullie)]]]]]   [10]

It is true that we do not count on similar evidence from Welsh that would suggest that pronouns

are found in derived PP-internal positions.[11] But the common denominator in the Welsh and

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[10] *állemaal* is the common form of the Dutch universal quantifier in floated positions. I follow here
Koopman (2000) in assuming that it provides us with a test to diagnose the underlying position of the
pronoun, but cf. Bobaljik (2003) for potential problems with this assumption.

Dutch prepositional patterns is the differential treatment of pronouns and DPs. Thus, while we lack direct evidence in Dutch that prepositions agree with their object, we do observe that object pronouns, but not full DPs, undergo PP-internal movement. On the other hand, while we lack direct distributional evidence in Welsh that the object of a preposition can undergo PP-internal movement, we observe that pronouns (65a, b), but not full DPs (65c-f), control agreement on their preposition.

(65)   a. arno   fo   (Borsley, Tallerman and Willis 2007)

           on.3MSG him

           'on him'

           b. arni   hi

           on.3FSG her

           'on her'

---

[11] The quantifier *(h)oll* 'all' is systematically found after a pronoun in the relevant contexts, which might suggest an analysis in terms of quantifier stranding as in (64b).

(i)   gynnyn nhw *oll*   (Maggie Tallerman, p.c.)
        with.3P them all
        'with them all'

However, this idea is not consistent with the fact that the same item must follow, rather than precede, the determiner in regular DPs (cf. ii). This is because the Q-stranding analysis is based on the assumption that the quantifier takes the yet-to-be-displaced D(P) as its complement in the first stage of the derivation. But in (ii), the putative quantifier is sandwiched between the elements of the DP that, according to the relevant assumption, it should take as a complement.

(ii)   yr *holl* blant   (id.)
        The all   children
        'all the children'

This suggests that *(h)oll* is probably a regular NP modifier, generated within DP. The fact that it is found after a pronoun can be accounted for under the assumption that D attracts the pronoun *(h)oll* modifies, yielding the pronoun-quantifier order. Put another way, the distribution of *(h)oll* may support the idea that there is DP-internal head movement; it does not support the idea that a D(P) can target higher P-related functional layers.

c. ar   y   bachgen

  on the boy

  'on the boy'

d. ar   yr eneth

  on the   girl

  'on the girl'

e. *arno   'r   bachgen

  on.3MS the boy

f. *arni   'r   eneth

  on.3FS the girl

Taken together, these observations support a unified analysis of Welsh prepositional agreement and Dutch PP-internal pronoun distribution in terms of the mechanism in (46). In both languages, we may assume one of the P-related functional heads to be a probe seeking for pronominals (very much as *v* in Swedish, cf. chapter 1). Once agreement obtains (as visible in the morphology of the Welsh P), the DA requires the controller to leave the c-command domain of the target (as more or less directly observable in the distributional patterns of Dutch PPs). Subsequent head-movement of P across the derived position of the pronoun obscures the DA-driven movement procedure (distinct but overlapping requirements might lead the pronoun to target the very edge of PP, however, as Dutch r-pronouns do). The overall approach has some plausibility, in that it helps us explain and unify the behavior of PP-internal elements in two languages that are relatively distant typologically. With respect to our purposes in this section, it allows us to account for the fact that

the DA seems to be violated in prepositional agreement constructions. Under the relevant account, this apparent violation would in fact stem from the P-head moving across the position targeted by the controller of agreement - which does in fact escape the original c-command domain of its target. Which head hosts the agreement remains an open issue: it may be P itself, or it may be a higher P-related functional head (this is perhaps more consistent with standard assumptions, but it should be noted that prepositions lie in the grey area of the lexical/functional distinction). If the latter, P would pick up the agreement morpheme in its transit to upper portions of PP structure.

3.2.3.5 Summary on the single-step head-movement hypothesis

Let us then picture our current situation. In this subsection, I have considered the possibility that a particular version of hypothesis 3 might help us explain the apparent violations of the DA in a subset of the constructions in (17-21). The basic version of the hypothesis is mechanism (46), repeated here in (66), in which a DA-driven movement procedure (whereby the controller escapes the c-command of the target) is subsequently obscured by a head movement operation (whereby the target adjoins to a local c-commanding head across the derived position of the controller).

(66)
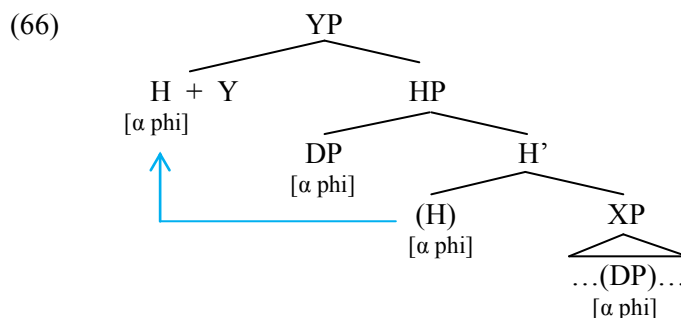
The question we faced was whether such an analysis might be plausibly applied to those constructions in (17-21) in which the target and the controller appear to be relatively close to one

another, [12] including Spanish existentials (17b), Dutch complementizer agreement (20), and Welsh prepositional agreement (21).

The results turned out to be mixed, however. On the one hand, an analysis of Spanish existential constructions or Dutch complementizer agreement in terms of (66) proves difficult to motivate independently. On the other hand, an analysis of Welsh prepositional agreement constructions along similar lines does show some promise, as it provides us with a unified basis to account for the differential treatment of pronouns in Welsh and Dutch PPs. This, I submit, counts as an argument in favor of mechanism (66) as a tool to explain the apparent violation of the DA in the relevant Welsh constructions.

3.2.3.6 A more complex version of hypothesis 3: iterated head movement of the target to a structurally distant position

Let us now consider now the following scenario: first of all, as in mechanism (66), the target moves across the derived position of the controller - as discussed, this movement has the potential of obscuring a previous DA-driven movement procedure. But now suppose that the target does not just undergo one, or two, but several successive head-movement operations up the clausal skeleton, in such a way that the structural distance between the probe and the goal becomes significant. If anything, we would obtain a configuration in which the controller would be deeply embedded in the complement of the head the target adjoins to, and the possibility arises that other DPs could appear between them. If such successive head-movement took place systematically in a range of constructions, it would be reasonable to think from distributional facts (assuming the latter to be a plausible indicator of structure in the relevant cases) that the target is generated in its

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[12] By *closeness* I meant (i) that the controller is (or at least appears to be) minimally embedded within the complement of the target (or, under the relevant analysis, within the complement of the head the target adjoins to), and (ii) that no obvious defective/true intervener appears between them.

high position, and that the controller never escapes its c-command domain. The relevant mechanism is illustrated in (67).

(67)

$$Agree(H, DP)$$
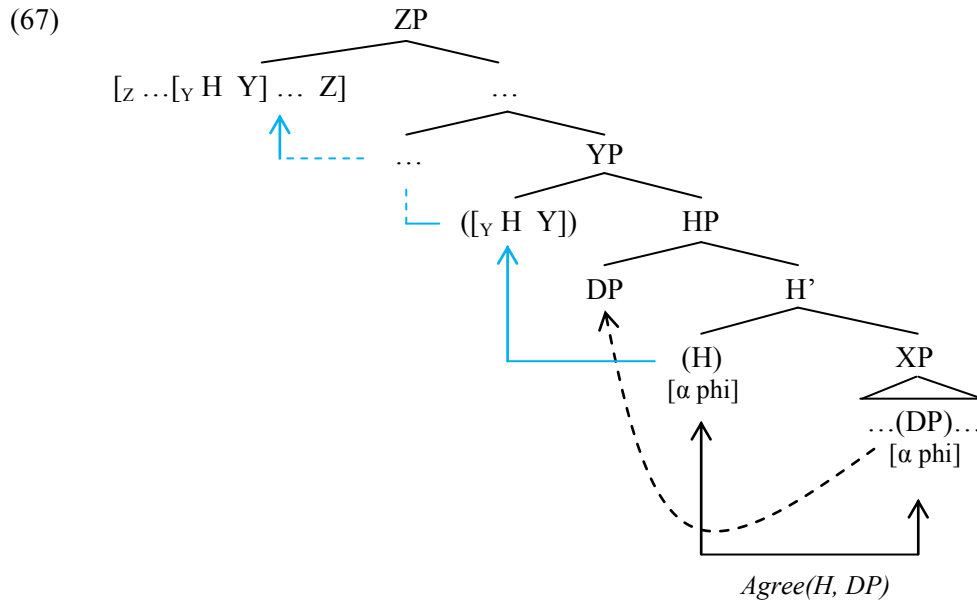
This mechanism might be used to explain the apparent violations of the DA in those constructions in (17-21) in which the target and the controller appear to stand in a long distance relationship, including long distance agreement [LDA] (19) and nominative object agreement with T (18).

3.2.3.7 A possible iterated head-movement approach to Tsez LDA

It is not obvious that this approach will work concerning LDA constructions, however. For example, we saw in section 3.2.1 that there are some reasons to think that the controller of agreement in Hindi LDA is in fact outside the c-command domain of the agreeing head, despite superficial appearances. This is inconsistent with mechanism (67), which yields a configuration in which the target c-commands the controller from its derived position. But the Tsez LDA patterns, as described in Polinsky and Potsdam (2001), offer a rather different picture, which might lend itself to an analysis of the kind we are considering here. A relevant fact is that an absolutive

quantified phrase embedded in a nominalized complement can control class I agreement on the matrix verb, even though it cannot take scope over the matrix subject.

(68) sis u iteler   [šibaw **uži**   ∅-ik'ixosi-łi] **∅-iyxo**   (Polinsky and Potsdam 2001)

some teacher.DAT   every **boy.I.ABS** I-go-NMLZ   **I-knows**

'Some teacher knows that every boy is going.'   ∃ > ∀; *∀ > ∃

This scope freezing effect can be straightforwardly interpreted as evidence that the nominalized complement defines a clausal domain (let us call it CP$_{NOM}$), therefore acting as a boundary for QR. This is consistent with the fact that no such effect is observed when the quantified phrases are clausemates, as (69) illustrates.

(69) sida   ɣ^{ʕw}ay-ā   šibaw k'et'u   han-si

one.OBL dog-ERG every cat.ABS bite-PSTWIT

'A dog bit every cat.'   ∃ > ∀; ∀ > ∃

These facts are relevant because they tell us that the controller of matrix agreement in (68) never leaves CP$_{NOM}$, thus yielding a configuration in which the target of agreement c-commands its controller across a clausal boundary, apparently a flagrant violation of the DA. For this reason, it would seem that Tsez LDA constructions might be an appropriate testing ground for an analysis in terms of mechanism (67).

Let us then consider the relevant possibility. The crucial implication of such an analysis is that the agreement morpheme on the matrix verb in LDA contexts originates in CP$_{NOM}$. In (70), for example, we would have to assume that the morpheme /b-/ on the matrix verbal form *biyxo* is in fact generated within CP$_{NOM}$ as a result of a clause-internal agreement procedure with *magalu*

'bread'. Iterated head-movement would carry this morpheme into the higher clause, where it would affix to the matrix verb.

(70) eni-r   [už-ā   **magalu**   b-āc'-ru-łi]   **b**-iyxo

mother-DAT   boy-ERG   bread.**III**.ABS   III-eat-PSTPRT-NMLZ   **III**-know

'The mother knows that the bread, the boy ate.'

In order for this analysis to go through, we would need the agreement morpheme to be generated in a high position within the functional field of CP$_{NOM}$. The reason is that if it were generated lower than, say, the tense/aspect head (/-ru-/) or the nominalizer (/-łi/), these heads would make its path to the higher clause a rather thorny one. In such a scenario, the agreement morpheme would not be able to avoid adjoining to these heads in its movement towards the higher clause, by virtue of the Head Movement Constraint [HMC]. However, since the morpheme ends up in the higher clause alone, leaving the intervening heads within CP$_{NOM}$, we would be forced to assume that it either skips the intervening heads, or that it excorporates from whatever complex head is formed after successive head-adjunction within the nominalized complement. Now, as far as my knowledge goes, head movement with similar characteristics is only attested in Breton (cf. Borsley, Rivero and Stephens1996 on long V-movement), and even in this language the procedure is clause-bound. In the absence of evidence that the agreement head generates low in CP$_{NOM}$, these considerations lead us to assume that it is generated in a high position, where no intervening head prevents adjunction to matrix V.

As it turns out, this provides us with the opportunity to smuggle the DA-driven movement procedure we would have to assume anyway. Thus, Polinsky and Potsdam (2001) note that LDA is blocked if a wh-word is present within CP$_{NOM}$. The matrix verb can only carry class IV default agreement.

(71) enir   [łu   micxir   b-ok'āk'-ru-łi]   **r**/***b**-iy-xo

mother who.ERG money.**III**.ABS III-steal-PSTPRT-NMLZ **IV**/***III**-know-PRS

'The mother knows who stole the money.'   (Polinsky and Comrie 1999)

Polinsky and Potsdam explain this blocking in structural terms. Their fundamental assumption is that the edge of CP$_{NOM}$ consists of an optional CP-layer on top of a Topic layer [TopP]. Wh-words target the Spec of CP in order to take clausal scope, while the Spec of TopP is reserved to internal topics. What distinguishes LDA contexts, according to Polinsky and Potsdam, is that the absolutive phrase covertly targets the Spec of TopP, thus yielding the internal topic reading rendered in the translation of (70) (this reading is unavailable when no LDA obtains). When this happens, and no CP layer is generated above TopP, the relation between the matrix V and the absolutive phrase becomes very local, yielding obligatory agreement. (72) shows what the relevant configuration looks like for sentence (70).

(72)   eni-r   [$_{TopP}$ <magalu> [už-ā **magalu** b-āc'-ru-łi] *Top*] **b**-iyxo
                 bread.III.ABS   III-knows

In its derived [Spec, Top] position, 'magalu' is close enough to the matrix verb to trigger agreement on it.

However, when a CP layer is generated above TopP in order to host a wh-phrase, this local relation is disrupted, thus making LDA unavailable, as (73) illustrates for sentence (71).

(73)   eni-r   [_CP ɬu   [_TopP   <mixcir>   [micxir b-ok'āk'-ru-ɬi] *Top*] C]   **r/*b**-iyxo

       who.ERG   money.III.ABS   IV/*III-knows

The upper CP layer of the nominalized complement disrupts a potential local relation between the matrix verb and the (silent) high copy of the absolutive.

An account of this locality effect in terms of the Phase Impenetrability Condition seems possible if we assume that the optional CP layer introduces a phase boundary. But in the context of an analysis based on mechanism (67), we may formulate a similar account in terms of constraints on head-movement. Thus, suppose that the matrix agreement morpheme /b-/ in (70) is the spell out of the CP_NOM-internal Top head after undergoing agreement with the absolutive topic. At the stage of the derivation in which this agreement takes place, we obtain a potential violation of the DA, as in (74).

(74) [_Top' [už-ā **magalu**   b-āc'-ru-ɬi] b-_Top]

              bread.III.ABS   III

              Agree (Top, magalu)
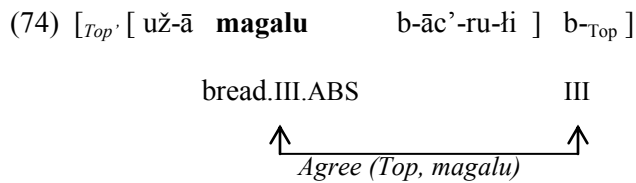
Covert movement of *magalu* to [Spec, TopP] then follows as a repair mechanism. This is the DA procedure whose occurrence may subsequently be masked by iterated head movement of the target.

(75) [TopP \<magalu\>   [Top' [už-ā **magalu** b-āc'-ru-łi]   b-Top]

bread.III.ABS   III
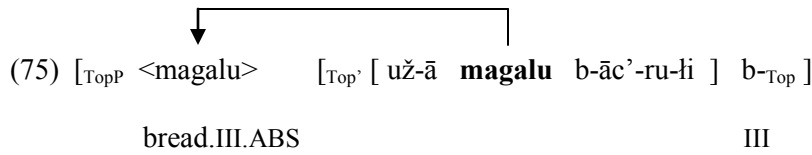
Two derivational options are possible based on this configuration. One possibility is that the matrix V directly selects TopP, yielding the structure in (76).

(76)   [VP [TopP \<magalu\> [Top' [už-ā magalu b-āc'-ru-łi]   b-Top] -iy-V]

know
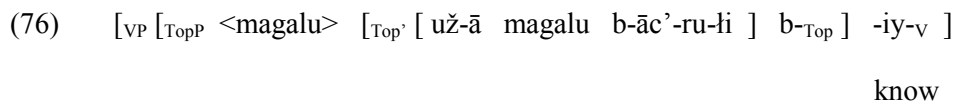
In such a configuration, Top-to-V movement is possible, yielding the complex head /biy-/. At the end of the derivation, after all the remaining material in the numeration has been inserted, this complex head moves to matrix T, where it adjoins to the tense morpheme /-xo/, resulting in the full verbal form /biyxo/ (cf. 70). As a result of this sequence of operations, the target of agreement sits in a high position in the matrix clause, while its controller remains in the embedded clause, in apparent violation of the DA.

Now, the second possibility after the basic pattern in (75) is that a CP layer is generated above TopP, for example, in order to host a wh-phrase. Assuming such an analysis for sentence (71), we obtain the following structure at the embedded CP level of the derivation.

(77) [CP łu   [TopP \<micxir\> [Top' [\<łu\> micxir   b-ok'āk'-ru-łi] b-Top] C]

who.ERG   money.III.ABS   III

Agree(Top, micxir)
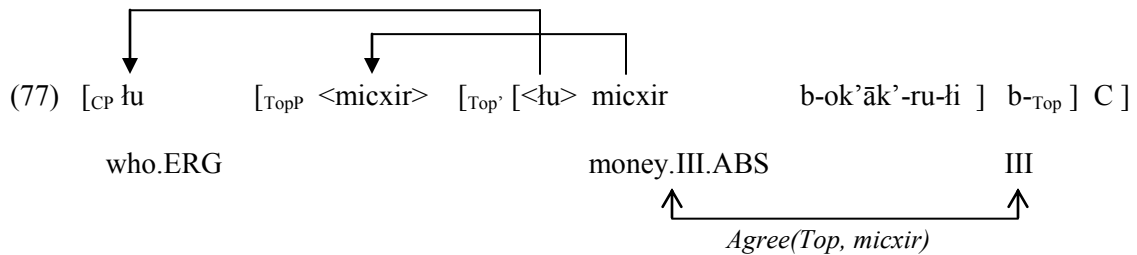
Subsequent insertion of matrix V yields the structure in (78). Let us focus here on the heads on the right side of the structure, indicated in bold characters.

(78)   [_CP ɫu [_TopP <micxir>   [_Top' [<ɫu> micxir b-ok'āk'-ru-ɫi] **b-_Top**] C] **-iy-_V**]

                                                                                                  III   know

Given this configuration, we may account for the restriction on LDA in (71) by assuming that the agreement morpheme must target a verbal stem as a host. This is possible in (76), since it takes a single head-movement operation for the agreement morpheme to do so. In (78), on the other hand, the head C intervenes, which is not a proper host, and thus Top-to-V movement via C is barred. This appears to be consistent with the fact that LDA is also blocked in presence of an overt complementizer, as shown in (79).

(79)   *eni-r   [už-ā   **magalu**   b-ac'-si- **ƛin**   ] **b**-iy-xo

          mother-DAT boy-ERG **bread.III.ABS** III-eat-PST.EVID-**COMP** III-know-PRS

          (The mother knows that the boy ate bread.)

Since, on the other hand, it is not possible for the agreement morpheme to skip the C head on its way to V, as this is prohibited by the HMC, we capture the fact that LDA is impossible in (71). In such cases, a class IV morpheme is inserted as a default in order to satisfy the morphological requirements of the verb.

An interesting feature of the analysis I just outlined is that it is consistent with the observation that gender agreement in Tsez seems to be generated in a low position, as suggested by the morphological structure of the verbal form.

(80)   a. bikori   b-exu-s

       snake.III.ABS   III-die-PST.WIT

       'The snake died.'

    b. už-ā   bikori   b-exu-r-st

       boy-ERG   snake.III.ABS   III-die-CAUS-PST.WIT

       'The boy killed the snake.'

    c. b-ac'-si- λin

       III-eat-PST.EVID-COMP

In all Tsez verbal forms the tense morpheme (fused to an evidential particle in the examples in 80) follows the verbal stem. In (80b), the morpheme *-r-* responsible for introducing an agent (compare to 80a) is sandwiched between the stem *–exu-* and the tense morpheme *-st*, suggesting that we are dealing with the spelled out form of a light verb head. Finally, the verbal form in (80c) (taken from 79) shows us a complementizer head following the tense morpheme. Overall, there seems to be support for the idea that head movement from V to C proceeds from head to head via left-adjunction, in such a way that the structure of the clausal skeleton is visible in the order of the morphemes on the verb, consistently with the Mirror Principle of Baker (1985). Interestingly, the agreement morpheme turns out to be the only one that precedes the verb, isolated from the complex of functional heads following it, including T(ense) and *v*. This suggests not only that this agreement is not generated on one of the core functional categories, but also that it originates in a very low position, either as a property of V or in an even lower head.[13] If this is

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[13] In some periphrastic constructions allowing for an absolutive subject (with a verbal form consisting of a converb followed by a tense auxiliary), it can be observed that the converb cross-references the absolutive object rather than the absolutive subject, while the tense auxiliary does not carry any agreement at all (Polinsky and Comrie 1999:113, example 8). The presence of the agreement morpheme on the converb

on the right track, the idea that LDA agreement originates within the nominalized complement becomes a sustainable alternative to an approach based on the idea that the embedded absolutive values the agreement features of a probe belonging in the matrix clause. The former is of interest to us because it allows us to explain the apparent violation of the DA in such constructions.

3.2.3.8 A possible iterated head-movement approach to Icelandic nominative object agreement

Consider finally nominative object agreement, as found in Icelandic quirky subject constructions. Our focus is on examples such as (18b), repeated here in (81).

(81)   Honum   lík**a**$_{\textbf{3PL}}$ **þeir**.

him.DAT like.3PL they.NOM

'He likes them.'

It is well-known since Zaenen, Maling and Thrainsson (1985) that the dative experiencer of such constructions sits in subject position, as it responds positively to a number of subjecthood tests (cf. op. cit.). It is also generally assumed that the agreement that cross-references the nominative object on the verbal form is generated on the same high functional head as regular subject agreement in nominative subject constructions. On the one hand, both forms of agreement are morphologically identical (except for a subclass of verbs we will be paying attention to in a

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rather than the auxiliary might support the hypothesis that the agreement is not generated on T. However, it is not possible to verify this interpretation because the auxiliary is consonant-initial. Verbs beginning in a consonant never show agreement (which is normally realized as a consonantal prefix or a zero morpheme), presumably because of a heavy restriction on complex word-initial onsets in the language, leading to deletion of the first consonant. As a consequence, it is not possible to discard the possibility that in such constructions each of the auxiliary and the converb carry an underlying agreement morpheme, which only surfaces on the converb for morphophonological reasons.

moment). On the other hand, agreement with a low nominative is disrupted by the presence of a dative experiencer in raising configurations (yielding 3SG default agreement, though not in all varieties), which follows as an intervention effect if subject agreement in such contexts reflects a valuation operation on the T probe (82).

(82) Það virðist/ *virðast einhverjum manni   [hestarnir   vera seinir]

EXPL seem.SG/ seem.PL some.DAT man.DAT   the.horses.NOM be   slow

'It seems to some man that the horses are slow.'   (Holmberg and Hroarsdóttir 2003)

We also saw, in section 3.2.2, that there are some reasons to think that the nominative object does not raise covertly across T. Our challenge is therefore to explain how the configuration in (81) is possible in apparent violation of the DA. I will be entertaining here the possibility of an analysis in terms of mechanism (67), to the extent that we are dealing with a relation between agreement borne by T and a low VP-internal controller. The question we face is whether it is viable to assume that the agreement found on T originates in fact in an even lower position than the surface position of the nominative object.

Koopman (2006) attempts precisely this kind of approach, based on a number of observations on nominative object constructions - I recapitulate here on the core elements of her analysis, and refer the reader to the relevant reference for fuller discussion. Her starting point is that nominative objects are only found with inherently dative subjects. This seems significant, because inherent dative, in turn, seems to be assigned by a specialized head external to VP. In some causative-inchoative alternations, for example, inherent dative can be assigned to the internal argument, but only in the transitive member of the pair (83a). In the intransitive member of the pair, the internal argument (promoted to subject position) is instead assigned nominative (83b). This makes sense if the causative configuration includes a specialized vP-layer (crucially absent in the inchoative configuration) that is responsible for inherent dative assignment.

(83) a. Skipstjorinn   sökkti skipinu   (Zaenen and Maling 1990)

the.captain.NOM   sank   the.ship.DAT

'The captain sank the ship'

b. Skipið   sökk

the.ship.NOM   sank

'The ship sank.'

Let us assume this interpretation to be on the right track. Now, if dative case is assigned by a specialized *v*, and nominative objects are only found with dative subjects, it is reasonable to assume that nominative case on objects depends on this *v* head as well. It is of course not the only alternative, but it allows us to relate the relevant phenomena in a systematic way. This hypothetical *v* head might be connected, Koopman conjectures, to the special *-st* morphology observable on certain dative subject verbs, the so-called middle voice [MV]. This morpheme, interestingly enough, follows the inflection.

(84)   strakunum   leiddi-st   öllum   i skola   (adapted from Sigurðsson 1991)

the-boys.DAT   bored-MV   all-DAT.MPL   in school

'The boys were all bored in school'

The connection between these three elements (inherent dative, nominative objects, and voice morphology) provides the basis for Koopman's approach to nominative object agreement. Her concrete proposal is that dative experiencer constructions are in fact clausal union environments, as a result of the selectional properties of the specialized dative head. On the one hand, this head would select an experiencer DP in its Spec, and assign it inherent dative – nothing too surprising

so far. On the other hand (and this is the real novelty Koopman introduces), it would select a special type of tensed clausal complement, headed by the Voice head –*st* (essentially equivalent to an embedded C). The basic structure of this complement would be roughly as in (85).[14] The DP generated VP-internally raises to subject position, where it is assigned nominative.

(85) $[_{VoiceP}$ -st $[_{TP}$ DP$_{NOM}$ T $[_{VP}$ V (DP) $]]]$
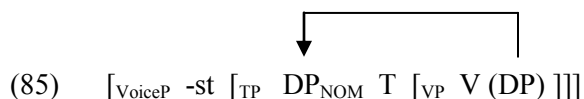
Once we add the matrix clause material, we obtain the configuration in (86). The inherent dative DP, selected in [Spec, vP], raises to matrix subject position.

(86) $[_{TP}$ DP$_{DAT}$ T $[_{vP}$ (DP$_{DAT}$) v $[_{VoiceP}$ -st $[_{TP}$ DP$_{NOM}$ T $[_{vP}$ V (DP) $]]]]]$

Under this analysis, the fact that the dative selecting head *v* also takes a tensed complement – that is, an environment in which nominative can be assigned - underlies the mentioned correlation between dative subjects and nominative 'objects' (the latter being in fact recasted as embedded derived subjects). While this result is appealing, it is legitimate to ask whether there is plausible independent justification for such an articulated structure above the lexical V. There is one possibility: we might take advantage of the fact that agreement between the nominative DP and T takes place below the Voice head in order to explain why the inflection is closer to the verbal stem than the -*st* morphology is in the final verbal form (cf. 84). However, this leaves us at odds to explain what happens to the higher T head in the output. Do we have to stipulate that it is deleted?

Koopman shows, based on previous observations by Sigurdsson (1996) and Schutze (2003), that there is in fact something important to be gained from having two T heads in the functional

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[14] For ease of exposition, I am omitting here the distinction Koopman makes between a nominative projection and a subject projection in the vicinity of T. In (85), the two positions are fused into the single [Spec, TP] position.

domain. Thus, suppose first that the higher T head receives 3rd person default valuation (number unspecified), as seems plausible from the fact that dative DPs are typically opaque to agreement (they do appear to be in Icelandic as well, although there has been some debate over the issue, cf. inter alia Taraldsen 1995, Boeckx 2000, Anagnostopoulou 2003, Hiraiwa 2005).[15] Next, assume that the agreement features of both T heads must be assigned to the same inflectional spot on the verb at Spell Out. Put another way, not only the dative subject verb must agree twice (with both the dative and the nominative DPs), but it is given the difficult task to express this double agreement through a single morpheme. The operation is successful if the output forms of the agreement features of the lower T and the higher T are morphologically identical, but it fails if the forms are not consistent. To the extent that the higher T must be spelled out as 3rd person, this means that only 3rd person verbal forms can satisfy the double agreement requirement, in case they are consistent with the morphological output of the lower T head.

These assumptions allow us to account for a seemingly disparate data set involving restrictions on the potential person features of nominative objects. The relevant observation is that 1st and 2nd person nominative objects are typically barred from dative subject configurations (cf. 87). 3rd person nominative objects, on the other hand, are not only allowed (88a), but seem in fact to control number agreement on the verb, suggesting that verbal agreement in such contexts is (to the extent that the 3rd person restriction allows for it) completely under the control of the nominative DP, as in nominative subject environments (a similar point is suggested by 82).

(87)   a. *Honum   lík-**um**   **við**.   (Sigurdsson and Holmberg 2008)

           him.DAT like-PRS.1PL we.NOM

           (He likes us.)

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[15] I am modifying here Koopman's assumption. In her approach, the higher T agrees with a 3rd person silent expletive in its Spec. I follow here instead Schutze (2003)'s version of the same idea: failure of agreement between T and the dative DP yields 3SG default valuation. I only depart from Schutze's hypothesis in that I assume default valuation to leave the number feature of T unspecified, in order to account for the fact that the final verbal output correlates in number with the nominative DP, instead of being rigidly singular.

b. *Honum   lík-**ið**   **þið**.

    him.DAT like-PRS.2PL you.NOM.PL

    (He likes you.)

(88)   a. Honum   lík-**a**   **þeir**.

    him.DAT like-PRS.3PL   they.NOM

    'He likes them.'

b. Henni   leidd-**ust**   / *? leidd-**ist**   **þeir.**   (Taraldsen 1995)

    her.DAT bore-PST.3PL   bored-PST.3SG they.NOM

    'She was bored with them.'

It is often claimed, based on influential analyses by Boeckx (2000) and Anagnostopoulou (2003), that the 3rd person restriction reduces to the Person-Case Constraint [PCC] (cf. Perlmutter 1971, Bonet 1991, Bejar and Rezac 2003, Ormazabal and Romero 2007), a common restriction whereby 1st and 2nd person direct objects are disallowed in presence of a dative indirect object. The analogy seems reasonable, but it does not extend to all cases. In particular, a dative subject verb such a *leiðast* ('find boring') do allow local person nominative objects, as (89) illustrates.

(89)   a. ?Henni   leidd-ust   þið.   (Schutze 2003)

    her.DAT bore-PST.2PL   you.PL.NOM

    'She was bored by you (PL).'

b. (?)Henni   leidd-ist   ég.

    her.DAT bored-PST.1sg 1SG.NOM

    'She was bored by me.'

c. (?)Henni   leiddist   þú.

    her.DAT bored-2SG you.SG.NOM

    'She was bored by you (SG).'

It may be possible, of course, that dative subject verbs separate into two classes: those that rule out local person nominative objects (such as *líka*, 'like'), and those that admit them (such as *leiðast* above). The latter, contrary to the former, would be subject to a PCC-like constraint. The situation is significantly muddier, however, as *leiðast* partially patterns with *líka* in that rules out 1st person plural nominative objects (cf. 87a, 90).

(90)   *Henni   leidd-umst   við.   (Koopman 2006)

    her.DAT bore-PST.1PL we.NOM

    (She was bored by us.)

The PCC hypothesis cannot account for this variation, because, in the languages where it holds, it behaves as a strong constraint. On the other hand, the assumption that dative subject verbs agree twice (and are left with a single inflectional morpheme to express this double agreement) provides us with a more promising basis to account for the 3rd person restriction *and* its exceptions. Thus, the main constraint we are considering is that the output of verbal agreement must be consistent with both 3rd person default agreement on the higher T (related to failure of agreement with the dative DP) and the agreement features on the lower T (controlled by the nominative DP). This predicts that a dative subject verb will admit a given nominative object to

the extent that the kind of agreement the latter triggers on the verb has the same morphological output as 3rd person agreement (singular or plural, depending on the number of the nominative) – that is, to the extent that 3rd person forms and local person forms are syncretic. The verb *líka* leaves little space for this to happen, as the following paradigm suggests (I will be focusing here on past tense paradigms).

(91) 1SG   líkaði   1PL   líkuðum

2SG   líkaðir   2PL   líkuðuð

3SG   líkaði   3PL   líkuðu

Except for the 1SG form *líkaði*, no other 1st/2nd person form is syncretic with a 3rd person form of the verb. This predicts that this particular verb will rule out 1st person plural nominative objects, as well as 2nd person (singular or plural) ones. This is indeed the case, as shown in (92), taken from Sigurdsson (1996)'s results of a survey involving 9 informants.

(92) a. Henni   líkuðum   við.   ok   ?   ??   ?*   *
         her.DAT   liked.1PL   we.NOM   0   0   0   2   7

b. Henni   líkaðir   þú.   ok   ?   ??   ?*   *
   her.DAT   liked.2SG   you.SG.NOM   0   0   0   1   8

c. Henni   líkuðuð   þið.   ok   ?   ??   ?*   *
   her.DAT   liked.2PL   you.PL.NOM   0   0   0   1   8

Now, we also predict from the paradigm in (91) that 1st person singular nominative objects should be allowed with the syncretic form *líkaði*. This is correct to a certain extent (cf. 93). The

speakers' judgments on this sentence reveal a general improvement with respect to the examples in (92).

(93) Henni   líkaði   ég.   ok   ?   ??   ?*   *

       her.DAT   liked.1/3SG 1SG.NOM   3   2   3   0   1

       'She liked me.'

The double agreement hypothesis allows us to explain, at least partially, why (93) should be better than its counterparts in (92). It is much less obvious how this contrast might follow from a PCC approach, since similar PCC configurations (in, say, Spanish) are hopelessly ungrammatical. Now, the fact that the sentence in (93) is not optimal for all speakers is unexpected under the relevant hypothesis, and suggests that the whole story might be more complex (for example, involving processing effects relative to the morphological coalescence of the two T heads). But it is encouraging that the *lika* nominative object paradigm behaves roughly as the double agreement hypothesis predicts it to, since this result could not be obtained under a PCC approach. The numbers above reveal that there are at least three individuals who feel a very strong contrast between (93) and (92a-b), and thus respond exactly as expected under the double agreement hypothesis.

This general tendency is also found with the verb *leiðast*, which exhibits more syncretism than *lika*. The past tense paradigm of this verb is as follows.

(94) 1SG   leiddist   1PL   leiddumst

     2SG   leiddist   2PL   leiddust

     3SG   leiddist   3PL   leiddust

There is only one non-syncretic form, *leiddumst* (1PL), which leads us to expect 1st person plural nominative objects to be ruled out. We already saw in (92) that this was indeed the case. Sigurdsson's survey points essentially in the same direction - although it is interesting to note that for a minority of speakers, (90) is not that bad.

(95) Henni   leidd-umst   við.   ok   ?   ??   ?*   *

      her.DAT   bore-PST.1PL   we.NOM   1   1   1   0   6

      (She was bored by us.)

On the other hand, there are two syncretic forms, *leiddist* (1-3SG) and *leiddust* (2-3PL), which complete the paradigm. According to the double agreement hypothesis, the former should allow 1st/2nd person *singular* nominative objects, while the latter should admit 2nd person *plural* ones. These predictions are fulfilled to a good extent, as already seen in (89) from Schutze (2003). The results of Sigurdsson's survey partially support the predictions, as shown in (96). While it is true that *leiddist* is generally found to be compatible with 1st/2nd person singular nominative objects (96a, b), *leiddust* is not equally perceived by all speakers to allow 2nd person plural nominative objects (96c).

(96) a. Henni   leidd-ist   ég.   ok   ?   ??   ?*   *

         her.DAT   bored-PST.1sg 1SG.NOM   5   3   0   0   1

         'She was bored by me.'

      b. Henni   leidd-ist   þú.   ok   ?   ??   ?*   *

         her.DAT   bore-2SG   you.SG.NOM   5   3   0   1   0

         'She was bored by you (SG).'

c. Henni	leidd-ust	þið.		ok	?	??	?*	*
her.DAT	bore-PST.2PL	you.PL.NOM		1	4	0	0	4

'She was bored by you (PL).'

The conclusion seems to be the same as for (92, 93): the double agreement hypothesis cannot account for judgment dispersion alone, and thus the facts call for further investigation.[16] However, the general tendencies do fit the hypothesis' predictions in a way that seems more than coincidental. In particular, it is striking that $1^{st}/2^{nd}$ person nominative objects are more likely to be accepted whenever the verbal form is syncretic, insofar as the *líka* and *leiðast* paradigms differ as to which forms are syncretic. No such result is available under a PCC approach, which predicts the examples in (93, 96) to be uniformly ungrammatical in the first place. Overall, then, there seems to be support for the idea that the dative subject verb exhibits double agreement through a single morpheme. We might account for this double agreement in terms of Multiple Agree between T, the dative subject and the nominative object, but in that case we will be unable to explain why nominative objects only appear with dative (and not, say, genitive) subjects, as pointed out by Koopman.

Looking back, then, Koopman (2006)'s approach to nominative object structures (if only the sketched and somewhat modified version I presented here) is certain to raise some questions. Jonathan Bobaljik, for example (p.c.), points out that the correlation between –*st* morphology and dative subjects is not an absolute: some –*st* verbs take nominative rather than dative subjects, and (as we saw here) not all dative subject verbs that take nominative objects exhibit –*st* morphology. This is relevant, because this correlation plays a crucial role in motivating Koopman's biclausal hypothesis, whose ultimate objective, in turn, is to account for the 3rd person restriction on nominative objects (via the double agreement analysis). However, this restriction holds on

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[16] Cf. Wood (2010) for an analysis of –*st* constructions that captures the contrast between (96a, b) and (96c) by capitalizing on the generalization that –*st* verbs are fully syncretic in the singular but not in the plural.

nominative objects generally, irrespective of whether the verb carries –*st* morphology or not. Assuming Koopman's double clause structure in contexts in which no such morphology appears might therefore require a certain leap of faith.

In addition, we might note that the hybrid modality of verb formation the biclausal structure hypothesis requires has an uncomfortable ad hoc character: thus, Koopman argues that the order of the morphemes (inflection followed by Voice) follows from head movement, and yet, it is necessary that the higher T is integrated to the morphological form via a some kind of coalescence with the lower T, a crucial procedure she does not discuss in detail.

In spite of this, it is worth emphasizing that Koopman's clausal union analysis allows for a preliminary account of both the 3rd person restriction and the link between dative subject and nominative objects, which is nothing to sneeze at, even if some refinements are necessary. With respect to our purposes, this analysis provides us with a way to explain the apparent violation of the DA in the typical Icelandic dative-nominative pattern. The relevant argument would be that the inflection is in fact generated very low, at the level of the lower T. Iterated head-movement would subsequently take it to the higher T, far away from its controller, along the lines of the mechanism in (67) (as noted, the procedure is idiosyncratic in that the higher T coalesces with the lower T morpheme, with the result that the final verbal form is only licensed when the morphological output of the higher T happens to coincide with that of the lower T). If so, the hypothesis that the nominative DP escapes the original c-command domain of the inflection becomes sustainable. We have no concrete evidence at this point that the nominative DP does target the lower [Spec, T] position (thus getting across its target and satisfying the DA), but this is plausible if VoiceP is a clause-like environment (as suggested by Koopman), as we would then expect the nominative DP (the single argument of its clause) to behave as an underlying subject.

3.2.3.9 Summary on the iterated head-movement hypothesis

Let us then summarize. The task we faced in the last two subsections involved examining the possibility that the apparent violation of the DA in LDA and nominative object agreement constructions could stem from iterated head-movement of the target far away from the derived position of its controller. We saw that, while the scopal properties of the nominative controller in Hindi LDA make this account unavailable in the relevant empirical domain, there are a number of reasons to think that such an account is sustainable in the domain of Tsez LDA and Icelandic nominative object constructions.

3.2.4 Summary of section 3.2

The theory of the DA predicts that the controller of agreement should move across a target that c-commands it. In this context, the constructions in (17-21) seem problematic at first sight, as they involve apparent violations of the DA given standard assumptions concerning the structures involved. As such, they are potential counterexamples to the DA theory of the connection between agreement and movement. The purpose of this section was to show that recent, related literature provides us with multiple resources to handle such constructions. In particular, we explored the possibility that the apparent violations of the DA in (17-21) could receive a potential reanalysis in terms of any of three basic hypotheses, as follows.

(97)   a. *Hypothesis 1*

         Contrary to appearances, the surface position of the controller is outside the c-command domain of the target.

b. *Hypothesis 2*

The controller moves covertly outside the c-command domain of the target. There is therefore a copy of the controller that satisfies the DA evaluation protocol (cf. 16b in section 2.2), but this copy is either not visible in the constructions under consideration, or not obviously a copy.

c. *Hypothesis 3*

The controller escapes the original c-command domain of the target earlier in the derivation, therefore satisfying protocol (16b). However, the target itself subsequently undergoes head-movement across the derived position of the controller, yielding the final configuration in which agreement appears to take place in violation of the DA.

Hypothesis 3, which introduces the most complex derivations by far, was considered in two guises: (i) local head-movement [henceforth LocHM], whereby the target would undergo head-movement to a position relatively close to that of the controller (cf. mechanism 66), and (ii) distant head-movement [henceforth DisHM], whereby the target would undergo iterated head-movement far away from the controller, thus completely obscuring the original DA-driven movement procedure (cf. mechanism 67).

The results of the discussion on hypotheses 1-3 were mixed. As discussed, no single hypothesis in (97) can deal with all of the constructions in (17-21. However, once we combine them, they are able to cover a fair deal of ground, as shown in Table 1.

Table 1

Construction	The apparent violation of the DA can be plausibly reanalyzed as	Reanalysis falls under
Agreement with associate in existentials (English)	Lower Right Corner effect (cf. Bobaljik 2002)	Hypothesis 2
Nominative object agreement (Icelandic)	Clausal union structure combined with long head movement (cf. Koopman 2006)	Hypothesis 3, DisHM version
Long Distance Agreement (Hindi)	Overt or covert movement of the controller into the matrix clause (cf. Chandra 2007)	Hypothesis 1 or 2
Long Distance Agreement (Tsez)	Generation of the target within the nominalized complement. The target then adjoins to the matrix verbal stem. (alternative to Polinsky and Potsdam 2001)	Hypothesis 3
Complementizer agreement (Dutch)	Unclear.	Unclear.
Prepositional agreement (Welsh)	Short head movement of the target across the controller (based on Koopman 2000, Svenonius 2008)	Hypothesis 3, LocHM version

Complementizer agreement, as noted, remains beyond our current reach. However, it was shown that the accounts proposed for the remaining constructions can be independently motivated, suggesting that an articulated approach based on adding the individual strengths of each hypothesis is sustainable overall.

It remains nonetheless true that a unified approach to (17-21), if it can be shown that it is (at least) equally sustainable, would be more desirable on conceptual grounds. The rest of this section is devoted to laying down the basics of such an alternative approach. Its fundamental idea is that the

apparent violations of the DA in (17-21) are due to the fact that the relevant kinds of agreement are not part of syntax proper. In turn, the empirical basis for this claim is that all the types of constructions under consideration admit agreement with one conjunct [henceforth *conjunct agreement*, or CA], which, I argue, is not an expected property of agreement in syntax. This, I believe, provides us with the opportunity to significantly improve over the articulated approach summarized in Table 1, both from a theoretical and an empirical standpoint.

3.3 Second pass: the conjunct agreement connection and the PF-agreement hypothesis

Let us consider some specific examples of the constructions in (17-21), as follows.

(98) a. There **is**$_{SG}$ **a man**$_{SG}$ in the garden.   [English existential]

  b. Habí**a**   **un hombre** en el jardín. [Spanish existential]

   was.PST.IPFV.**3SG** **a** **man** in the garden

   'There was a man in the garden.'

  c. Rahul-ne **kitaab** par:h-**ii** th**ii**   [Hindi absolutive agreement]

   Rahul-ERG **book.F** read-**PFV.F** be.PST.**FSG**   **(**Bhatt 2005**)**

   'Rahul had read the book.'

  d. Vivek-ne [**kitaab** par:h-n**ii**] chaah-**ii**   [Hindi LDA]

   Vivek-ERG **book.F** read-INF.**F** want-PFV.**FSG**   (Bhatt 2005)

   'Vivek wanted to read the book.'

e. Ich dink **de-s** **doow** morge kum-s. [Tegelen Dutch Complementizer

I think that-2SG you.SG tomorrow come-2SG agreement]

'I think that you will come tomorrow.' (van Koppen 2007)

f. arn**af** **i** [Welsh prepositional agreement]

on.**1SG me** (Borsley, Tallerman and Willis 2007)

'on me'

All of the constructions in (98) have at least two points in common. First, they are all configurations in which the DA seems to be violated, to the extent that the controller of agreement appears to be c-commanded by its target - something we have already discussed at length. Second, they all admit CA, as shown in (99). In Hindi (99c, d) agreement obtains with the last conjunct, while in all other languages in the relevant set, agreement takes place with the first conjunct.

(99) a. There is/*/??are [&P a cat and a dog] in the garden.

b. Había / ?* Habían [&P **un hombre** y dos gatos] en el jardín.
   was.PST.IPFV.**3SG / ??3PL** **a man** and two cats in the garden
   'There was a man and a cat in the garden.'

c. Ram-ne [&P ek thailaa aur **ek peTii**] uThaa-y**ii** th**ii** / ??uThaa-y**ii** th**ī:** / ?* uThaa-y**e** th**e**
   Ram-ERG a bag.M and **a box.F** lift-PFV.**F** be.**FSG** lift-PFV.F be.FPL lift-PFV.MPL be.MPL
   'Ram had lifted a bag and a box.' (Bhatt and Walkow 2011)

d. laRke-ne [[_{&P} chaataa   aur **chaRii**]   khariid-**nii**]   caah-**ii**   thii

    boy-ERG   umbrella.MSG and **stick**.**FSG**   buy-INF.**FSG**   want-PFV.**FSG** PST.**FSG**

    'The boy had wanted to buy an umbrella and a stick.'   (Chandra 2007)

e. Ich dink de-**s**   [_{&P} **doow** en ich] ôs   kenne treffe.

    I   think that-**2SG**   **you**   and I   each other can.PL meet

    'I think you and I can meet.'   (van Koppen 2007)

f. arn**af**   [_{&P} **i** a   Megan]   (Borsley 2009)

   on.**1SG**   **I**   and Megan

   'on me and Megan'

It is worth noting that none of the constructions in (99a-d) tolerates resolved agreement with a coordinated phrase (&P) controller - that is, agreement with the whole &P rather than one of its conjuncts. While this is also true of (99e,f), the reason in those particular cases seems to be at least partly morphological: Tegelen Dutch complementizers only inflect for second person, while Welsh prepositions only agree with pronouns. It is of interest, in any case, that Tegelen Dutch complementizers *have* to cross-reference the first conjunct of the following subject &P if this conjunct has the right features to trigger such agreement, as shown in (100).

(100)   . . . de-s   /*det   [_{&P} doow en   ich] ôs   treff-e.   (van Koppen 2007)

          that-2SG   that   you   and I   each other meet-PL

    '…that you and I will meet each other.'

It is significant that resolved agreement is unavailable in at least a subset of the constructions in (99), since (apart from Welsh) the relevant languages do not allow anything else than agreement

with the whole &P when the latter ostensibly c-commands its target - typically, when the &P sits

in subject position.

(101)   a. A cat and a dog are / *is in the garden.

      b. Un hombre y   una mujer   invadieron   / *invade   el jardín.

        a man   and a   woman   invaded.PL   invaded.SG   the garden

        'A man and a woman invaded the garden.'

      c. Ram   aur Sita   gaa rahe   h   / *rahii   hai.

        Ram.M and Sita.F sing PROG.M.PL be.PRS.PL / *PROG.F   be.PRS.SG

        'Ram and Sita are singing.'   (Bhatt and Walkow 2011)

      d. Doow   en   Marie   ontmoet-e / *ontmoet-s uch   (van Koppen 2007)

        you.SG and   Marie   meet-2PL   meet-2SG   each.other.2PL

        'You and Marie will meet each other.'

The case of Welsh, a VSO language, is an exception to this pattern, as finite verbs match instead

the behavior of prepositions in terms of their choice of a controller. Thus, they only agree with

pronouns (102), and, in the case of subject &Ps, with the first conjunct if the latter is a pronoun

(103).

(102)   a. Gwelodd   e / hi   ddraig.   (Borsley 2009)

        see.PST.3SG   he / she dragon

        'He saw a dragon.'

b. Gwelon   nhw ddraig.

   see.PST.3PL they dragon

   'They saw a dragon.'

c. Gwelodd   y   bachgen / bechgyn   ddraig.

   see.PST.3SG the boy   / boys   dragon

   'The boy/boys saw a dragon.'

d *Gwelon   y   bechgyn ddraig.

    see.PST.3PL the boys   dragon

(103)   a. Gwelaist   [ti   a   fi] geffyl

     see.PST.2SG you.SG and I   horse

    'You and I saw a horse.'

b. *Gwelon   [ti   a   fi] geffyl.

    see.PST.1PL you.SG and I horse

    (You and I saw a horse.)

Overall, the main point raised by these observations is that there is a robust correlation between, on the one hand, the fact that a given type of construction appears to violate the DA, and the other hand, the fact that it admits CA but not resolved agreement.

This link between CA and apparent violations of the DA does not disappear once one examines larger language samples, suggesting this is not a coincidental state of affairs. Thus, the languages that allow CA are split into two groups: (i) languages in which conjunct agreement can only arise when the controller seems to remain within the c-command domain of the probe in a way that

should induce a violation of the DA (for example the languages considered in the sample in 98), and (ii) languages in which conjunct agreement can take place whether the controller is outside or inside the c-command of the probe (these patterns are found in languages such as Swahili or Serbo-Croatian, cf. inter alia Krifka 1995, Corbett 2006, Bošković 2009, Riedel 2009). A third class is conceivable which would only allow conjunct agreement in case the controller is outside the c-command domain of the probe (thus satisfying the DA via protocol 16b, which is consistent with the hypothesis that agreement relations are subject to the INP). However, no language seems to behave this way. In other words, *if a language allows conjunct agreement, it allows it at least in apparent violation of the DA*.

Note that the latter statement is only accurate to the extent that agreement is subject to the DA-INP. If agreement were instead subject to the DA-CLP (contrary to my proposal in chapter 2), the correlation would become absolute, given that a controller conjunct located outside the c-command domain of its target cannot, by definition, c-command it: a conjunct does not c-command outside its &P. Under the DA-CLP scenario, *if a language allows conjunct agreement, it allows it in apparent violation of the DA*.

None of the approaches considered in section 3.2 provides us with any insight into why such a connection should exist. The reason, I argue, is that all of them are based on the assumption that the kinds of agreement observable in (17-21) are the result of an Agree operation. However, there is a concrete reason to think that CA cannot arise from Agree, which is related to the notion of *intervention by dominance* first mentioned in chapter 2. Section 3.3.1 will focus on this notion and develop an argument against the idea that a maximal projection and its specifier are equidistant from a c-commanding probe. It follows that an &P, if it bears features that could trigger agreement, should act as a relativized (and possibly defective) intervener preventing the first conjunct from being accessed by the probe. As a result, CA should not be able to obtain in syntax as long as the &P inherits some feature(s) from its conjuncts. This is relevant for the theory of the DA, as it opens a potential line of analysis I had not considered in section 3.2, which

is that, precisely because the DA predicts that agreement configurations such as a (17-21) should not be allowed by syntax (at least under usual assumptions about the structures concerned), it might be the case that they are not in fact syntactic. I submit that this is a welcome prediction, as CA in the relevant constructions violates (syntactic) minimality, and displays instead sensitivity to adjacency, thus suggesting that the kinds of agreement under consideration are generated at Phonological Form. I will show that these claims are supported by the data patterns found in Hindi (section 3.3.2) and Welsh (section 3.3.3), where the assumption that CA takes place at PF allows us to bypass the difficulties associated to an Agree approach, while being perfectly consistent with the data. Finally, section 3.3.4 will provide the general lines of a theory of PF agreement based on the ideas of the previous sections.

3.3.1 DomLoc, ComLoc, and symmetry

3.3.1.1 On van Koppen (2007)'s strategy for CA

A number of recent accounts of CA in such different languages as Dutch (van Koppen 2007), Hindi (Bhatt and Walkow 2011), or Serbo-Croatian (Bošković 2009), are at least partially based on the idea that, for one reason or another, agreement between a probe and an &P in its c-command domain fails, thus triggering an auxiliary mechanism such as Secondary Agree (Bošković 2009, based on Bejar and Rezac 2003, 2009) or some modality of PF resolution (van Koppen 2007, Bhatt and Walkow 2011). I will adopt here the same general strategy (following in particular van Koppen's approach), but will depart from some assumptions made in the abovementioned studies. In particular, I will argue (i) that a maximal projection and its specifier are not equally local with respect to a c-commanding probe, with the former being expected to take precedence over the latter (against fairly standard assumptions rooted in Chomsky 1995's

Shortest Attract principle), and (ii) that, as a result, the possibility that one of the conjuncts might become a controller of agreement never arises in syntax.

Let us then consider as our starting point, and in relatively language-independent terms for now, the mechanics of the elegant account of CA proposed in van Koppen (2007), which is based on the frequent assumption that a maximal projection and its (upper) specifier are equidistant from a probe that c-commands both. I will first elaborate on this assumption. Consider in this sense the structure in (104).

(104)

```
          ●
         / \
        /   \
       H     ●
            / \
           /   \
          XP    …
         / \
        /   \
       Y     …
```
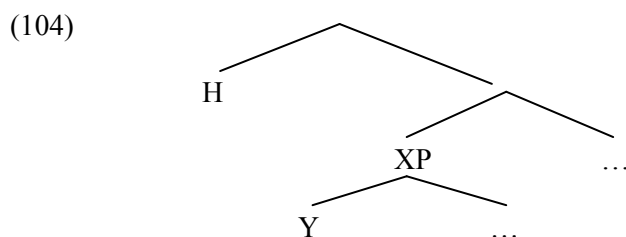
In (104), the inflectional head H (a probe) c-commands both XP and its specifier Y, which we may assume to be potential goals. The question then arises as to which goal is closer to H. Van Koppen adopts the fairly standard assumption that, although XP dominates Y, both are considered equally local with respect to H, based on the idea that the metric of locality for a probing procedure is based on c-command. This particular notion of locality (which I will henceforth label *ComLoc*) can be stated as follows (the following formulation of the relevant locality condition follows closely that of Rackowski and Richards 2004).

(105)   *C-command-based metric of locality [ComLoc]*

Given a probe P c-commanding potential goals G_1 and G_2, G_1 is closer to P than G_2 if there is a node X c-commanded by P such that X c-commands G_2 but does not c-command G_1.

An interesting consequence of ComLoc is that neither of XP or Y counts as closer goal to H in (104), because there is no X such that X c-commands one of XP or Y but not the other. In other words, in a configuration such as (104), where XP immediately dominates Y, both are equally close to the c-commanding head H. This provides us with a basis to understand why CA can obtain in a significant subset of the constructions in (98, 99), under the assumption that &Ps have the structure in (106) – cf. Munn (1987), Zoerner (1995), Camacho (1997), Johannessen (1998), de Vries (2005), among others; cf. also Camacho (2003) and Zhang (2010) for alternative views.

(106)

$$
\begin{array}{c}
\&P \\
XP_1 \qquad \&' \\
\& \qquad XP_2
\end{array}
$$
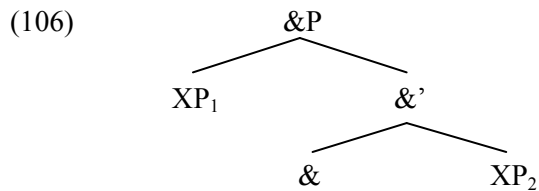
Since the first conjunct sits in the specifier of &P, it follows that both &P and its specifier are equidistant to a probe that c-commands both. This presents the syntactic component with a dilemma: which of these equally distant goals should control agreement? The answer van Koppen (and Boskovic 2009, as well) proposes is that this uncomfortable situation is unsolvable by definition. To the extent that both goals are equally local, neither can take precedence over the other, and thus the syntactic component is unable to determine a controller for agreement. Following van Koppen's account, the problem is passed on to the post-syntactic component, which determines which of &P or its specifier should control the unresolved agreement based on the morphological resources of the language. Concretely speaking, the candidate that triggers insertion of the most specified form agreement will be given preference. In Tegelen Dutch, for example, complementizers have only two forms: inflected for 2SG, or uninflected. Since an &P can only trigger plural agreement (which is instantiated as an uninflected form), it follows that a 2SG first conjunct should take precedence over the whole coordinate structure in controlling agreement on a complementizer (thus resulting in a more specified agreeing form), and this is

indeed what is observed (cf. 100). We may conduct a similar analysis of CA in English existentials, based on the plausible assumption that the form *is* is more marked than the form *are*, which behaves as the elsewhere agreement (cf. Halle 1997, Nevins 2006). It follows that in (107), where the &P is plural but the first conjunct is singular, agreement should obtain with the latter, which is consistent with the facts.

(107)   There **is/**$^{??/*}$**are** [$_{\&P}$ **a man** and two dogs] in the garden.

While van Koppen's account of CA is certainly appealing with respect to the relevant data, it is not clear that it provides us with a theoretical basis for a unified account of the CA constructions in (99). It is not clear, for example, that agreement in Spanish existentials behaves as expected: thus, CA obtains systematically with a singular first conjunct rather than the plural &P that contains it, even though the plural form *había-n* [be.PST-PL] is morphologically more marked than the singular form *había-∅* [be.PST-∅]. This is unexpected if the most marked form of agreement is always chosen in cases of ambiguity. Next, it is not possible to assume that CA in Hindi stems from the inability of syntax to determine whether the &P or one of its conjuncts should determine agreement. Thus, Hindi exhibits Last Conjunct Agreement, as exemplified in (99c). As far as the syntactic component is concerned, there should be no ambiguity in identifying the controller of agreement in such cases, since the &P is clearly closer to the T probe than its last conjunct by the ComLoc definition of closeness - there is a node X (the first conjunct) that c-commands the last conjunct but not the &P. Yet, it is the last conjunct that controls agreement, not the &P.

Additional problems arise when we try to extend van Koppen's account to the other languages under consideration in (99). Thus, on the one hand, we saw that some of these languages (perhaps all of them) only admit resolved agreement when the &P clearly c-commands its target. Now, in those situations, it is arguably the case that agreement obtains before the &P moves to its surface

position, i.e., when the &P is still within the c-command domain of the target/probe. If so, the fact that only resolved agreement is allowed in such configurations is unexpected under the assumption that syntax cannot decide which of two equidistant goals should control agreement.

This problem might be solved through an auxiliary assumption, which would state that c-command must always hold between the terms of an agreement relation, so that the controller must always sit in a position from which it c-commands the target. The main consequence of such an assumption is that the probe cannot agree with a subconstituent of a phrase XP if the latter subsequently moves across the probe. This in turn predicts that the first conjunct of an &P will not be not an appropriate controller of agreement if the &P escapes the c-command domain of the probe in subsequent stages of the derivation. If so, the fact that the &P moves across the target of agreement helps solve the initial equidistance conundrum involving the &P and its first conjunct. Now, while this solution seems reasonable, I would argue against it. Thus, we saw in chapter 1 that there are some reasons to think that not only is agreement possible when neither the probe nor the goal c-command the other, but also that this configuration is not in any sense worse than a configuration in which the goal c-commands the probe (cf. in particular the Swedish VP-topicalization examples, where OS can obtain simultaneously with a pronoun staying in the fronted VP, even though the latter could also undergo OS, in which case it would c-command the target of agreement). Assuming this to be on the right track, it is not possible to address the problem of resolved agreement in contexts where the &P c-commands the target through the hypothetical requirement that c-command must always hold between the terms of agreement.

Finally, I would like to suggest that there is a fundamental issue with the assumption that syntax cannot deal with cases of ambiguity, including the scenario in which several equidistant goals compete for one probe. This assumption turns out to be crucial in van Koppen's justification that the matter of which of &P or its first conjunct controls agreement is automatically resolved at PF (Boskovic 2009 also makes this assumption, but allows the possibility for syntax to repair the problem through an auxiliary mechanism). The problem I see with this assumption is that natural

language does exhibit many instances of (arguably) equidistance-induced optionality: these are the symmetric constructions, well-known in the literature on applicatives. Consider for example the syntax of a dative experiencer verbs and passivized ditransitives in Icelandic. On the one hand, a subclass of experiencer verbs, which I will refer to as the *líka*-class, displays an asymmetry concerning the potential movement of its arguments to the subject position. Thus, it is possible for the dative experiencer to target this position (108a), but it is not possible for the nominative source argument to do so (108b) - the adverb in initial position controls for V2.

(108) a. Líklega hafa **henni** líkað þeir.   (Sigurdsson 2004)

probably have.3PL **her.DAT** liked they.NOM

'She has probably liked them.'

b. *Líklega hafa **þeir** líkað henni.

probably have.3PL **they.NOM** liked her.DAT

Hence, the *líka*-class is inherently asymmetric. We can straightforwardly make sense of this by assuming that this asymmetry is the same we observe in regular NOM-ACC verbs (cf. Thrainsson 2008: 21-22), which presumably arises from locality considerations. In some sense, the experiencer argument is closer to the subject position than the source argument. This rules out the possibility of the latter moving to the subject position across the former. Now, if this is on the right track, the patterns in (109, 110) become especially interesting. (109) illustrates the availability of the subject position for both arguments of dative experiencer verbs belonging to what I will call the *henta*-class – called alternating DAT-NOM/NOM-DAT verbs by Sigurdsson (2004). In (109a), the dative experiencer moves to subject position, thus reproducing the *líka*-class pattern in (108a). But *henta*-class verbs also allow the nominative source to move across the dative in order to reach the relevant position (cf. 109b).

(109)   a. Líklega   hafa   **henni**   ekki hentað þau.   (Sigurdsson 2004)

probably have.3PL **her.DAT** not   suited   they.NOM

'Probably, they were not suitable to her.'

b. Líklega   hafa   **þau**   ekki hentað henni.

probably have.3PL **they.NOM** not   suited   her.DAT

'Probably, they didn't suit her.'

This kind of symmetry can also be observed with the arguments of some passivized ditransitives (Schutze 1997, Sigurdsson 2004).

(110)   a. Líklega   hafa   **henni**   verið gefin þau.   (Sigurdsson 2004)

probably have.3PL **her.DAT** been given they.NOM

'Probably, they have been given to her.'

b. Líklega   hafa   **þau**   verið gefin henni.

probably have.3PL **they.NOM** been given her.DAT

'Probably, they have been given to her.'

The question arises as to what the source of symmetry is in (109, 110). One straightforward possibility is that the relevant verbs, contrary to verbs of the *líka*-class, admit more than one underlying structure. For example, we might assume that they can project their arguments in two different ways, as illustrated in (111, 112).

(111)   *henta*-class

   a. [experiencer [V source]]

   b. [source [V experiencer]]

(112)   *gefa*-class ('give')

   a. [goal [V theme]]

   b. [theme [V goal]]

Alternatively, we might assume that these verbs allow a short movement of their internal argument across the higher one (i.e., some sort of OS not subject to Holmberg's Generalization). In either scenario, the ambiguous underlying structure hypothesis finds support in the fact that verbs of the *gefa*-class allow for inversion of the objects in active contexts (Maling 2002, Thrainsson 2008), as shown in (113).

(113)   a. Hann   gaf   konunginum   ambáttina   (Thrainsson 2008)

        he   gave   king-the.DAT maidservant-the.ACC

        'He gave the king the maidservant.'

        b. Hann gaf   ambáttina   konunginum.

        he   gave maidservant-the.ACC king-the.DAT

        'He gave the maidservant to the king.'

If the verbs in (111, 112) are able to alternate in the relevant way, then we have a straightforward explanation for the symmetry effects observed in (109, 110). Thus, the subjects in these sentences

would be generated as the higher underlying argument of the relevant verbs according to the possibilities in (111, 112), which makes them closer to the [Spec, T] position. Alternatively, we can imagine that the internal argument is allowed to move across the higher one (for example, yielding the distributional pattern observed in 113b), which in turn makes it closer to subject position if the external argument is missing.

There is nonetheless a problem with this view, as it is known that object inversion in ditransitives is illicit when the dative argument is a pronoun (cf. 114, 115, from Thrainsson 2008:99). This makes it difficult to explain the symmetry effect in (110) based on the possibility of object inversion with the relevant class of verbs.

(114)   a. Bóndinn   gaf   honum   bjarndýrið.

             the.farmer gave him.DAT the.bear.ACC

             'The farmer gave him the bear.'

         b. * Bóndinn   gaf   bjarndýrið   honum.

             The.farmer gave the bear.ACC   him.DAT

(115)   a. Bóndinn   gaf   honum   það.

             the.farmer gave him.DAT it.ACC

             'The farmer gave it to him.'

         b. *Bóndinn   gaf   það   honum.

             the.farmer gave it.ACC him.DAT

Thus, if the symmetry effect observed with some passivized ditransitives followed from the possibility of underlying object inversion making the theme argument closer to subject position,

we would expect no symmetry to arise in case the dative is a pronoun, as this would block object inversion. More concretely, we would not expect the theme argument to be able to target the subject position in presence of a dative pronoun. However, this is exactly what we see in the grammatical (110b).

It might then be the case that the symmetry effects in (109, 110) have a different explanation. The possibility I would like to suggest (which goes back to at least Chomsky 1995) is that we are dealing with real symmetry, in the sense that none of the DPs in (109, 110) is closer to the subject position than the other - in other words, they would be equidistant, despite the possibility that c-command might hold between them in their base positions. This, of course, does not follow from ComLoc: we would have to frame locality differently. The relevant locality principle should provide us with a way to explain the contrast between the asymmetric pair in (108) and the symmetric examples in (109, 110), given plausible assumptions on the underlying structures involved. In the next subsection, I will try to suggest an alternative of this kind, which will turn out to have some implications for the analysis of CA structures such as those in (99).

What I believe the Icelandic symmetric examples tell us, from a more general perspective, is that syntax is not afraid of ambiguity: given two equidistant candidates for a movement procedure, the grammar allows either one to undergo the procedure, if the structure is otherwise well-formed.[17]

If this interpretation is on the right track, it follows that we cannot assume, as van Koppen does, that agreement between a probe and two equidistant goals cannot be handled in syntax. This is important, because one of van Koppen's central insights is that CA seems to obtain whenever it allows for a more specified form of agreement than agreement with the &P. Since this largely depends on the lexical items available for insertion in the position of agreement, it suggests that it is essentially a late insertion procedure, and so it is necessary that, at the point of insertion, the syntactic component has not made up its mind relative to which of the equidistant goals should

---

[17] Cf. Anagnostopoulou (2003) for another argument in favor of equidistance involving a contrast with respect to whether dative intervention holds or not between raising constructions and passivized ditransitive constructions in Greek, Italian and French.

control agreement. However, we just saw that there are some reasons to think that choosing among equidistant goals should not be a problem for syntax.

In the rest of this section, I will follow van Koppen's general strategy of assuming that it is because something goes wrong in syntax concerning agreement between a functional head and an &P that CA can arise, as a by-product of post-syntactic operations. I will nonetheless implement it differently: on the one hand, I will incorporate into it the possibility that syntax can handle equidistance, which, as we will see, gives us a concrete reason to think that CA cannot obtain in syntax - if anything, a result consistent with van Koppen's hypothesis that CA obtains post-syntactically. On the other hand, I will show that there are other converging reasons, some of them well-documented in the literature, to think that CA (in at least a subset of the languages in 83) does not take place in syntax. This is relevant to the purpose of this section, to the extent that CA largely obtains in contexts in which the DA seems to be violated.

3.3.1.2 DomLoc, symmetry, and implications for CA

The alternative approach I would like to suggest is based on a different definition of locality in syntax, with dominance by a maximal projection being assigned a prominent role - thus closer to the definition of locality adopted in Chomsky (1993). The concrete formulation I will adopt is given in (116), where I assume that the dominance relation is not reflexive.

(116)   *Dominance-based metric of locality [DomLoc]*

Given a probe P and two goals G_1 and G_2 in the c-command domain of P, G_1 is closer to P than G_2 if there is a node X such that X is a maximal projection and X dominates G_2 but not G_1.

The patterns of intervention defined by DomLoc differ to some extent from those predicted by ComLoc. A significant difference is the pattern of *intervention by dominance*, whereby a maximal projection XP has the potential to get in the way of a relation between a c-commanding probe and the specifier of XP. This occurs because XP (if it is a potential goal) is a maximal projection and dominates its specifier, but does not dominate itself. I assume this kind of intervention to be relativized, in the sense that XP only becomes an intervener in the relevant context if (like its specifier) it bears the features the probe is looking for. On these grounds, (117) illustrates the typical configuration where intervention by dominance obtains (both α and β, not necessarily distinct, are possible values of the feature F). The reader can already see that this schema will directly apply to the CA cases under discussion, by precluding agreement with the first conjunct if the maximal projection &P bears features that can trigger agreement.

(117)

Agree (H, Y) is blocked by the XP intervener.
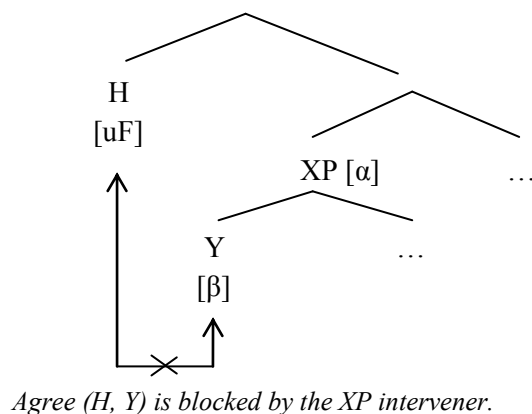
The notion of intervention by dominance as described here raises a number of questions.[18] I will focus on the questions in (118): questions (118a, b) bear on the motivation for DomLoc, and,

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[18] Jonathan Bobaljik (p.c.) points out a potential paradox with the proposed definition of DomLoc in (116). Thus, according to this definition, G_1 would be closer to P than G_2 in the configuration in (i) (because there is a maximal projection, namely ZP, that dominates G_2 but not G_1), but at the same time G_2 would be closer to P than G_1 (because there is a maximal projection, namely YP, that dominates G_1 but not G_2).

(i)   [P [$_{XP}$ [$_{YP}$ …G_1…] [$_{X'}$ X [$_{ZP}$ …G_2…]]]]

optimally, should remain independent from its hypothetical role in explaining the CCA patterns relevant to (118c).

(118) a. Is DomLoc enough to account for the fundamental locality asymmetries ComLoc addresses?

b. Does it provide any empirical advantage over ComLoc?

c. What are the implications of DomLoc with respect to those cases in which CA preempts resolved agreement?

Consider then question (118a). First of all, what are the 'fundamental locality asymmetries' addressed by ComLoc? One instance involves a broad range of subject/object asymmetries, such as those concerning wh-movement in multiple wh-questions, a phenomenon traditionally known as *superiority* (Chomsky 1973). As is well-known, wh-subjects can move overtly to the single [Spec, C] position in such environments (119a), but wh-objects cannot (119b) (the issue of D-linking is swept under the rug here, for ease of exposition). The question therefore arises as to what property makes wh-subjects able to block overt movement of a wh-object.

It is possible to close the loophole by modifying the definition of DomLoc as follows.

(ii)   Given a probe P and two goals G_1 and G_2 in the c-command domain of P, G_1 is closer to P than G_2 iff (a) there is a node X such that X is a maximal projection, (b) X dominates G_2, (c) X does not dominate G_1, and (d) every node that dominates G_1 also dominates G_2.

Under this definition, neither of G1 or G2 in (i) is closer to P than the other, and thus no paradox arises. Now, it is worth asking whether the loophole should be closed or not. Thus, I have not found thus far any construction which would instantiate the kind of configuration in (i). One possibility is that such constructions do in fact not exist, in which case one reason for this might be that (116) holds, and thus, that a configuration such as (i) would induce a paradox that the computational system cannot resolve. Another possibility is that such configurations do exist, in which case (116) would clearly not hold, and might need to be replaced by (ii), unless the properties of the relevant constructions suggest otherwise (for example, it might be the case that they are asymmetric, so that one of the goals always controls agreement on P: this state of affairs would not be captured by (ii), and thus further refinements would be necessary). While it is necessary and useful to I acknowledge these possibilities, I do not see any empirical reason at this point to depart from (116), however.

(119) a. Who bought what?

   b. *What did who buy?

Such phenomena follow straightforwardly from ComLoc. Thus, both wh-words in (119) are potential candidates to target [Spec, C], but, since the subject asymmetrically c-commands the object (which entails that there is a node X that c-commands the object but not the subject), it is closer to the relevant position. As a result, the derivation in (119b) is ruled out by intervention. Another kind of asymmetry addressed by ComLoc arises in a subset of A-over-A contexts (Chomsky 1964, Ross 1967), as Rackowski and Richards (2004) point out. The relevant phenomenon has to do with the impossibility of extracting a given constituent of category A from a larger constituent of the same category, in case the latter is a potential candidate to the movement procedure we want to apply to the former. For example, it is not possible to topicalize a DP that is contained in another topicalizable DP.

(120) a. I won't forget [DP my trip to [DP Africa]]   (Kerstens, Ruys and Zwarts 1996-2001)

   b. *Africa, I won't forget [DP my trip to [DP Africa]]

   c. My trip to Africa, I won't forget [DP my trip to [DP Africa]]

It is possible to account for this asymmetry in terms of ComLoc, based on the fact that there is a set of nodes that c-command the smaller DP but not the larger one containing it (i.e. {my, trip, to}). It follows that the larger DP is closer to the topicalization site than the smaller DP. These examples are especially relevant, because they show that it is not necessary for c-command to hold between two potential competitors to a given position in order to determine, based on ComLoc, which one is closer to that position. In the case of (120), the larger DP counts as closer to the topicalization position than the smaller DP, even though neither DP c-commands the other.

These core locality asymmetries are not problematic for DomLoc, which performs equally well in predicting the right outcome. The subject/object asymmetry in multiple wh-questions follows from the fact that, under standard assumptions about clause structure, there is at least one node that is a maximal projection and dominates the object but not the subject, namely, the VP. As a result, the subject counts as closer to the [Spec, C] position than the object.[19] The A-over-A cases are also straightforwardly accounted for in terms of *intervention by dominance*: in (120), for example, there are at least two nodes, NP and PP, which are maximal projections and dominate the smaller DP but not the larger one. But it is in fact not necessary to count every intermediate node to determine which one should count as closer to a higher position in this particular context. The mere fact that the smaller DP is contained within the larger one is enough to find out, based on DomLoc, which one is more local in case both are potential competitors seeking to establish a relation with some higher target. Thus, under the assumption that dominance is not reflexive, the larger DP does not dominate itself. It follows that there is a node that dominates the smaller DP, but does not dominate the larger DP. The latter is therefore closer to a higher target than the former.

Thus, if anything, it would seem that DomLoc has the potential to address the fundamental locality asymmetries ComLoc was designed to account for. Let us then turn to question (118b): is there any empirical advantage to be gained by adopting DomLoc rather than ComLoc? I think there is at least one, which concerns the Icelandic symmetry effects discussed in the previous subsection. As we saw, the concrete problem for a ComLoc-based approach to the *gefa*-class ('give') paradigm is that this verb class does not allow object inversion when the dative is a

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[19] What if the wh-object raises to the edge of *v*P prior to any scope-driven movement? Notice that such a situation would also be problematic for ComLoc, since it is not clear that the wh-object will land below the base position of the wh-subject. In such cases, by DomLoc, both wh-phrases would be equidistant from any upper target position (at the edge of vP, there is no maximal projection that dominates one of them but not the other), with the important difference that the object has been deactivated for further A-movement. As a result, only the subject is an appropriate goal for the T probe, which attracts it to the [Spec, T] position. It follows that, when the [+wh] complementizer is inserted in the structure, there is a maximal projection node, *v*P, such that it dominates the object, but not the subject.

pronoun (the underlying order of the objects must necessarily be IO-DO), and yet a direct object can target the subject position across a dative pronoun in passive contexts. The problem dissolves in a DomLoc-based approach, under the assumption that both objects are generated within the same maximal projection. This is consistent with the traditional view of ditransitive VPs (cf. Barss and Lasnik 1986), but might be more difficult to accommodate within more recent frameworks, in which the IO is often assumed to be selected by a specialized applicative head, rather than the verbal root itself. We still have a way to do so, however, based on Pylkkanen (2002)'s proposal that verbs denoting transfer of possession (such as *give*) select a low applicative complement in which both objects are generated, as illustrated in (121).

(121)

```
              VP
             /  \
            V    ApplP
                /    \
               IO    Appl'
                     /    \
                   Appl    DO
```
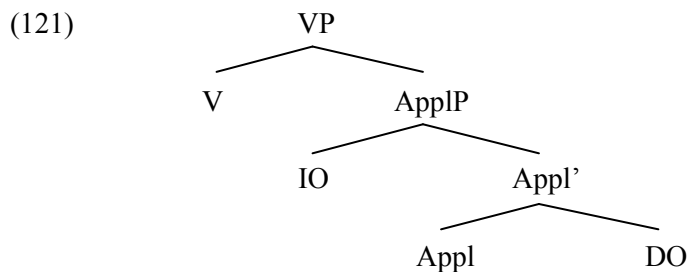
Assuming Pylkkanen's proposal to be on the right track, and the structure in (121) to be an adequate description of the *gefa*-class applicative configurations, it follows that there is no maximal projection such that it dominates one object but not the other when both objects occupy their base positions. As a result, they are equidistant from an upper target in terms of DomLoc, and thus they are both eligible to target the subject position in the absence of an external argument. This explains why the symmetry persists even when the dative argument is a pronoun and object inversion is unavailable. I submit that this is an advantage for DomLoc over ComLoc. Let us then finally address question (118c): what are the implications of DomLoc with respect to those cases in which CA preempts resolved agreement? In a nutshell, DomLoc's prediction is that CA should never obtain. Consider first the case of First Conjunct Agreement [FCA], as observed in the head-initial languages in (99). The basic crucial configuration is given in (122).

(122)

```
              P
                        &P              …
                   DP₁       &'
                         &       DP₂
```
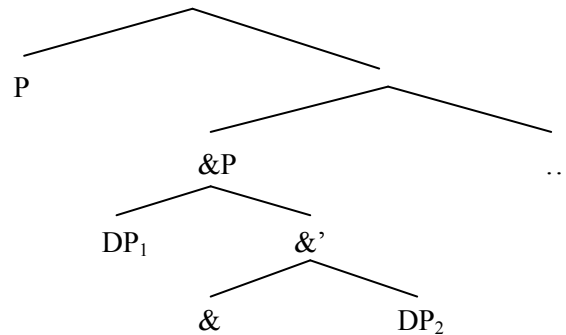
I assume the &P as well as any of its DP conjuncts to be potential goals for P. This is plausible, as DPs are potential controllers of agreement in most languages in the relevant set, while &Ps, which bear at least number, were noted in (101) to be able to control agreement on a c-commanded target (the strictly head initial language Welsh is an exception on both counts, however: we will get back to this particular case in section 3.3.3). Now, the fact that the &P is a potential goal induces the effect we called *intervention by dominance*: by DomLoc, the &P counts as closer to the probe P because there is a maximal projection that c-commands both conjuncts but not the &P, that is, the &P itself. It is interesting to note that DomLoc predicts both conjuncts to be equidistant to P, but this is irrelevant given that they are dominated by a maximal projection that is also a potential goal. One might be tempted to assume that the &P is poorly specified (i.e., not *phi-complete*, in Chomsky's terms), so that it is not really a potential controller of agreement. This might explain why the probe bypasses it in order to reach one of the conjuncts. However, it is not possible to take this way out of the problem, since, as observed above, &Ps are able to control agreement in some contexts, which in turn means that they carry features that enable them to do so. As a result, they must be potential goals, and, even if they were - in some sense - poorer controllers than one of their conjuncts, we would expect them to induce, at least, a defective intervention effect. This conclusion extends to cases of Last Conjunct Agreement [LCA] as found

in Hindi (cf. 99c, d), in which, under DomLoc, we would still expect the &P, rather than the last conjunct, to control agreement.

It follows that resolved agreement should systematically preempt CA, but this is not the case in the particular configurations in (99). I interpret this as evidence that the kinds of agreement observed in this set do not obtain in syntax. Yet, they *do* somehow obtain, and thus we are entitled to ask why the relevant agreement operation does not proceed under syntactic conditions. The scenario I will suggest (following in part van Koppen's strategy) is that, in at least a subset of the relevant configurations, a syntactic agreement operation is disrupted by defective intervention.[20] As a consequence, the syntactic output is left with an unvalued probe. The languages under consideration offer nonetheless the possibility of solving the problem by providing the probe with a controller in the post-syntactic component. This PF-agreement mechanism, however, would not be subject to the conditions holding on agreement in syntax. In particular, it seems (i) that PF-agreement does not obey locality conditions proper to syntax (involving either DomLoc or ComLoc), and (ii) that it is not subject to the DA. We have seen that there are number of reasons to think that expectation (i) is correct. Additionally, research on CA in languages such as Hindi has revealed that adjacency is a primary factor in determining the controller of conjunct agreement, which is expected if such agreement takes place at PF - this will be the focus of the next subsection. To the extent that the insensitivity of CA to syntactic locality can be further substantiated, we would have a straightforward explanation for the fact that, in the particular configurations in (98, 99), the controller of agreement does not appear to escape the c-command domain of its target.

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[20] The remaining configurations, in which it is much less obvious that an intervention effect is at play, might illustrate cases of 'pure' PF-agreement. I will get back to this possibility in section 8.3.4.

3.3.2 Closest Conjunct Agreement in Hindi

Let us then focus on the properties of CA in Hindi, which strongly suggest a PF-agreement procedure (Benmamoun, Bhatia and Polinsky (2009), Bhatt and Walkow (2011, to appear)). Allow me to start with some background on gender and number agreement in Hindi. The main generalization concerning such agreement is that it tracks the higher unmarked argument (Bhatt 2005). In nominative subject constructions (associated with imperfective aspect), it is the subject that controls agreement irrespective of whether the object is marked or not (123). In ergative subject constructions (associated with perfective aspect), agreement obtains with the object (124). When both the subject and the object are marked (because of a conspiracy of factors involving aspect-related ergative marking on the subject and differential *ko*-marking on a specific object), agreement surfaces as default masculine singular (125).

(123)   *Unmarked subject and object: agreement with subject.*   (Bhatt 2005)

          Rahul   kitaab   par:h-taa   thaa
          Rahul.**M**   book.F   read-HAB.**MSG**   be.PST.**MSG**
          'Rahul used to read (a/the) book.'

(124)   *Marked subject, unmarked object: agreement with object.*

          Rahul-ne   kitaab   par:h-ii   thii
          Rahul-ERG   book.**F** read-PFV.**F** be.PST.**FSG**
          'Rahul had read the book.'

(125)   *Marked subject and object: default MSG agreement.*

Rahul-ne   kitaab-ko   par:h-aa   thaa

Rahul-ERG   book.F-KO read-PFV.**MSG** be.PST.**MSG**

'Rahul had read the book.'

Given that there seems to be a locality effect precluding agreement with the object if the subject is available, I will follow Bhatt (2005) in assuming that agreement in gender and number is hosted on a high functional head, presumably T. If this is on the right track, as seems plausible given (123), it follows that the probe skips the external argument in the ergative pattern, without defective intervention (cf. 124). This should be enough to raise our suspicions, as there are some reasons to think that marked DPs can disrupt a probing procedure in Hindi (cf. chapter 1). Object agreement nonetheless obtains in (124), providing us with a rather inconsistent picture - we will get back to this point in a moment.

Consider now the status of agreement with subject &Ps in imperfective contexts. In this kind of environment, agreement is always resolved, with masculine gender resolution (the so-called 'virile' agreement) in case one of the conjuncts has this gender.

(126)   Ram   aur Sita   gaa   rahe   h   / *rahii   hai.

Ram.M and Sita.F sing PROG.M.PL be.PRS.PL / *PROG.F be.PRS.SG

'Ram and Sita are singing.'   (Bhatt and Walkow 2011)

As we already know, the picture changes radically when we consider object &Ps in neutral (OV) order ergative contexts. In such contexts, the verb in sentence final position agrees systematically with the last conjunct.[21]

(127) a. Ram-ne   [&P ek thailaa aur **ek peTii**] uThaa-y**ii** th**ii**   / ??uThaa-y**ii** th**ī:**   / ?* uThaa-y**e**   th**e**

   Ram-ERG   a bag.M and **a box.F** lift-PFV.**F** be.**FSG**   lift-PFV.F be.FPL   lift-PFV.MPL be.MPL

   'Ram had lifted a bag and a box.'   (Bhatt and Walkow 2011)

b. main-ne [ek chaataa   aur ek saaRii]   kharid-ii

   I-ERG   one umbrella.MSG and one dress.**F**   buy-PFV.**FSG**

   'I bought an umbrella and a dress.'   (Benmamoun, Bhatia and Polinsky 2009)

This is surprising, whether we take the metric of locality to be ComLoc or DomLoc. Consider the situation under ComLoc. It is a transparent fact that the first conjunct of a Hindi &P asymmetrically c-commands the last one, as indicated by variable binding tests.

(128) [har   aadmii$_i$ aur us$_i$-kaa kuttaa] bazaar ga-yaa

    every man.MSG and he-of   dog   market go-PFV.MSG

    'Every man$_i$ and his$_i$ dog went to the market.'   (Benmamoun, Bhatia and Polinsky 2009)

(129) *[us$_i$-kaa kuttaa aur har   aadmii$_i$] bazaar ga-yaa

     he-of   dog   and every man.MSG market go-PFV.MSG

Under ComLoc, this means that the first conjunct in an example such as (127a) is closer to T than the last one, which in turn suggests that LCA is taking place in violation of locality. The scenario

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[21] Full agreement seems possible for some speakers, cf. Benmamoun, Bhatia and Polinsky (2009:71).

does not improve much under DomLoc, since we would then expect the object &P itself to block

agreement with either conjunct (recall from 126 that &Ps can control agreement, and must

therefore be potential goals). (130) illustrates for example (127b).

(130)

Agreement between T and the lower conjunct skips both &P and the higher conjunct. The external argument does not disrupt it.

Number and gender agreement
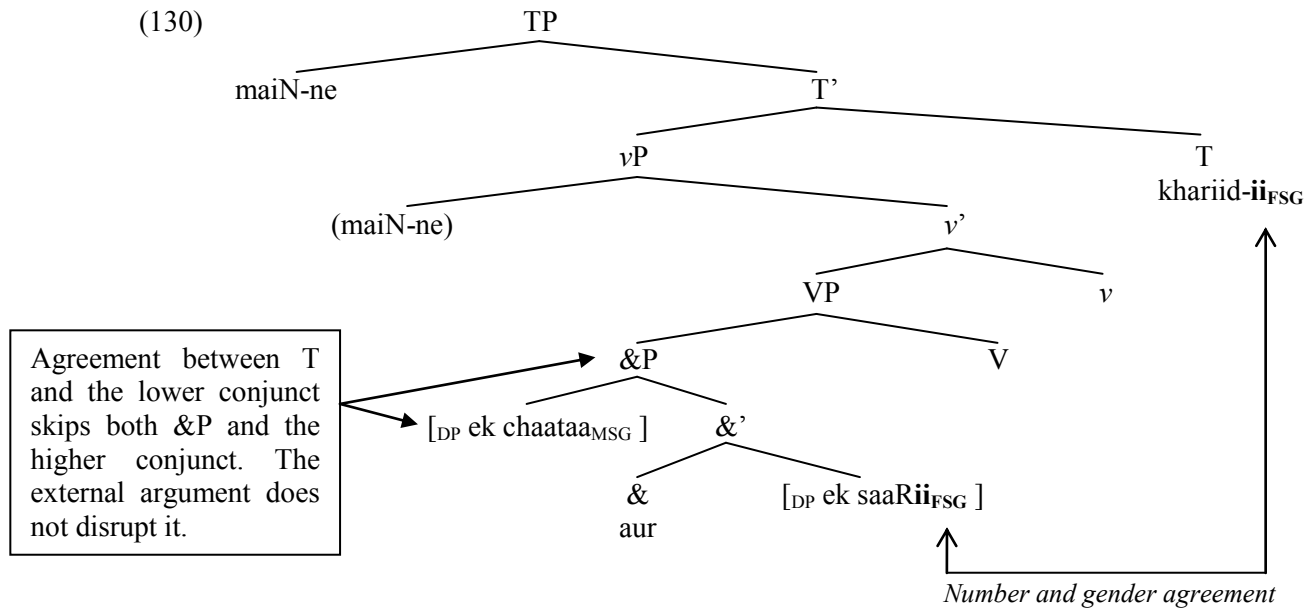
Thus, it would seem that there are some compelling reasons to think that Hindi LCA obtains in

violation of syntactic minimality. By interpreting this situation in terms of the scenario suggested

in the last section, we might entertain the possibility that LCA takes place in the post-syntactic

component as a result of an agreement failure in syntax. The scenario makes sense here, given

that in example (108) object agreement takes place despite the independently motivated

expectation that the marked external argument induces a defective intervention effect. The

possibility therefore arises that the intervention effect does in fact hold, and that the kind of

agreement we observe in (124) is in fact a PF repair mechanism following agreement disruption

in syntax as a result of defective intervention by the external argument. This PF-agreement would

be insensitive to syntactic locality and intervention, and would instead seek the closest unmarked

goal in terms of linear adjacency.

Further evidence turns out to be available in favor of the idea that adjacency plays a role in determining the controller of agreement in ergative subject contexts. Thus, it has been pointed out by (Benmamoun, Bhatia and Polinsky 2009) and (Bhatt and Walkow 2011) that in case an object &P undergoes rightward scrambling and ends up following the verb, the LCA pattern is replaced by a First Conjunct Agreement [FCA] pattern.[22]

(131) Ram-ne   khariid-ii   [ek kitaab   aur ek akhbaar]

       Ram-ERG buy-PFV.**FSG** one book.**FSG** and one newspaper.MSG

       'Ram bought a book and a newspaper.'   (Bhatt and Walkow 2011)

Let us then summarize the main points of our account of Hindi number and gender agreement so far, connecting them to the potential role of the DA when the relevant agreement takes place in syntax. First, in nominative subject structures, agreement takes place undisrupted between T and an unmarked subject &P (132a) in [Spec, v]. No equidistance pattern arises, since, under DomLoc, the &P node is closer to T than its first conjunct. Now, once this agreement obtains, the result is a potential violation of the DA, to the extent that the &P, which controls agreement, is found within the c-command domain of its target. &P movement to [Spec, T] therefore ensues as a repair mechanism (132b).

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[22] Notice that this fact makes unavailable an account of Hindi LCA in terms of the analysis proposed for Serbo-Croatian LCA by Boskovic (2009). Assuming ComLoc, Boskovic sustains that the fact that &P and its first conjunct are equidistant to an upper probe P disqualifies them as potential controllers of agreement on that probe - like van Koppen, he assumes that syntax cannot directly deal with ambiguity. As a result of the failure of agreement between P and either of the equidistant goals, a Secondary Agree operation is launched, which skips the unviable controllers and finds the last conjunct. This elegant analysis would predict the right outcome in the Hindi OV examples in (127) (assuming the probe skips the marked external argument), but it would not predict FCA in right scrambled environments such as (131), since the first conjunct and the &P that contains it remain equidistant to any target. If anything, it would seem that this account would also predict LCA in such environments.

(132) a. $[_{T'} [_{vP} [_{\&P} DP_1 [\& DP_2]] [_{v'} VP \; v]] \; T]$

Agree (T, &P)

b. $[_{TP} [_{\&P} DP_1 [\& DP_2]] [_{T'} [_{vP} \underline{\quad} [_{v'} VP \; v]] \; T]]$
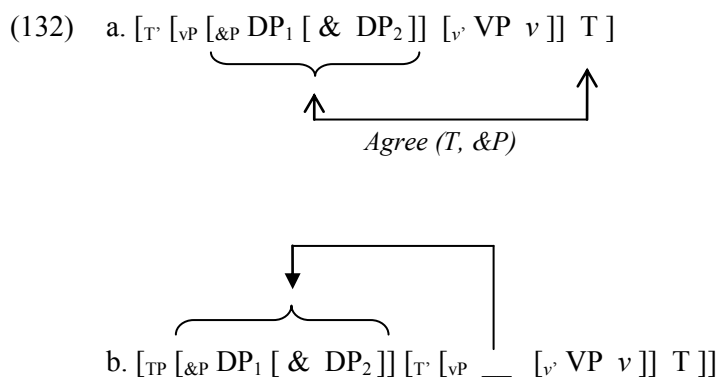
The situation changes in ergative subject constructions, in which the external argument bearing inherent ergative acts as a defective intervener. The T probe is unable to 'see' anything below the subject DP, and thus agreement between T and the unmarked object &P fails.

(133) $[_{T'} [_{vP} DP_{ERG} [_{v'} [_{VP} [_{\&P} DP_1 [\& DP_2]] V] \; v]] \; T]$

Agree (T, &P) disrupted by the ergative external argument
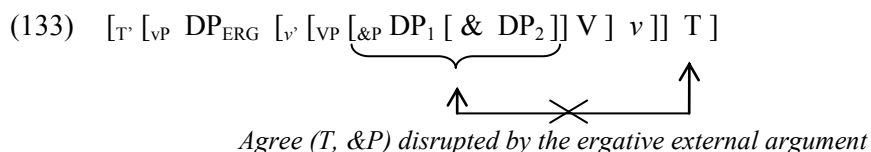
The failure of agreement in syntax triggers a PF auxiliary response. The post-syntactic component assigns a controller to T based on linear adjacency, in such a way that the closest unmarked constituent carrying appropriate features becomes the controller. In OV orders, the winner is the last conjunct of an object &P (134a), while in VO orders, the first conjunct is closer to the target (134b).

(134) a. $[_{\&P} DP_1 [\& \mathbf{DP_2}]] \; \mathbf{T}$

b. $\mathbf{T} \; [_{\&P} \mathbf{DP_1} [\& DP_2]]$
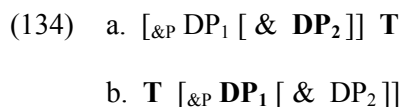
Because this operation proceeds at PF under linear conditions, the laws that govern syntax do not hold on the way in which the agreement dependency is established. In particular, the operation obtains irrespective of syntactic locality conditions, and, furthermore, the resulting configuration

does not violate the DA in any way, because the agreement dependency is not syntactically encoded. This provides us with an account of the apparent violations of the DA in the Hindi sentences in (98c, 99c). Insofar as the hypothesis that CA is a diagnostic for PF agreement is on the right track, the linear adjacency account extends to the rest of constructions in (98, 99).[23]

It is important to note that this seemingly straightforward view of CA hides the assumption that the relevant conjuncts are, in linear terms, closer to a probe such as T in (134) than the &P that contains them (which, by hypothesis, also bears features capable of controlling agreement). It is nonetheless clear that if linear order is established on the basis of asymmetrical c-command relations between nodes (as is commonly thought since Kayne 1994), neither the object &P nor its last conjunct in (134a) counts as closer to T than the other. This is because (i) one is contained within the other (thus, DP_2 is contained within &P), and (ii) there is no node dominated by the larger category (the &P) such that the last conjunct would asymmetrically c-command it (and therefore precede it). Put another way, the right edges of the &P and its last conjunct are aligned, and thus it follows that, in *linear* terms, they are equally close to T. This does not seem to be problematic for PF, however (no more than we have assumed DomLoc-based equidistance to be for the syntactic component), which systematically assigns the role of controller to the last

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[23] Bhatt and Walkow (2011) suggest that an approach to CA purely based on linear adjacency cannot account for examples such as (i), in which agreement is controlled by the nominal head of the first conjunct, even though there is a prenominal modifier that also contains a DP (*chiinii*, 'sugar'), so that this DP stands between T and the head.

(i) Atif-ne   dekh-aa   / *dekh-ii   [[chiinii khaa-taa   bhaaluu] aur [shahad   khaa-taa   chiRiyaa]]
    Atif-ERG see- PFV.**MSG** / see-PFV.FSG   sugar.F eat-IMP.MSG bear.**M** and honey.M eat-IMP.MSG   bird.F
    'Atif saw a sugar-eating bear and a honey-eating bird.'

It is not obvious, however, that the left edge of *chiinii* is aligned with the left edge of the first conjunct. This is because a PRO presumably sits in the left edge of the gerundival modifier. Thus, the structure of the first conjunct would be as in (ii). If so, the first conjunct would be closer to a probe to its left than *chiinii*.

(ii)   [first conjunct [gerundival modifier PRO [chiinii] khaa-taa]   bhaaluu]
                                    sugar.F   eat-IMP.MSG bear.M

conjunct. I will get back to this point in section 3.3.4, where I will assume the choice of the controller in such situations to be parameterized.

A final remark concerning Hindi overt agreement in gender and number has to do with LDA structures. As noted, such structures admit CA (135) (which I assume indicates a PF-agreement procedure), but, contrary to the situation in simple clauses, agreement with the unmarked object is optional (136).

(135)   laRke-ne   [[&P chaataa   aur **chaRii**]   khariid-n**ii**]   caah-**ii**   thii

         boy-ERG   umbrella.MSG and **stick**.**FSG**   buy-INF.**FSG**   want-PFV.**FSG**   PST.**FSG**

         'The boy had wanted to buy an umbrella and a stick.'   (Chandra 2007)

(136)   a. Naim-ne   har   kitaab   parhnii   chaah-ii.   (Bhatt 2005)

            Naim-ERG   every   book-**FSG**   read-INF.**FSG**   want.PFV.**FSG**   [CA]

            'Naim wanted to read every book'

         b.Naim-ne   har   kitaab   parhnaa   chaah-aa.

            Naim-ERG   every   book-FSG   read-INF.DEF   want.PFV.DEF   [Default agreement]

            'Naim wanted to read every book'

Why should PF-agreement be obligatory in simple clauses, but optional in LDA configurations? The contrast follows under the assumption that syntactic structures are spelled out (transferred to PF) cyclically, in such a way that each Spell Out domain defines a potential space for PF agreement. Now, I will remain relatively neutral here with respect to the exact identity of the Spell Out domains. I will limit myself to assume, for the sake of the argument, that the infinitival clause in (136) is such a domain. This becomes relevant when we consider the specificity effect associated to the occurrence of LDA. As the reader might recall from section 3.1.2, agreeing

objects in LDA structures scope over the matrix predicate, which suggests that they have undergone string vacuous scrambling out of the infinitival clause. Non-agreeing objects such as the one in (136b), on the other hand, take narrow scope with respect to the matrix predicate, which indicates that they stay in situ. If this is so, and the matrix clause spells out separately from the infinitival clause, it follows that PF-agreement cannot apply when the object stays in situ, whereas it becomes obligatory if the object shares the same Spell Out domain as the matrix predicate - which, in turn, is consistent with the obligatory character of PF-agreement in simplex clauses. Thus, it is not PF-agreement that is optional: what is optional is the possibility for the object of the infinitive to scramble into the matrix clause, with consequences on the outcome of agreement. Now, the missing link in this story involves the agreement status of the infinitive, which exhibits the same inflection as the matrix predicate. Notice that the infinitive is not a probe, since otherwise we would expect it to agree with its object in a systematic way. The fact that infinitival inflection is parasitic on PF-agreement suggests instead that the latter is in fact some kind of feature spreading procedure, akin to the one found in many phonological processes -for example, vowel harmony. The concrete interpretation I propose is that a PF-agreement operation in Hindi is a relation between a probe and the closest unmarked DP to this probe, such that the number and gender feature values of the DP spread towards the probe - which is crucially missing values for these features. Even though the infinitive in LDA constructions does not belong to the Spell Out domain where PF-agreement is taking place, it is nonetheless part of the string, it can inflect for number and gender, and it sits within the span of the feature spreading operation. As a result, the agreement features are assigned to the infinitive as well.

(137)　　　　[FSG]

[DP har　　kitaab]　　parhn-ii　　　chaah-ii.

　　　　every　bookFSG　　read-INF.FSG　want.PFV.FSG
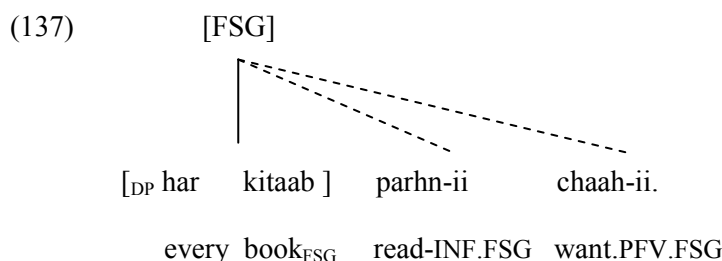
This concludes our exploration of the first case study. Overall, there seem to be strong reasons to think that the apparent violations of the DA in Hindi absolute object agreement constructions stem from the fact that this agreement obtains out of syntax. Although I will not develop a full account here, I suggest that this kind of approach can also be applied to apparent violations of the DA in Tsez (cf. Benmamoun, Bhatia and Polinsky 2009), in which absolute object agreement constructions share many traits with the relevant Hindi constructions, including LCA in violation of minimality. Interestingly, Tsez differs from Hindi in that adjacency between the target and the controller of the PF-agreement procedure is not relativized to linear intervention by another potential controller. Thus, while Hindi admits material in-between the target and the controller in those constructions in which conditions on syntactic agreement seem to be violated (such as minimality or the DA), Tsez admits none (unless it is itself a potential target, such as the infinitive in LDA constructions: the relevant pattern would fall under the spreading mechanism described in 137). The contrast between Hindi and Tsez with respect to the adjacency requirement is reminiscent of phonological variation in assimilation domains, suggesting the comparison might be fruitful.

Another remarkable difference between Hindi and Tsez concerns the conditions on the availability of the PF-agreement procedure. Whereas PF-agreement only arises in Hindi as a response to a failure of syntactic agreement, in Tsez PF-agreement and syntactic agreement seem to be equally available options, up to linear adjacency. Thus, CA can obtain in contexts in which nothing seems to block the availability of syntactic agreement, as long as the controller and the

target are adjacent (cf. in particular Benmamoun, Bhatia and Polinsky 2009, examples 11b, 12b). Whenever the target and the controller are not adjacent, however, CA becomes impossible: only resolved agreement can arise (cf. Benmamoun, Bhatia and Polinsky 2009, examples 25a, b). This suggests that syntactic agreement does exist (a conclusion otherwise supported by example 9 in Comrie and Polinsky 1999), but that, unlike in Hindi, it is possible to delay the resolution of agreement until PF. Agreement will be resolved if linear adjacency is respected, otherwise the derivation will crash at PF.

Overall, it would seem that such an approach to Tsez agreement holds more promise than the complex analysis suggested in 3.2.3.7. More data are needed, however, in order to provide a fully-fledged account. In the data available to me (from Comrie and Polinsky 1999, Polinsky and Potsdam 2001 and Benmamoun, Bhatia and Polinsky 2009), I could not find examples of CA in LDA contexts, nor in ergative subject configurations. The approach I just sketched predicts, however, that Tsez should behave very much like Hindi in such contexts. In the absence of confirming or disconfirming data, I leave the issue for further research.

3.3.3 First Conjunct Agreement in Welsh

Our next case study takes us to a language which also displays constructions that appear to violate the DA. Like Hindi, Tsez, Spanish and English, Welsh exhibits CA in such constructions, which we may be tempted to interpret as a sign that the relevant kinds of agreement obtain out of syntax. However, unlike in those languages, we *never* observe an &P controlling agreement on a verb or a preposition in *any* construction: FCA systematically preempts resolved agreement. This is problematic for our purposes because, if an &P never behaves as a controller of verbal or prepositional agreement (that is, as the goal of an Agree operation), it becomes rather stipulative to assume that it is a closer goal to an upper probe than one of its conjuncts. On these shaky grounds, we would have no particular reason to think that Welsh FCA obtains in violation of

minimality, which would in turn leave us without immediate explanation for the apparent violations of the DA in the relevant Welsh constructions. The goal of this section is to show that there are in fact some reasons to think that the &P carries features that can control agreement, and is therefore a potential intervener. If true, this provides us with an argument in favor of the idea that FCA obtains at PF, which would straightforwardly explain the apparent violations of the DA in the relevant constructions.

Let us then start by reviewing some core facts. The most salient characteristic of Welsh agreement is that it only takes place with pronouns (138a, b), not with full DPs (138c-f). This is exemplified below through prepositional agreement, but the relevant patterns extend to the other inflectional categories - including verbs (finite and non-finite) and determiners in possessive DPs.

(138)   a. arno   fo   (Borsley, Tallerman and Willis 2007)

           on.3MSG him

           'on him'

        b. arni   hi

           on.3FSG her

           'on her'

        c. ar   y   bachgen

           on the boy

           'on the boy'

        d. ar   yr eneth

           on the girl

           'on the girl'

e. *arno   'r   bachgen

   on.3MS the boy

f. *arni   'r   eneth

   on.3FS the girl

Could Welsh agreement reduce to an incorporation procedure, whereby a pronoun would adjoin to a c-commanding verbal or prepositional head and both copies of the pronoun would subsequently be spelled out? Morphological fusion of the higher head and the higher copy of the pronoun would give the illusion of agreement, even though the underlying mechanism would be plain head-movement. We know however that this is unlikely to be the case, because it would require the Coordinate Structure Constraint not to hold in CA examples such as (139) (thus, FCA in the relevant example would stem from the pronoun escaping the subject &P in order to adjoin to the verb), but we have evidence that the constraint is active in Welsh. For example, it is not possible to extract a wh-conjunct from an &P (cf. 140).

(139)   arn**af**   [&P **i** a   Megan]   (Borsley 2009)

        on.**1SG**   **I** and Megan

        'on me and Megan'

(140)   *Pwy welodd   a   Megan ddafad?

        who see.PST.3SG and Megan sheep

        (Intended: 'Who and Megan saw a sheep?')

The next salient characteristic of Welsh agreement is that it only admits FCA, not resolved agreement, with a following &P. In (141a-c), on the one hand, both pronominal conjuncts in each of the respective &Ps are appropriate controllers of agreement, but the verb can only cross-reference the first conjunct, not the last one. Example (141d), on the other hand, shows that resolved agreement (first person plural, in the relevant example) is not a possible alternative to the FCA pattern in (141a).

(141)   a. Gwelais   [ti   a   fi] geffyt   (Borsley, Tallerman and Willis 2007)
            see.PST.2SG   you.SG   and   I   horse
            'You and I saw a horse.'

        b. cynnen rhyngof   [fi   a   thi]   (Harbert and Bahloul 2002)
            strife   between.1SG   me   and   you

        c. cwlwm o gariad sydd   rhyngoch   [chwi   a   hi]   (Harbert and Bahloul 2002)
            bond   of love   which-is between.2PL   you.PL and her

        d. *Gwelon   [ti   a   fi] geffyt   (Borsley, Tallerman and Willis 2007)
            see.PST.1PL   you.SG   and   I   horse
            'You and I saw a horse.'

If anything, the data so far feeds the possibility of an Agree analysis under ComLoc, the very kind of analysis we have previously rejected for Hindi. Thus, let us assume, for the sake of the argument, that the probe in such constructions (say, a verb- or preposition-related functional head) looks exclusively for pronouns in its domain. If so, it does not matter that the first conjunct and the &P are equally local with respect to a c-commanding probe, because the &P is not the

kind of goal the probe is seeking. We would then expect agreement to take place with the first conjunct rather than the last one, since the former c-commands the latter.

It is less obvious how an Agree analysis of the same data could be obtained under DomLoc. This is because, assuming again that the &P is not recognized by the probe as a goal, the conjuncts would stand as being equally local. We would therefore expect agreement to be able to obtain with either conjunct, contrary to case. This leaves the Agree+ComLoc analysis as the most sensible option to account for Welsh agreement as a syntactic process.

The data brings further complications, however. The reason is that, when the first conjunct is not a pronoun, it is not possible for the verb/preposition to agree with the second conjunct. The relevant state of affairs is illustrated in both examples in (142), where the finite verb bears default 3SG agreement

(142)   a. Daeth   [Siôn a   minnau]   (adapted from Sadler 2003)

         come.PST.3SG   Siôn   and   1SG.emphatic

         'Siôn and I came.'

      b. Roedd   [Mair a   fi] i   briodi.   (adapted from Sadler 1999)

         be.PST.3SG   Mair and I   to marry

         'Mair and I were to marry.'

These examples are problematic for the Agree+ComLoc approach. To the extent that proper nouns never trigger agreement, we would expect the probe to skip the first conjunct in both examples, in very much the same way as we assumed (given the observation that &Ps never trigger agreement on verbs or prepositions) that the probe ignores the whole &P in the examples in (141) (despite its being as distant to the probe as the first conjunct). But the pronominal last conjunct in (142) is unable to control agreement. We may of course assume that the features of

the first conjunct induce a defective intervention effect, but this strategy would be a double-edged sword, since it requires the converse assumption that &Ps do not trigger such effects (i.e. that &Ps, unlike proper nouns, are not visible to the probe at all), a rather stipulative move.

The Agree+ComLoc approach to Welsh agreement is further weakened by evidence that &Ps do in fact bear the kind of features that should trigger agreement. The relevant observation is that an object reflexive bound by a subject &P agrees with the &P as a whole (143). This suggests not only that the &P has features of its own, but also that they are syntactically active, in light of recent proposals that agreement between a reflexive and its antecedent is constructed in syntax (cf. for example Kratzer 2009, Reuland 2011).

(143)   a. Gwelais   [i a   Megan] ein hunain.   (Borsley 2009)

          see.PAST.1SG   I and Megan   1PL self

          'I and Megan saw ourselves.'

      b. Gwelest   [ti   a   Megan] eich hunain.

        see.PAST.2SG you.SG and Megan   2PL self

        'You and Megan saw yourselves.'

      c. Gwelodd   [e a   Megan] eu   hunain.

        see.PAST.3SG he and Megan   3PL self

        'He and Megan saw themselves.'

Thus, there is some support for the idea that Welsh &Ps bear active phi-features. This, if it is on the right track, puts serious pressure on the viability of an Agree analysis, whether the metric of locality is taken to be ComLoc or DomLoc. Under ComLoc, we would expect resolved agreement to a possible alternative to FCA, based on the fact that an &P and its first conjunct are equidistant

to a c-commanding probe.[24] Under DomLoc, we would expect the presence of the &P to systematically preempt agreement with either conjunct. In either scenario, it is predicted that resolved agreement should be observable, but it is not. Thus, as for Hindi, it would seem that Welsh agreement obtains in violation of syntactic locality principles. This makes sense if, as Borsley (2009) suggests, it reflects a purely linear relation between an inflectional head and a potential controller that follows it - that is, if FCA is a PF procedure. This, in turn, provides us with a straightforward explanation for the apparent violation of the DA in the relevant constructions.

Again, it is important to note that the assumption that CA is a linear procedure, while consistent with the fact that such agreement violates syntactic minimality, is not enough to explain why the &P is discarded as a potential controller of agreement. To the extent that we assume linear order to be determined on the basis of c-command relations between nodes (in such a way that asymmetric c-command entails precedence), it follows that the left edges of an &P and its first conjunct are aligned, and thus neither counts as closer to a probe to their left. Agreement with the first conjunct is nonetheless systematically preferred, a fact left unexplained in the absence of a more fleshed out theory of PF agreement under adjacency - the sketch of such a theory will be suggested in the next subsection.

It is also worth noting that the general strategy we have borrowed from van Koppen does not seem to apply in the context of Welsh agreement. In particular, there is no hint at the possibility that some agreement procedure could have been disrupted in syntax by a defective intervener. The evidence for such defective intervention is much more tangible in languages such as Hindi or

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[24] This is indeed the best possible outcome in the relevant scenario, connected to the assumption that equidistance yields optionality. If we assumed instead that syntax cannot deal with equidistant goals, then FCA would be impossible, unless agreement resolution is delayed until PF, as van Koppen suggests. Note that it is not possible to extend to the Welsh data her idea that FCA obtains at PF (rather than resolved agreement) because it yields the most specified form of agreement: in (143c) the verb exhibits 3SG agreement, which happens to be the elsewhere form. The choice of plural inflection here would be expected under the relevant account, as it is more marked morphologically.

Tsez, where an inherently marked DP stands between the terms of agreement.[25] By contrast, in the Welsh verbal and prepositional agreement cases discussed so far, it seems rather implausible to assume that there is silent intervening material between the inflectional head and the relevant &P, such that it is capable of interrupting a potential agreement procedure. There appears to be no independent empirical support in favor of the idea that a null intervener, be it a head (bearing agreement features) or a phrase, stands between the inflectional head and the object &P in the prepositional agreement cases. The verbal agreement examples suggest a similar scenario, a fortiori under the standard assumption that the subject &P is generated as a specifier in the complement of the probe T. This leaves little structural distance between the probe and the &P, and hence little theoretical margin to assume that there is silent intervening material between them such that it can disrupt an Agree relation. If anything, it seems much more straightforward

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[25] In this context, we might ask what would prevent agreement from taking place in syntax in English *there*-constructions. Thus, the occurrence of FCA in the relevant configurations (as in example 99a, repeated here in (i)) would mean, by hypothesis, that T-agreement is disrupted in syntax, thereby triggering a repair mechanism at PF.

(i)   There is/*$^{/??}$are [&P a cat and a dog] in the garden.

One straightforward possibility is that the expletive itself is the intervener in some sense. Thus, Deal (2009) argues that *there* is generated low, in the specifier of a non-thematic *v* head, which she also assumes to project a phasal domain. On her account, the associate of the expletive and the locative PP sit within the complement of this v head. If so, we might characterize the structure of (i) at the point of the derivation in which the T probe is inserted as in (ii). Here, PredP stands for the projection of a predicative head Pred: this is a simplification of the structure Deal assumes for the complement of v, but it does not change the point we want to make here. The locative PP is an adjunct to the PredP.

(ii)   [T [vP there v [PredP [PredP Pred [&P a cat and a dog]] [PP in the garden]]

We can account for the inability of T to reach the &P associate in by assuming (a) that the expletive is phi-incomplete, and thus cannot value the uninterpretable features of T, and (b) that the strong version of Chomsky's Phase Impenetrability Condition [PIC] (Chomsky 2000) holds, which states that the c-command domain of a phase head (for example, PredP in (ii)) is unavailable for operations outside the phase. As a result, even if we assume that the expletive does not block T from probing further under it (that is, even if we assume that the expletive is not a defective intervener), the PredP domain, by the PIC, is still out of the probe T's reach. Under this scenario, T-agreement fails in syntax, thus triggering a PF response, whereby T agrees with one of the closest potential controllers in linear terms. In such cases, English exhibits a strong preference for the first conjunct over the &P containing it.

to assume, as I will, that no Welsh agreement procedure is ever initiated in syntax, thus following

the fundamental idea of Borsley (2009).[26]

3.3.4 Outline of a theory of PF-agreement

Let us then take a moment, before concluding this section, to sketch the general lines of the kind

of theory of PF-agreement that emerges from the previous subsections. The motivation for this

theory, as discussed, is the observation that some forms of agreement do not obey syntactic

locality conditions. Rather, they seem to be sensitive to adjacency and linear order, which

naturally follows if they take place in the component of grammar in charge of mapping the

syntactic structure to linear form.

On these grounds, the first main feature of such a theory is a methodological distinction between

what I will call *native* and *non-native* forms of PF-agreement. Native forms of PF-agreement, on

the one hand, are both initiated and resolved post-syntactically. An example of such a system, I

argue, is found in Welsh, where agreement obtains in violation of minimality (under a DomLoc

definition) and there is little reason to think that a defective intervention effect arises in syntax,

which would block an Agree procedure. As a result, it would seem that agreement takes place

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[26] Mark Baker (p.c.) suggests that the defective intervener in the relevant Welsh examples could be the &P itself. As noted, Welsh &Ps bear active phi-features (person and number, cf. examples in 143), but crucially, they are phrases, not pronouns, and thus they would not fulfill the structural condition necessary to be recognized as matching goals by the probe (this would make Welsh agreement similar to [PRON]-agreement in Swedish, cf. chapter 1). Because they partially meet the probe requirements, &Ps become potential defective interveners in case they stand between the probe and a fully matching goal. Under DomLoc, in fact, an &P would be closer to an external c-commanding probe P than any of its conjuncts (which, in turn, are equidistant from P): as a result, agreement cannot bypass the &P in syntax in order to reach one of the (potentially pronominal) conjuncts. This failure of agreement in syntax would trigger a PF-agreement response, which would explain why it is always the first, rather than the last conjunct, that controls agreement.

I believe M. Baker's suggestion to be on the right track in the relevant case. His observation has some important implications on the design of the theory of PF-agreement presented in this section. In particular, it is not clear anymore that we are forced to postulate instances of 'pure' PF-agreement (what I will call *native* PF-agreement systems). Unfortunately, I am unable to develop this possibility here because of time considerations, and thus I must leave the issue for future research.

entirely in the post-syntactic component. Another potential native form of PF-agreement is complementizer agreement in Tegelen Dutch, illustrated in (144).

(144) Ich dink de-s   [&P doow   en ich] ôs   kenne treffe.
          I   think that-2SG   you.SG   and I   each.other.1PL can.PL meet
       'I think that you and I can meet.'   (van Koppen 2007)

Note that the complementizer agrees with the 2SG first conjunct of a subject &P, even though the latter bears active person and number features, as suggested by the fact that it can bind a first person reciprocal object. It follows that complementizer agreement obtains in violation of DomLoc, which points to a PF-agreement procedure. Since, on fairly standard assumptions, there is little structural distance between the complementizer and the subject &P, we find no particular reason to assume that there is a defective intervener standing between them, which would disrupt a probing procedure initiated by the complementizer in syntax. I therefore suggest that the Tegelen Dutch complementizer is a PF-probe, which initiates an agreement procedure post-syntactically.

Non-native forms of PF-agreement, on the other hand, are post-syntactic mechanisms that repair a failure of agreement in syntax. The scenario we have been considering here starts with a syntactic probe that is left without the possibility of finding a controller because the closest DP in its c-command domain is a defective intervener. The situation of the probe is then resolved in the post-syntactic component through a PF-agreement procedure, which, crucially, is not sensitive to the syntactic laws that yield intervention. In this section, I have suggested that absolutive objects agreement in Hindi and Tsez are non-native forms of PF agreement. It would seem that at least some forms of nominative object agreement in Icelandic could also turn out to be non-native PF-agreement procedures. The relevant candidates are dative experiencer verbs of the *líka*-class, which, as we saw, display asymmetric behavior: only the dative argument of such verbs can

target the subject position (cf. example 108 the relevant discussion). Based on DomLoc, I interpret this as evidence that, in the relevant configurations, the dative argument is generated outside a maximal projection containing the nominative object. As a result, the dative argument counts as closer to the subject position than the nominative object. This is relevant for our purposes here, since, under the assumption that the dative DP is a defective intervener, the T probe will be unable to 'see' beyond it in order to find a potential goal. We thus predict that nominative object agreement in such constructions should be the result of a PF-agreement procedure. If so, we would expect the possibility that it displays non-syntactic behavior, such as conjunct agreement given a DomLoc interpretation of locality. Interestingly, this expectation is fulfilled to a fair extent. Thus, the plural form of the verb is systematically preferred when the nominative object is a plural DP (145a) or an &P whose first conjunct is plural (145b). If the first conjunct is singular, on the other hand, singular agreement becomes acceptable (though not perfect), and it is in any case better than plural agreement (145c).

(145) a. Jóni   *líkar   / líka   [bækurnar].   (Gunnar Ólafur Hansson, p.c.)

         Jón.DAT   like.3SG / like.3PL   books.the

         'Jón likes the books.'

       b. Jóni   *líkar   / líka   [bækurnar og tónlistin]

          Jón.DAT   like.3SG / like.3PL   books.the and music.the

          'Jón likes the books and the music.'

       c. Jóni   ?líkar   /??líka   [tónlistin og bækurnar].

          Jón.DAT   likes.3SG /   3PL   music.the and books.the

          'Jón likes the music and the books.'

While this result is encouraging, it is important to keep in mind that the chart of nominative object agreement in Icelandic is rather complicated. In particular, it is not clear how the connection between syncretism and the third person restriction should interact with this hypothetical PF-agreement procedure. The matter has further ramifications, in light of dialectal variation concerning patterns of dative intervention (cf. Sigurdsson and Holmberg (2008).[27]

As mentioned, the distinction between native and non-native forms of PF-agreement is only methodological. It is not intended to suggest that PF-agreement should work differently depending on where (at syntax or PF) the relevant procedure is initiated. I tentatively assume here that the native or non-native character of PF-agreement has no bearing on the mechanism underlying the post-syntactic choice of the controller (cf. Bhatt and Walkow (2011, to appear) for a different view of non-native PF-agreement).

The second main feature of the theory under discussion is the central role assigned to the notion of linear adjacency. Thus, the basic idea is that, as in syntax, the controller (a nominative/absolutive DP) and the target must be in a local relation.

(146)   A target agrees with the closest potential controller.

Unlike in syntax, however, closeness in the relevant context is derived on the basis of relations of precedence between nodes, that is, linearization statements of the form 'A precedes B' (noted <A, B>) - I leave open here the issue of how such statements are determined (there are several alternatives, including the systems described in Kayne 1994 or Bobaljik 2002, among others). On these grounds, the notion of closeness that emerges can be tentatively stated as in (147a, b).

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[27] Another potential interfering factor, which might be less trivial than it seems, is that many Icelandic speakers prefer to express the source argument of dative subject verbs as a prepositional phrase (with the prepositional object bearing accusative case) rather than as a nominative object.

(147)   a. *Closeness to a target on the right*

Given two potential controller nodes A and B, and a target node C such that <A, C> and <B, C>, B is closer to C than A if <A, B>.

b. *Closeness to a target on the left*

Given two potential controller nodes A and B, and a target node C such that <C, A> and <C, B>, B is closer to C than A if <B, A>.

Two observations are in order. The first is that (147) does not tell us how to resolve a situation in which one of the potential controllers is to the left of the target, while the other potential controller is to the right of the target. One might imagine several ways in which PF could handle such a scenario, but I have no knowledge at this point that such a configuration indeed exists. In the absence of relevant evidence, I shall keep to the formulation in (147).

The second observation is that (147) states a *relativized* version of closeness/adjacency, as it restricts the locality metric to potential controllers. This will fit the bill for Hindi, which admits intervening material between a target and its absolutive object controller, but not for Tsez, which does not (cf. Benmamoun, Bhatia and Polinsky 2009:78-79 on both points). In other words, for a controller to be local to a target in Tsez, it is necessary that strict adjacency holds. We might formulate the relevant requirement as follows.

(148)   a. *Closeness to a target on the right*

Given a potential controller node A and a target C such that <A, C>, A is a local controller to C if there is no node B such that <A, B> and <B, C>.

b. *Closeness to a target on the left*

Given a potential controller node A and a target C such that <C, A>, A is a local controller to C if there is no node B such that <C, B> and <B, A>.

I would propose (147, relativized adjacency) and (148, strict adjacency) as potential PF parameters of the general grammatical principle in (146).

Finally, the third main feature of the theory of PF-agreement we are outlining is the way in which the system handles equidistance. The relevant relation is defined in (149).

(149)   a. *Right-equidistance*

Given nodes A, B and C such that A dominates B, <A, C>, and <B, C>, A and B are equidistant to C if there is no node D such that A dominates D and <B, D>.

b. *Left-equidistance*

Given nodes A, B and C such that A dominates B, <C, A>, and <C, B>, A and B are equidistant to C if there is no node D such that A dominates D and <D, B>.

(149a) characterizes the relation between an &P and its last conjunct, whose right edges are aligned and therefore equally distant to a probe that follows them. (149b), on the other hand, describes the relation between an &P and its first conjunct, whose left edges are aligned, and thus equally distant to a probe that precedes them. What should then happen if both the &P and the relevant conjunct are potential controllers of agreement? A first possible answer is van Koppen's hypothesis that the preference goes to the controller that yields the most specified form of agreement. As previously discussed, this yields the right result in Tegelen Dutch, and van Koppen (2007) shows that it also correctly derives the patterns of complementizer agreement observed in Tielt Dutch and Bavarian. The Bavarian case is especially interesting, to the extent that in some instances both potential controllers (the subject &P and its first conjunct) yield an equally specified form of complementizer agreement (cf. van Koppen 2007:132-134). In such cases, the complementizer can agree with either potential controller, thus indicating that the PF-agreement system avoids optionality to the extent that the morphological resources of the language allow it to. We could formulate this requirement as in (150).

(150)   *Most specified agreement condition*

Given two potential controller nodes A and B equidistant from a target C, A can be admitted as a controller of agreement on C if it yields a form of agreement that is no less specified than the form of agreement that would result from admitting B as the controller.

It was observed in section 3.3.1 that van Koppen's hypothesis was difficult to transpose to CA patterns in Spanish existentials, where FCA with a singular first conjunct is systematically preferred to resolved agreement, even though the singular form of verbal agreement is less specified. A similar remark can be made about Hindi, where LCA is strongly preferred in VO orders irrespective of the features of the whole &P. This is relevant because, for example, it is not

clear at all that the feminine plural form of agreement /-ĩ:/ is less specified than the feminine

singular form /-i:/, and yet, a feminine singular last conjunct is strongly preferred as a controller

of agreement to a feminine plural &P (cf. Bhatt and Walkow 2011:13, fn.2). The condition in

(150) does not accommodate such cases, which suggests that the issue is parameterized. In

particular, next to languages in which (150) holds, we find a different set of languages in which,

in situations of equidistance, a conjunct is systematically preferred as a controller of agreement to

the &P that contains it. It is not clear to me why such a constraint would hold, and thus further

investigation is certainly needed, but we might speculate for the moment that, in the relevant

languages, the choice of the controller in equidistance contexts makes reference to its relative

size, as follows.

(151)   *Smallest controller condition*

Given two potential controller nodes A and B equidistant from a target C, A can be

admitted as a controller of agreement on C if it is contained in B, and B contains overt

material that is not contained in A.

This is of course a conjecture, but it is sufficient for our current purpose of distinguishing the

languages in which conjunct agreement is always preferred to resolved agreement, from those

languages in which (150) holds instead.

3.4 Conclusion of section 3

We started this section with a list of constructions that appeared to violate the DA. I hope to have

shown that there are in fact several ways to accommodate these constructions in a DA theory of

the movement-agreement connection. Nevertheless, the hypothesis that the kinds of agreement

observed in these constructions obtain at PF stands over other potential strategies, as it allows us to unify and explain the relevant properties of the corresponding constructions in a way that structural reanalysis (i.e. through hypotheses 1-3) does not. The main conclusion of this section, if any, seems therefore to be the following.

(152)   The theory of the DA predicts that, if the controller of agreement seems to be contained within the c-command domain of its target, and there are no compelling reasons to think that the DA was salvaged at some earlier point in the derivation, this agreement is not taking place in the syntactic component. This prediction appears to be supported by a set of constructions which superficially seem to violate the DA, but in which agreement violates syntactic minimality and exhibits unexpected adjacency effects, thus pointing at the occurrence of a PF-agreement procedure.

4. Chapter 3 conclusion

In this chapter, we examined three challenges for the DA theory of agreement. In Section 2.1, we discussed a potential inconsistency in admitting that Agree can generate structural relations that the DA can subsequently rule out. I claimed that this model made sense in the context of a *generate and filter* approach to grammar (pragmatically combining derivational and representational strategies), in which potential conflict between grammar components, rather than being an undesirable feature of the system, becomes an explanatory tool - for example, it allows us to explain why syntactic movement should obtain under certain circumstances. In Section 2.2, we turned to the issue of the compatibility between the DA theory of agreement and the two main approaches to case assignment, the standard chomskyan theory and the case-at-PF approach. I showed that the DA theory was straightforwardly compatible with the case-at-PF model, providing us with a basis to capture essential features of differential case marking systems (for

example the Differential Object Marking of Hindi or Spanish). I also pointed out that the DA theory is not directly compatible with standard case theory, unless we implement an evaluation protocol that restates the DA theory in terms of copies. We noted that such a modification to the DA theory of agreement was not just an artifact of its combination with standard case theory, but that it was in fact independently needed for viability in a framework based on the copy theory of movement. Finally, section 3 focused on the existence of downwards agreement which does not trigger movement, as attested in a set of crosslinguistically common constructions that seem to pose a direct challenge to the DA predictions. We first examined in great detail a number of possible solutions to this problem based on three different structural reanalysis strategies, and saw that each strategy provided a more or less plausible basis to capture a different section of the data. However, we ended up discarding this case-per-case approach in favor of a unified analysis based on the idea that agreement in the relevant structures obtains at PF, an analysis supported by the observation it can violate syntactic minimality, and exhibit unexpected adjacency effects. In other words, some frequent properties of downwards agreement without movement, rather than being problematic for the theory of the DA, do in fact confirm the expectation that such agreement should not obtain in syntax.

Concluding statement

In this dissertation, I have presented a theory of the connection between agreement and movement that derives it from general principles of grammar. In this context, I have provided conceptual and empirical arguments in favor of this theory over EPP-feature-based alternatives. I have also shown that the agreement forms found in the apparent counterexamples to the theory behave in fact as the theory predicts they should, that is, as agreement out of syntax.

The real task, however, begins now. The DA theory raises many questions - more in fact than it solves. Among them,
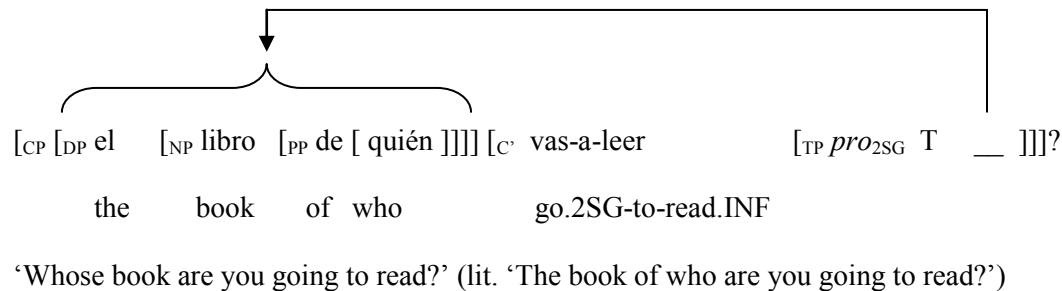
1. Why should the syntactic mapping of grammatical dependencies be c-command based?

2. Why should there be more than one form of the DA?

3. Why should some dependencies be subject to one form of the DA (CLP or INP) rather than the other?

4. Can the theory of the DA provide a basis for movement processes in general, beyond the movement-agreement connection (assuming some dependencies are not formed through Agree)?

5. Are there more arguments in favor of the hypothesis that agreement is subject to the INP rather than the INP? Are there any reasons to think that a CLP-based account could be superior?

6. At which stage of the derivation do the DA protocols apply? Is there a principled reason why the protocols should apply at this stage rather than at some other derivational point?

The main result of the theory presented in this thesis is, I claim, that questions such as these *must* be articulated. They do not restate the original problem, they define explicit paths for research, and they hold significant implications concerning the nature of Internal Merge procedures and, more generally, grammar design. This, I submit, is a substantive advantage the theory of the DA holds over mainstream, EPP-based theories of movement.

Appendix A

A note on the existence of pied-piping

In order for examples (24, 26) from chapter 2 (section 2.4) to provide support for the INP, it remains necessary that pied-piping is real. As it turns out, Seth Cable has recently proposed that, at least in the domain of wh-questions, it is not (Cable 2007, 2010ab). Thus, based fundamentally on the properties of question particles in the Na-Dene language Tlingit, Cable proposes a model of wh-interrogatives in which wh-movement is the indirect outcome of an agreement relation between C and a focus-sensitive operator Q (the Q-particle), which, in turn, selects the constituent that contains the wh-word. As a result of agreement holding between C and the QP, the latter is attracted to [Spec, C], bringing the wh-word along with it.

(1)

Cable's central claim is that all wh-fronting languages behave this way, whether the Q-particle has phonetic content or not. Because the standard approach to wh-movement is based on

languages in which the Q-particle is null and cannot be directly observed, it makes wh-movement follow instead from a prior agreement relation between C and the wh-word itself. However, this leaves unexplained the fact that movement in wh-interrogatives frequently applies on constituents that properly contain the projection of the wh-word (note that this is only a problem under the assumption that the agreed-with category must enter a strictly local relation with the probe). In Cable's model, on the other hand, the relevant fact is straightforwardly derived under the assumption that the displaced constituent is headed by a null Q-particle, whose projection (rather than that of the wh-word) is the one that enters an agreement relation with C. Put another way, pied-piping (at least in wh-movement contexts) is just an illusion arising in wh-fronting languages in which the Q-particle is null.

If it is on the right track, Cables's hypothesis casts doubt on whether the examples in (26) from chapter 2 (section 2.4) (which are not about wh-movement proper) provide support for the INP, since, after all, it might be possible that the pied-piped constituent in either case could be the projection of a null category that is in fact the one that is agreed-with. I would nonetheless like to argue against that line of analysis, based on a remark concerning the behavior of fragment answers in Spanish, which suggests that, even if we assume a view of wh-movement based on Cable's model, there seem still to be reasons to posit pied-piping procedures in some contexts.

My argument is as follows. First of all, it is known that fragment answers are usually not smaller than the pied-piped constituent in the corresponding wh-question (an observation Nishigauchi 1986 exploits to argue for covert pied-piping in Japanese wh-questions). Consider in this respect the following examples from Spanish. Example (2) is a wh-question, in which a complex DP object has been pied-piped to [Spec, C] (the wh-word is contained in the PP complement of the noun *libro* 'book'; notice the full verbal complex has moved from T to C). The set of examples in (3) includes both felicitous and infelicitous answers to that question (the current discussion will only bear on *congruent* answers, cf. Rooth 1992).

(2) *Question*

[CP [DP el　　[NP libro　[PP de [quién]]]] [C' vas-a-leer　　　　　　[TP *pro*2SG T　　__]]]?

　　　　the　　　book　　of　who　　　　　go.2SG-to-read.INF

'Whose book are you going to read?' (lit. 'The book of who are you going to read?')

(3) *Candidate answers*

a. Voy　　　a　leer　　el　libro　de　María.　　　　(full sentence answer)

　go.2SG　to　read.INF　the　book　of　Maria

　'I am going to read Maria's book.'

b. El (libro)　　de　María　　　　　　(answer syntactically equivalent to the pied-piped constituent)

　the (book)　of　Maria

　'Maria's book'

c.# de　María.　　　　　　　(answer smaller than the pied-piped constituent)

　of　Maria

　'Maria's'

d. # María　　　　　　　(answer smaller than the pied-piped constituent)

　Maria

　'Maria'

Thus, the answer to question (2) must at least include a DP equivalent to the pied-piped constituent in the relevant question in order to be felicitous. The question arises as to why this should be so, and in fact, Cable's model provides us with a potential answer. Allow me to devote some space to elaborate on this point. Thus, a crucial feature of Cable's model is that a Q-particle denotes a choice function variable (cf. Winter 1997, Reinhart 1998), which takes as an argument the focus-semantic value of its sister, following the special composition rule in (4).

(4) $[[Q_i\ XP]] = [[Q_i]]([[XP]]^F)$

Let us briefly explain some of the concepts involved. Consider first the function $[[Q_i]]$. Being a function variable, the Q-particle in (4) can be bound by higher operators that bear the same index (for example, en existential operator over choice functions introduced in the CP-layer). In turn, the argument $[[XP]]^F$ stands for the focus-semantic value of an XP (cf. Rooths 1985, 1992). This is just its normal semantic value, unless XP (properly or improperly) contains a focused element, such as a wh-word (wh-words, by hypothesis, lack a normal semantics: they would only be endowed with a focus-semantics). In such cases, the focus-semantic value of XP is a set of 'alternatives' evoked by the focused element contained in the XP: in Cable's words (Cable 2007: 133), <u>if the normal semantic value of the focused element is of type *T*, then its focus-semantic value is all the elements of type *T*</u>. We might illustrate this idea by looking at the hypothetical semantics of a simple QP. We will need two additional semantic translations, as follows. On the one hand, (5) provides a semantics for the English wh-word *who*. Notice that this element has no defined normal semantic value. It only has a focus-semantic value, which is the set of all human individuals.

(5)   *Semantics of* WHO

normal-semantics: [[*who*]] = undefined

focus-semantics: $[[who_F]]^F = \{ x_{<se>} : x \in \text{human} \}$

Definition (6), on the other hand, provides the semantics of a Q-particle. This definition states that a Q-particle denotes, via an assignment function g, a member of the domain of choice functions.

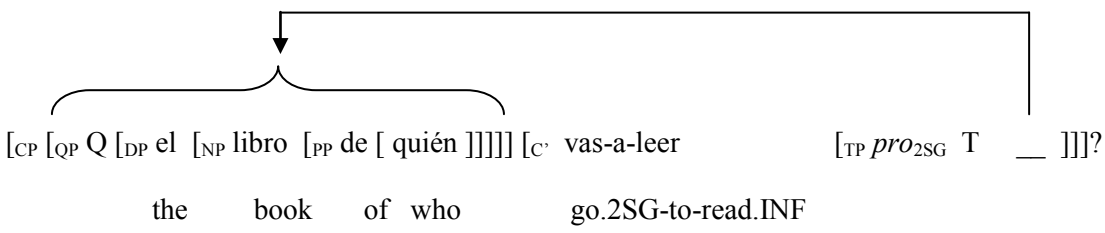(6)   *Semantics of Q*

$[[Q]]^g = g(i) \in D_{cf}$

Equipped with these rules, let us tackle the semantics of a simple QP such as (7). The relevant derivation is given in (8) (f in (8d) denotes a choice function, in this particular case the choice function g assigns to the index 1).

(7) $[_{QP}$ Q$_1$ [who]]

(8)   a. QP = $[[Q_1]]^g([[who_F]]^{F,g})$ (by 4)

b. QP = $[[Q_1]]^g(\{ x_{<se>} : x \in \text{human} \})$ (by 5)

c. QP = $g(1) (\{ x_{<se>} : x \in \text{human} \})$ (by 6)

d. QP = $f(\{\lambda w.\text{John}(w),\ \lambda w.\text{Mary}(w),\ \lambda w.\text{Bill}(w),\ \lambda w.\text{Susan}(w), \ldots\})$ (by Identity)

Hence, a QP refers to a choice-functional application on a set of alternatives denoted by an XP that contains a focused element. In the case of the QP in (7, 8), the situation is straightforward since the focused element is improperly contained in the complement of Q. But what about a

question such as (2), in which, by hypothesis, the wh-word is deeply embedded in the complement of Q? Thus, in Cable's model, the relevant example should be parsed as follows (cf. 1).

(9)

[CP [QP Q [DP el [NP libro [PP de [quién]]]]] [C' vas-a-leer   [TP *pro*2SG T __]]]?

                the   book   of   who   go.2SG-to-read.INF

'Whose book are you going to read?' (lit. 'The book of who are you going to read?')

A more detailed structure of the DP complement of Q is given in (10).

(10)   [DP el [NP libro [PP de POSS [quién F]]]]

            the   book   of   who

In order to find out what the contribution of this DP to the question in (9) is, we must determine (given rule 4), its focus-semantic value. The focus-semantic values of the non-focused items in (10) (that is, all items but the wh-word) is just their normal semantic value. The presence of the wh-word, however, generates a set of alternatives in which the regular denotations of these items combine with each possible member of the set denoted by the wh-word, which is the set of all human individuals. We might then characterize the relevant set of alternatives as in (11) (cf. Cable 2007:138-139 for the semantic derivation of a similar set of alternatives in a Tlingit sentence).

(11)   [[[$_{DP}$ el [$_{NP}$ libro [$_{PP}$ de$_{POSS}$ [quién$_F$]]]]]]^F =   {λw.the book(w) of John(w) in w,

λw.the book(w) of Mary(w) in w,

λw.the book(w) of Bill(w) in w,

λw.the book(w) of Susan(w) in w,

… }

This yields the following semantic interpretation of the QP in (9), given (4) and (6).

(12)   [[QP]]^F = f({ λw.the book(w) of John(w) in w, λw.the book(w) of Mary(w) in w,

λw.the book(w) of Bill(w) in w, λw.the book(w) of Susan(w) in w, …})

On these grounds, the denotation of the question in (9) in Cable's model would be as follows,

assuming a Karttunen semantics for questions (cf. Karttunen 1977) and existential closure over
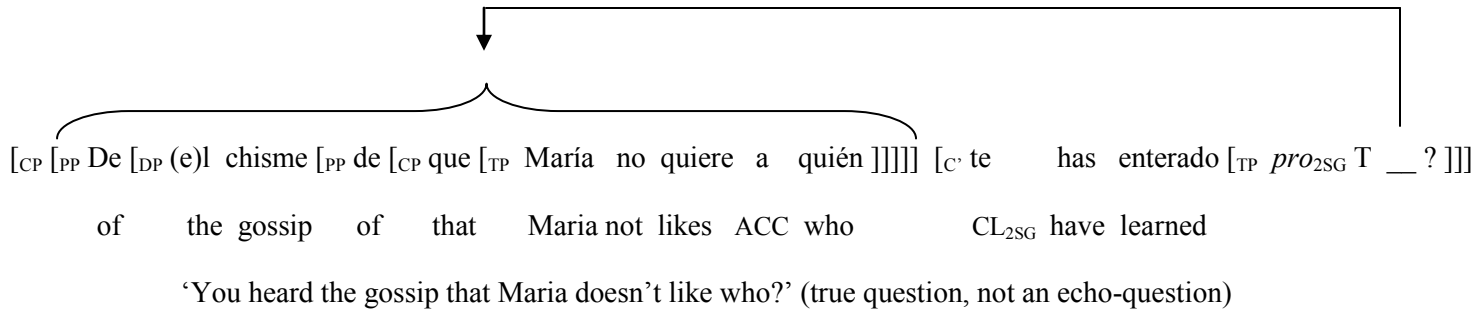
choice functions.

(13)   λp [∃f: p = λw.[you are going to read [f({ λw'.the book(w') of John(w') in w', λw.the

book(w') of Mary(w') in w', …})](w) in w]]

Since, under Cable's assumptions, the constituent in [Spec, CP] is invariably a QP, that is, a

constituent denoting a choice-functional application over a set of alternatives (akin to the ones in

8d or 12), we obtain a principled account of the fact that a fragment answer cannot usually be

smaller than the pied-piped constituent in the corresponding question: thus, the answer to a

question must minimally pick one of the possible values denoted by the constituent the Q-particle

takes as its argument. The answer to the question '*who did you see?*' must pick a member of the

set in (8d) (for example, John, or Mary, or Bill). An answer to question (2), on the other hand,

must pick a function from possible worlds to individuals in the set in (11), such as *el libro de*

Juan '(lit.) the book of John'. Crucially, the individual concept denoted by *Maria* 'Mary' is not a member of this set, nor does include a member thereof. As a result, an answer such as (3d) is infelicitous. Now, it is important to emphasize the point that the QP in (2) denotes a set of functions from possible worlds to individuals, that is, a set of individual concepts. Given, for example, that the members of the set in (11) are individual concepts, it follows that an answer to question (2) which would only provide the denotation of *the book of John* in a given world w (say, the *Ulysses*) will not be sufficient, in very much the same way as it would be inadequate to answer '*Venus*' rather than, say, '*the morning star*' to the question '*Which star can you see*?'.

My claim here is not only that Cable's model allows us to capture the data in (3): it is in fact stronger than that. I argue that Cable's model *predicts*, given the almost necessary assumption that an answer should at least provide the information that has been requested in order to be felicitous, a strong constraint on the structural size of fragment answers whenever the corresponding question contains a pied-piped constituent. Concretely, we would expect the answer to provide a value for the constituent in CompQP position. This is a welcome result, since it directly explains why an answer to (2) *must* include more material than would be expected if all that was needed was providing a given value for the wh-word. Hence, in this model, fragment answers provide us with a way to diagnose the scope of Q-particle, and therefore the position of the Q-particle itself: this is an interesting result, for languages in which the Q-particle is null.

Now, a relevant observation at this point is that, in some restricted contexts, fragment answers *can* actually be smaller than the pied-piped constituent in the corresponding question. An example of this particular state of affairs is given in the Spanish sentences in (14, 15). Question (14) exhibits massive pied-piping of a clause-containing PP-complement (I omit the position of the Q-particle for the moment being).

(14)   *Question*

[CP [PP De [DP (e)l chisme [PP de [CP que [TP María no quiere a   quién]]]]] [C' te   has enterado [TP *pro*2SG T __ ?]]]

of   the gossip of   that   Maria not likes ACC who   CL2SG have learned

'You heard the gossip that Maria doesn't like who?' (true question, not an echo-question)

(15)   *Candidate answers*

a. Me   he   enterado del   chisme de que Maria no   quiere a   Juan.

   CL1SG have   learned of.the gossip of that Maria not likes ACC Juan

   'I have heard the gossip that Maria doesn't like Juan.'   (full sentence answer)

b. Del   chisme de que Maria no quiere a   Juan.

   of.the gossip of that Maria not likes   ACC Juan

   'the gossip that Maria doesn't like Juan.'

                                        (answer syntactically equivalent to the pied-piped constituent)

c. De que (Maria) no quiere a   Juan.

   of that Maria not likes ACC Juan

   'that Maria doesn't like Juan.'   (answer smaller than the pied-piped constituent)

d. # (Maria) no quiere a   Juan.
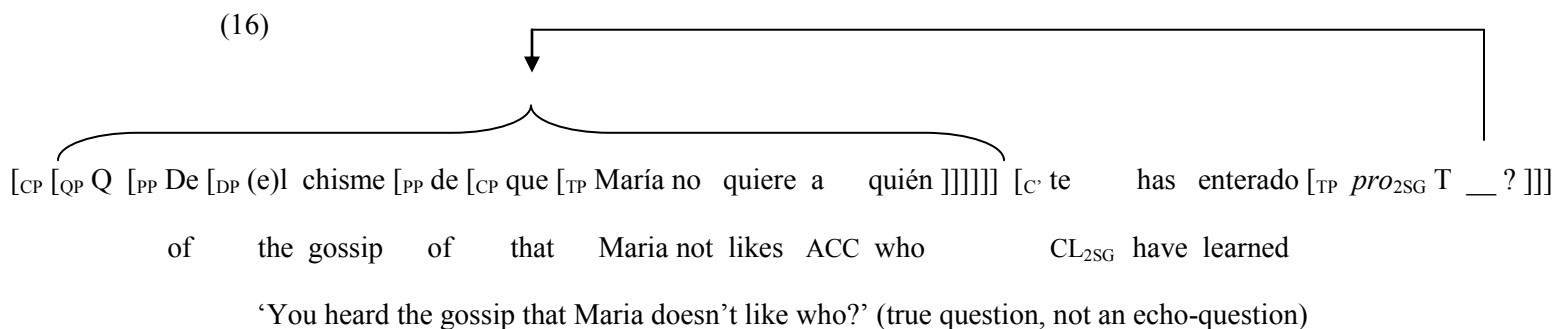
     Maria not likes ACC Juan

    'Maria doesn't like Juan.'   (answer smaller than the pied-piped constituent)
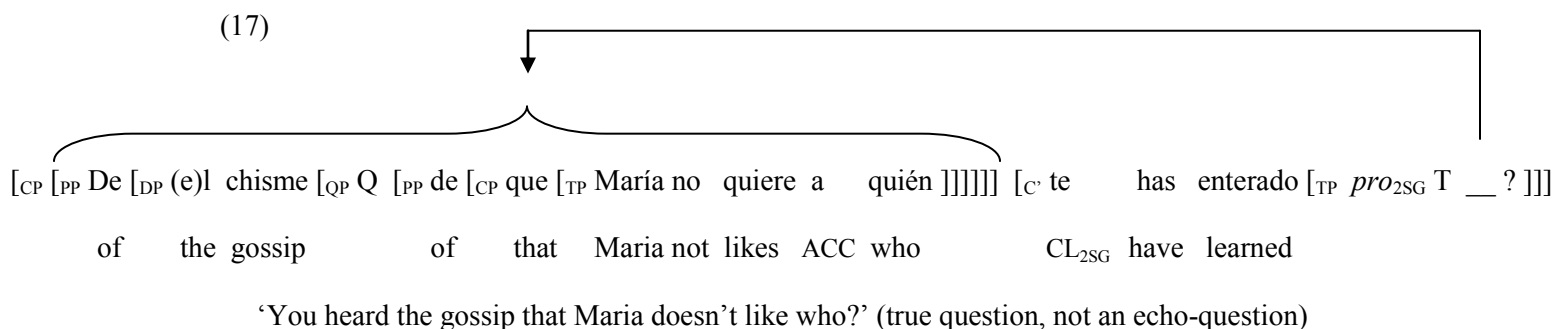

e. # Juan.

    Juan

    'Juan.'   (answer smaller than the pied-piped constituent)

The remarkable example is answer (15c), which is smaller than the pied-piped constituent (it provides a value for the PP complement of the noun *chisme* 'gossip'), and is nonetheless felicitous as an answer to (14). How can we explain this mismatch? Given the abovementioned observation that fragment answers indicate the scope of the choice function variable, the fact that both (15b) and (15c) are possible fragment answers to (14) points to the conclusion that there is more than one way in which a speaker can parse the pied-piped constituent in this question, that is, that there is more than one position that can be assigned to the Q-particle in (14). On the one hand, the answer in (15b), which provides a value for the higher PP in [Spec, C], indicates that this PP can be parsed as the complement of the Q-particle. This is indeed expected in Cable's model, which is partly (but crucially) based on the assumption that fronted constituents in questions are always QPs. Thus, one way to parse (14) would be as follows.

(16)

$[_{CP}$ $[_{QP}$ Q $[_{PP}$ De $[_{DP}$ (e)l chisme $[_{PP}$ de $[_{CP}$ que $[_{TP}$ María no quiere a   quién $]]]]]]$ $[_{C'}$ te   has enterado $[_{TP}$ *pro*$_{2SG}$ T __ ? $]]]$

    of   the gossip of   that   Maria not likes ACC who   CL$_{2SG}$ have learned

    'You heard the gossip that Maria doesn't like who?' (true question, not an echo-question)

Because the scope of the Q-particle in this question is the higher PP in [Spec, C], the answer must at least provide a value for this PP in order to be felicitous. However, answer (15c) does not fulfill this requirement, and yet it is a fine answer. The explanation I propose is that a Spanish speaker has the option of parsing question (14) differently than it is in (16). Thus, the possibility of answer (15c) indicates that the scope of the Q-particle in (14) can be taken by the hearer to be the lower PP in [Spec, C], which, by (4), means that the Q-particle is sandwiched between the noun *chisme* 'gossip' and the lower PP. This particular way to parse (14) would be as follows.

(17)

[CP [PP De [DP (e)l chisme [QP Q [PP de [CP que [TP María no quiere a quién]]]]]] [C' te has enterado [TP *pro*$_{2SG}$ T __ ?]]]

of the gossip of that Maria not likes ACC who CL$_{2SG}$ have learned

'You heard the gossip that Maria doesn't like who?' (true question, not an echo-question)

The idea that (14) can be parsed this way provides us with a direct explanation for the fact that (15c) is possible as a short answer to the relevant question, given the assumption that an answer must minimally pick a member from the set of alternatives the Q-particle takes as its argument. However, this way to parse (14) is not expected in Cable's model, in which only QPs (not projections containing them) can target [Spec, C] after Agree(C, QP) obtains. I argue that the latter assumption does not follow from conceptual necessity, a fortiori given the observation that dispensing with this assumption (as in 17) provides us with a way to account for the possible shapes of short congruent answers. Put another way, even if we assume a view of wh-movement based on Cable's model, it seems still desirable, and even necessary, to posit pied-piping procedures in some contexts. Ultimately, the existence of such procedures is not surprising under

the assumption that some dependencies (for example the relation between C and a QP in a wh-question) are subject to the INP.

Appendix B

Alternatives of parameterization

While there is little doubt in my mind that the directionality of probing is somehow parameterized, I am not completely convinced that direct parameterization, as in Baker (2008)'s *Directionality of Agreement Parameter* (repeated below in 1), is the only alternative.

(1)   i. F agrees with DP/NP only if DP/NP asymmetrically c-commands F, *or*   [*upwards probing*]

        ii. F agrees with DP/NP only if F c-commands DP/NP, *or*   [*downwards probing*]

        iii. F agrees with DP/NP only if F c-commands DP/NP or vice versa.   [*mixed system*]

A first observation is that, while Tariana and Burushaski are fairly strong candidates for parameter settings (1i, upwards probing) and (1ii, downwards probing) respectively, it is not obvious that there is a language group whose properties reflect, to a significant degree, the action of one of these parameters, contrary to Indo-European or the heterogeneous set of agreement displacement languages, in which the effects of parameter (1iii, the mixed system) seem robust.

The particular case of Bantu languages, which was pointed out in the discussion in chapter 2 as a potential piece of evidence in favor of parameter (1i) acting at the family level (the hallmark of a macro-parameter, if any), is less compelling, in my view, than the evidence involving Tariana or Burushaski. The reason is that it is possible to come up with alternative scenarios which do make reference to more or less familiar properties of syntactic configurations, or particular but robust features of the languages under consideration. For example, consider first the pattern involving

agreement on complementizers. This was illustrated with the Kinande example repeated here in (2), and analyzed as in (3), where a null logophoric operator in the embedded [Spec, C] position, bound by the matrix subject of a speech verb, controls the agreement on the complementizer it c-commands – presumably a case of upwards probing.
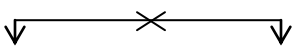
(2)   ***pro₂*** mo-**ba**-nyi-bw-ire   **ba**-ti   **Kambale** mo-**a**-gul-ire   eritunda.

           AFF-**SM.2**-1SG.OBJ-tell-EXT   **SM.2**-that Kambale   AFF-**SM.1**-buy-EXT   fruit
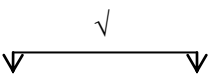
        'They told me that Kambale bought fruit.'

        Binding

(3)   They$_i$ told me [$_{CP}$ LOG$_i$ C   [Kambale bought fruit]].
        [NC2]   [NC2]   [NC2]
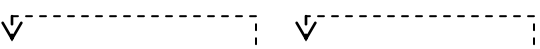   *Agree*
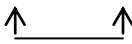
Since Rizzi (1997), it is often thought that the C-layer decomposes into more fundamental, discourse-related projections. Two types of C heads are recurrently distinguished in the literature on this Split-CP hypothesis: the higher of these projections (call it C_2P, or, following Rizzi, ForceP) is the one that bears information on the typing of the clause, while the lower projection (call it C_1P - or FocusP in Rizzi's terminology) is the locus where operator-variable relations are established. By virtue of the latter property, it would seem that this C_1P is a safe choice for the position where the LOG operator is generated. However, the exact location of the inflectional features associated to C-agreement is a different matter. Complementizer agreement is a relatively rare phenomenon, and as far as my knowledge goes, no attempt has been made to pinpoint its position on a decomposed C-layer. If anything, given the fact that C-agreement in KiNande is restricted to the complements of speech verbs, I would expect this agreement to be hosted on the category that is selected by the matrix verb, i.e., the higher projection. But this is

terra incognita. The main point at hand is that, as soon as we admit the possibility of an articulated CP, the fact that the operator is null does not allow us to disambiguate between an upwards or a downwards probing configuration. Both options seem plausible *a priori*.

Consider next object agreement on *v*, again in KiNande. As previously observed, no object agreement obtains with a DP in situ (cf. 4a), but this agreement becomes obligatory with a left dislocated object DP (4b). Given these properties, the idea makes sense that, in its path towards the edge of the clause, the object DP moves through an intermediary position above the *v*-head, but below the external argument, where *v* agrees with it via upwards probing - by hypothesis, the only available mechanism for Agree in this language (cf. 5).

(4)   a. N-a-(*ri)-gul-a   **eritunda**.   (KiNande, Baker 2003b)

        SM.1-T-**OBJ.5**-buy-FV   **fruit.5**

        'I bought a fruit.'

    b. **Eritunda**,   n-a-*(ri)-gul-a.

        fruit.5   SM.1-T-**OBJ.5**-buy-FV

        'The fruit, I bought it.'

(5)   Eritunda [...[$_{vP}$ (pro$_1$) (eritunda) [$_{v'}$ *v* [V (eritunda)]]]]

                    Agree (v, eritunda)

We might formulate an alternative analysis by assuming that the fronted object is in fact a base-generated topic, which binds a resumptive pronoun in argumental position. As is well-known, such configurations are known to occur in many languages (e.g. in varieties of Romance, where they are extremely frequent, or in Arabic, cf. Soltan 2006), and are part of the familiar toolkit in the analysis of the structure of (so-called) non-configurational languages, such as Warlpiri (cf. in particular Jelinek 1984) or Mohawk (cf. Baker 1996). In this kind of scenario, the features of the object agreement morpheme would in fact be controlled by a null resumptive pronoun in object position, via downwards agreement.

$$\textit{Binding}$$

(6) **Eritunda**, n- a-**ri**- gul- a. pro_5
     fruit.5 SM.1-T-**OBJ.5**-buy-FV

$$\textit{Agree (v, pro)}$$

'The fruit, I bought it.'

Insofar as this analysis appeals to crosslinguistically common configurations, it is a natural competitor for the hypothesis in (5). Now, it should be possible to test them, and distinguish them, by examining the behavior of the left dislocation pattern (4b) in a scenario in which the argumental position related to the dislocated constituent (whether we assume this position to be occupied by the lower copy of a chain generated by movement, or by a null resumptive pronoun) is embedded in an island. If the mechanism underlying this construction is movement, we would expect it to be impossible (or at least severely degraded) in configurations involving islands. If, on the other hand, we are dealing with a resumptive pronoun strategy, we might expect it to remain impervious to island effects (although the issue could be more intricate, cf. Boeckx 2003). The preliminary evidence at hand, unfortunately, preserves a relative tie between these approaches. Thus, it is possible (although somewhat degraded) to relate a left dislocated

constituent, as in (4b), to an argumental position embedded in a wh-island. In (7), this island is itself contained within a parenthetical added to the basic construction in (4b). Note that the argumental position within the island is associated to agreement on the verbal form.

(7)? **Eritunda**, Kambale abuga ati omulume [_wh-island oyu-**ri**-anzire] ni karanda, n-a-ri-gul-a

    fruit.5 Kambale said that man who-**OBJ.5**-likes is intelligent SM.1-T-OBJ.5-buy-FV

    'The fruit, (about which) Kambale said that the man who likes it is intelligent, I bought it.'
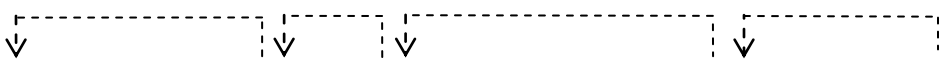
<div align="right">(Philip Mutaka, p.c.)</div>

This would seem to give an edge to the resumptive pronoun approach. It is unlikely that the dislocated constituent *eritunda* in (7) is related to both the object positions of *like* and *buy* through movement: this is not a canonical across-the-board configuration, and the operation would additionally require one of the movements to cross an island boundary. Hence, in order to account for the occurrence of agreement within the wh-island, the upwards probing approach would require a null object pronoun anyway: this pronoun, generated in complement position of the verb *like*, would subsequently move to a given position within the island where *v* could agree with it via upwards probing. However, this introduces an undesirable redundancy. If a null pronoun is needed in some cases, we cannot be certain that (4b) is derived through movement of *eritunda* from the object position. If, on the other hand, it is not derived through movement, and the construction involves a null resumptive pronoun, we cannot observe in which position the agreed-with pronoun is located, and as a result, the direction of probing cannot be determined.

Nevertheless, the matter is far from being dealt with. As Philip Mutaka notes, the sentence in (7) actually *improves* if the wh-island boundary is eliminated and the parenthetical becomes a relative clause adjoined to *eritunda*, as in (8).

(8)   Eritunda eryo Ira abuga ati omulume a-ri-anzire   ni karanda, narigula.

       fruit.5   that Ira said that man   SM1/T-OBJ.5-likes is intelligent, I bought it

       'The fruit that Ira said that the man likes it is intelligent, I bought it.'

Under a resumptive pronoun analysis, no improvement would be expected upon elimination of an

island boundary. The movement approach, in turn, accommodates the facts in (8) rather well, by

assuming that a null operator (ultimately bound by the DP of class 5) undergoes successive-cyclic

movement through the vP and CP edges of the two clauses contained in the relative.

(9) fruit.5 [$_{CP}$ OP$_5$ that Ira said [$_{vP}$ (OP$_5$)...[$_{CP}$ (OP$_5$) that the man likes [$_{vP}$ (OP$_5$) v [$_{VP}$ t$_{likes}$ (OP$_5$)]]]]], I bought it$_5$.

If anything, the evidence so far points to the conclusion that KiNande allows either movement or

resumption in order to construct left-dislocated structures - if true, this state of affairs would not

be exceptional, as McCloskey (2002) has previously demonstrated that both mechanisms are

active in the wh-system of Irish. For our current purposes, however, the fact that the movement

strategy is in principle possible in a sentence like (8) does not take us much closer to determining

whether agreement in this language operates upwards or downwards. We know that the operator

and the light verb associated to the verb *like* must agree at some point in the derivation (cf. 9), but

we have no evidence of the step in which this occurs. Again, both options seem plausible *a priori*.

Finally, consider the status of T-agreement. As mentioned in the discussion on the KiNande

examples (45, 46) of chapter 2 (section 3.4), the Bantu T agrees in noun class with the category

moved to [Spec, T]. This agreement pattern is one of the notable properties of a construction

known as *subject-object reversal*, attested in several Bantu languages, whereby the internal

argument moves to preverbal position across the external argument (which remains postverbal),

and controls agreement on the verb from this position. The following examples are from Kirundi (Ndayiragije 1999).

(10)   a. **Abâna**   **ba**-á-ra-nyôye   amatá.   *SVO order*

         children **3P**-PST-F-drink.PFV milk

         'Children drank milk.'

       b. **Amatá** **y**-á-nyôye   abâna.   *OVS order (subject-object reversal)*

         milk   **3S**-PST-drink.PFV children

         [Lit.: 'Milk drank children.']

         'Children (not parents) drank milk.'

It is interesting to note that, under subject-object reversal [SOR], the postverbal subject receives a contrastive focus interpretation, while the fronted object is completely defocused. This property of SOR is also found in KiNande (48).

(11)   Olukwi   si-lu-li-seny-a   bakali   (omo-mbasa).   (Baker 2003a)

       wood.11   neg-SM.11-pres-chop-fv women.2   loc.18-axe.9

       'WOMEN do not chop wood (with an axe).'

The Kirundi verb, however, exhibits a morphological property which might point to a potential analysis of reversal alternations. In neutral, non-reversed contexts, the morpheme *-ra-* appears between the tense morpheme and the verbal stem (cf. 10a). This morpheme disappears from the verb in reversed contexts (cf. 10b), as well as in configurations in which the focus is on the object (cf. 12).

(12)   Abâna   ba-á-nyôye   amatá.   SVO order

        children 3P-PST-drink.PFV milk

        'Children drank milk (not water).'

In other words, the Kirundi verb displays a morphological alternation correlating with the occurrence or not of contrastively focused constituents in the clause, and the corresponding occurrence of reversal in case it is the external argument that receives the focus. This alternation, along with the position of the -ra- morpheme being closer to the stem than the T morpheme is, leads Ndayiragije (1999) to postulate a focus projection in the middle field of the clause (located between TP and *v*P), whose head is spelled out as /-ra-/ in neutral contexts.

Building on this idea, we might formulate an approach to the relevant agreement patterns by assuming first (a) that agreement can proceed downwards as well as upwards. Second, assume (b) that number and noun-class agreement on T in Kirundi, and perhaps in other Bantu languages, track the occurrence of covert T-agreement in a [-Focus] feature (cf. Holmberg 1999 for the postulation of such a feature on *v*)[1,2]. We might justify the postulation of such a feature on T as follows: as mentioned, in Kirundi and other Bantu languages, subject-object reversal is only possible if the external argument is contrastively focused. Otherwise, the external argument ends up in [Spec, T], whether the object is focused or not. This suggests two things: on the one hand, there is something topical about the [Spec, T] position, which we might model as stemming from a [+Topic]/[*u*Topic], or [-Focus] feature hosted on T. On the other hand, there seems to be a minimality effect when neither the external nor the internal argument are focused: only the higher

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[1] This is consistent with Rizzi (2006)'s idea that [Spec, T] is a 'quasi-topic' position.

[2] It is worth noting that in this I am temporarily departing from the current standard assumption that the features of the probe lack a value, and reverting to the earlier system of Chomsky (2000), which was based on checking at a distance, not valuation. My main objective here is only showing that it is possible to construct a coherent alternative approach to Bantu T-agreement, without appealing to parameter (1i) in order to enforce upwards probing.
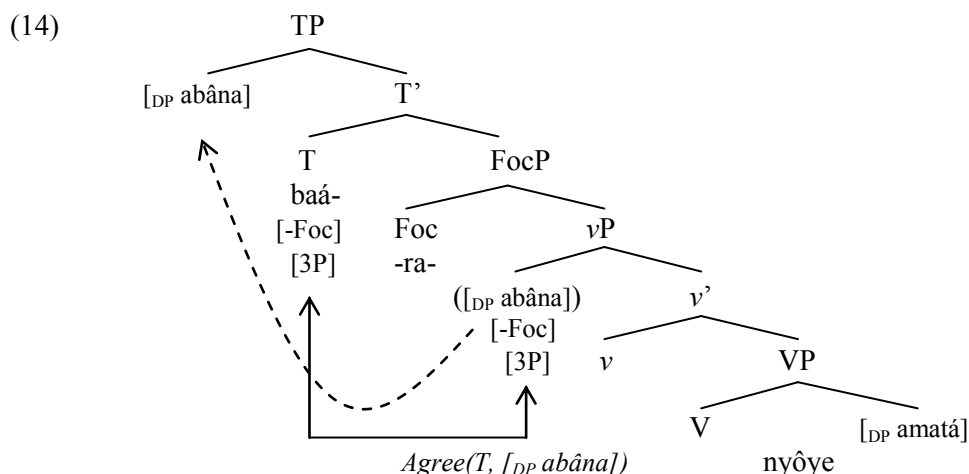
argument can be promoted to the derived subject position, which is consistent with the idea that an agreement relation is at play.

Next, consider the intermediate Focus projection: I will assume (c) that it is always projected, in one of two states: either it is inert (i.e., not a probe), in which case it is spelled out as /–ra-/, or it is active, in which case it bears a [+Focus] feature, mirroring the [-Focus] feature of T. This [+Focus] feature would license a focused DP through agreement. The fact that both T and the Focus head probe for the same kind of feature ([±Focus]) introduces the possibility of intervention effects whenever the latter head is active. In such cases, downwards agreement between T and a *v*P-internal [-Focus] argument will be blocked, leaving only upwards agreement as an option for T. Finally, I assume (d) that Kirundi, as English to some extent, requires the [Spec, T] position to be filled, which I tentatively model here as a traditional EPP effect parasitic on T-agreement. By 'parasitic' I mean that the EPP must be satisfied by the same category that checks the phi-features of T – unlike English, which in some contexts allows for expletive insertion.

Let us then summarize the assumptions, and see how these come together.

(13)   a. Agreement proceeds upwards or downwards.

b. T bears a [-Focus] feature, which is checked in association with overt agreement in number and noun class.

c. The Focus head can be inert or active. If it is inert, it bears no feature to be checked. If it is active, it bears a [+Focus] feature, which licenses a [+Focus] argument through agreement.

d. The Spec of T must be filled. This EPP effect is parasitic on T-agreement.

In a neutral SVO sentence such as (10a), in which the Focus head (labeled as *Foc*) is inert, T agrees with the closer argument in the *v*P, and attracts it under the EPP effect associated to T-agreement.

(14)

```
                        TP
              ┌──────────┴──────────┐
        [DP abâna]                  T'
                          ┌──────────┴──────────┐
                          T                     FocP
                         baá-          ┌──────────┴──────────┐
                        [-Foc]        Foc                    vP
                        [3P]          -ra-         ┌──────────┴──────────┐
                                          ([DP abâna])                   v'
                                            [-Foc]              ┌─────────┴─────────┐
                                            [3P]                v                  VP
                                                                         ┌─────────┴─────────┐
                                                                         V              [DP amatá]
                                Agree(T, [DP abâna])                   nyôye
```
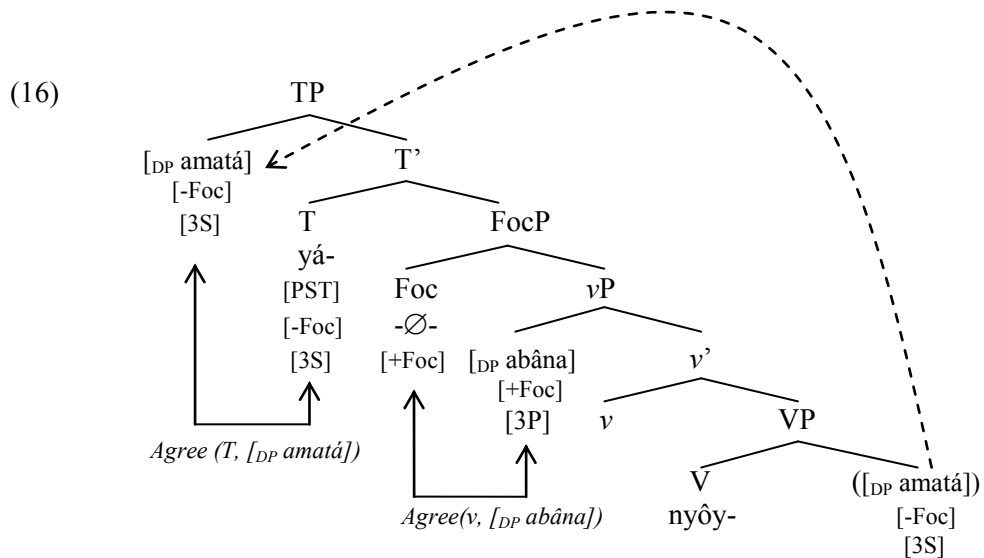
Since the external argument is closer to T than the internal argument, the OVS order is not possible in neutral contexts where neither argument is focused. This fits the data so far.

Suppose now that the Focus head is active, and bears a [+Focus] feature. This feature will license a focused argument, but will also block T from being able to probe within *v*P. Example (15) - in which it is the external argument that receives contrastive focus - illustrates such a scenario at the T' stage of the derivation. The internal argument is a potential matching goal for T, but the intervening [+Foc] elements prevent the possibility of downwards agreement.

(15)

```
                    T'
          ┌─────────┴─────────┐
          T                  FocP
        [-Foc]        ┌───────┴───────┐
                     Foc              vP
                     -∅-        ┌──────┴──────┐
                    [+Foc]  [DP abâna]        v'
                              [+Foc]    ┌─────┴─────┐
                              [3P]      v          VP
                                              ┌─────┴─────┐
                                              V      [DP amatá]
                        Agree(Foc, [DP abâna])  nyôye      [-Foc]
```
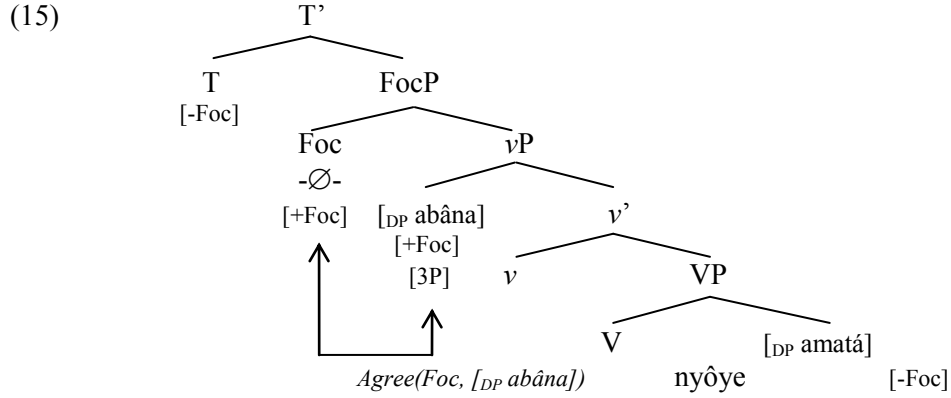
One solution Kirundi offers to solve this predicament is licensing the movement of the internal argument to [Spec, T]. Once the object is in this position, Agree (T, [DP amatá][-Foc]) obtains via upwards probing, which simultaneously satisfies the EPP of T – recall the assumption that the EPP effect is parasitic on agreement: we expect the category that controls agreement and the category that satisfies T's EPP property to be the same. The result is a reversed object-subject configuration.

(16)

```
                         TP ┈┈┈┈┈┈┈┈┈┈┈┈┈┈┈┈┈┈┈┈┈┐
              ┌──────────┴──────────┐           ┊
         [DP amatá] ↙                T'          ┊
          [-Foc]          ┌──────────┴──────────┐┊
          [3S]            T                    FocP
                         yá-            ┌───────┴───────┐
                        [PST]          Foc              vP
                        [-Foc]         -∅-        ┌──────┴──────┐
                        [3S]          [+Foc]  [DP abâna]        v'
                                                [+Foc]    ┌─────┴─────┐
                                                [3P]      v          VP
                                                              ┌─────┴─────┐
              Agree (T, [DP amatá])                           V      ([DP amatá])
                    Agree(v, [DP abâna])                   nyôy-       [-Foc]
                                                                       [3S]
```

Interestingly, Kirundi provides a second solution to the intervention effect illustrated in (15), which consists in inserting a null expletive pronoun in the [Spec, T] position, which triggers locative agreement on T, and satisfies the EPP property associated to such agreement.[3]

(17) pro_{exp} ha-á-nyôye   amatá abâna.

          LOC-PST-drink.PFV   milk   children

     [Lit.: 'There drank milk children.']

     'Children (not parents) drank milk.'

(18)
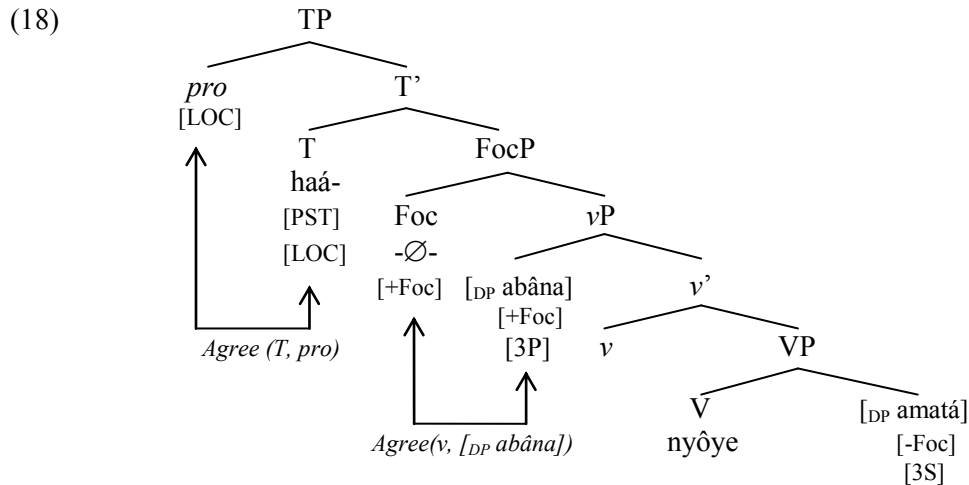
I follow Ndayiragije (1999) in assuming that the position of the subject at the end of the sentence follows from PF-dislocation associated to information structure constraints on prosody, rather than the object moving across the external argument. This assumption is supported by the fact that the postposed subject can still bind a possessive pronoun contained in the object (19a), in very much the same way as a subject in [Spec, T] position would (19b). However, the same binding is not possible in configurations in which the object crosses over the subject, as in

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[3] This pattern also suggests that, while phi-agreement is obligatory, the [-Focus] feature – which enforces matching with topics and thus the incompatibility between the [Spec, T] position and focused arguments – is straightforwardly deleted in case it is not checked.

reversal contexts (19c), thus suggesting that the object does not c-command the external argument in (17, 19a).

(19)   a. *pro*$_{exp}$ ha-á-zanye   imodoká   yíiwé$_i$ Yohani$_i$.

         LOC-PST-bring.PFV   car   of-him   John

   'John$_i$ (not Peter) brought his$_i$ car.'

   b. Yohani$_i$ a-á-ra-zanye   imodoká   yíiwé$_i$

      John   3S-PST-$\varnothing_{FOC}$-bring.PFV   car   of-him

      'John$_i$ brought his$_i$ car.'

   c. *Imodoka   yíiwé$_i$ i-á-zanye   Yohani$_i$.

       car   of-him   3S-PST-bring   John

      (Intended: 'John$_i$ (not Peter) brought his car$_i$.')

Returning to (17, 18), the fact that expletive insertion is possible when the external argument is focused, but not in neutral contexts, supports an approach to the Kirundi agreement patterns in terms of an intervention effect on T agreement, associated to the requirement that T-agreement and EPP satisfaction converge on the same category. If (15) were not an intervention configuration (that is, if a focused argument were just invisible to agreement from T), then it should be possible for T to agree with the internal argument – and after all, this might be what happens in reversed contexts. But if so, we would have to ask why expletive insertion is also viable in (15), even though it is not available in neutral contexts, where T would also be assumed to agree with the external argument via downwards probing. Instead, the possibility we are entertaining here is that both expletive insertion and subject-object reversal do not follow from an agreement operation. Instead, they would be derivationally equivalent last resort procedures,

whose purpose is to check the requirements of T (phi-agreement and its associated EPP) after failure of downwards probing. These procedures succeed because Kirundi allows upwards probing as well as downwards probing, and as a result, any phi-feature bearing category (externally or internally) merged in [Spec, T] position will be able to control T-agreement - in this, the picture is reminiscent of agreement displacement languages, in which failure of downwards agreement yields an occurrence of upwards agreement. On the other hand, no appeal to such last resort options is necessary in neutral contexts, since downwards agreement straightforwardly obtains in the absence of an active Focus head. I suggest that the same analysis can be extended to other Bantu languages with similar properties involving agreement and reversal configurations, under the assumption that the Focus head is always phonologically null in these languages.

This approach to the Kirundi agreement patterns is arguably more complex than a strategy based on parameter (1i), thus giving an edge to the latter. However, it also shows that it is in principle possible to relate the occurrence of upwards agreement to a particular clause-structural property of the relevant language group, rather than to the action of a given parameter of agreement. This is an explanatory property that the agreement-parametric approach lacks, and restablishes a relative balance between both. Here again, either approach seems *a priori* plausible.

Of course, the suggested approaches to C-, *v*- and T-agreement in the relevant Bantu group do not make an approach in terms of parameter (1i) wrong. As far as I can see, they are only more or less natural competitors, and, if anything, they lack the unifying appeal of an agreement-parametric approach. However, they are also able to derive the facts by making use of already known technology, and by making reference to phenomena attested in other languages, outside and inside the relevant language family. The same result is much more difficult to attain, in my view, with respect to Baker (2008)'s analyses of the agreement patterns observed in Tariana and Burushaski. This might be because of my lack of a deeper knowledge of the languages under consideration, or simply because the parameters are real – and perhaps the Bantu languages, or

the larger family Tariana belongs to, will end up showing that very fact. The question is ultimately empirical in nature, and my aim in this appendix was limited to point out (i) that the existence of 'pure' upwards or downwards probing languages is, at the current stage of discussion, more difficult to assume than that of mixed systems, and (ii) that, in the interim, the influence on agreement patterns of potential variation in smaller parameters (underlying, say, the articulated structure of CP, or the projection of a discourse-related position in the middle field) should not be overlooked.

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