

# THE SECRET LIFE OF PRONOUNS

by

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Submitted to the Department of Linguistics and Philosophy  
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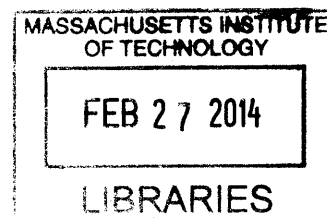
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## ABSTRACT

This thesis explores the relationship between anaphora and movement on a wide array of data primarily from Russian. I argue that anaphors and pronominals are underlyingly the same syntactic entity, an *index*, whereas conditions A and B of binding theory should be substituted by principles regulating the spell-out of an anaphoric element as a reflexive or a pronominal.

Through cyclic covert movement of an index, accompanied by cyclic evaluation of its phonological form, I account for the constraints against backward anaphora, or cataphora, found in Russian, as well as subject-orientation of anaphors and anti-subject orientation of the pronominals. The proposal derives the systematic complementarity of distribution of anaphors and pronominals in some contexts, as well as systematic lack thereof in others.

Finally, I explore the interaction of anaphora with overt movement, scrambling in particular. I conclude that reconstruction effects correlate with case assignment in the way predicted by Wholesale Late Merger theory. Using this conclusion, I provide an argument in favor of existence of Determiners in Russian.

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## CHAPTER 1. INTRODUCTION

The puzzle that serves as a starting point for the present work is a difference between English and Russian with respect to the possibility of cataphora, or backward anaphora. While in English cataphora is acceptable, as shown in (1), in Russian such sentences are bad (2), as was previously observed in Antonyuk-Yudina and Bailyn (2008).

- (1) His<sub>i</sub> mother loves John<sub>i</sub>.
- (2) \*Eë<sub>i</sub> učitel'nica poxvalila Mašu<sub>i</sub>.  
her teacher.NOM praised Maša.ACC  
Her<sub>i</sub> teacher praised Maša<sub>i</sub>.

In English, cataphora is possible as long as the R-expression does not bear focus (Chomsky 1976; Williams 1997, among others):

- (3) a. \*His<sub>i</sub> mother loves JOHN<sub>i</sub>.  
b. His<sub>i</sub> mother LOVES John<sub>i</sub>.

Importantly, in Russian cataphora is bad regardless of intonation or information structure. A relevant example of that can be taken from a quantitative judgment study of Russian anaphora conducted by Slioussar (2007, 177). SVO sentences (4a) strongly favor the interpretation in which the object is part of the focus. In contrast, SOV sentences are most naturally interpreted with focus on the predicate. If de-focusing the R-expression could neutralize the Anti-Cataphora violation, (4b) would be judged significantly worse than (4a). The judgments reported in Slioussar (2007, 177) show no such contrast.

- (4) a. \*Ix<sub>i</sub> roditeljam nrvjatsja deti<sub>i</sub>.  
[their parents].DAT appeal children.NOM  
b. \*Ix<sub>i</sub> roditeljam deti<sub>i</sub> nrvjatsja.  
[their parents].DAT children.NOM appeal  
Their<sub>i</sub> parents like the children.

I observe that effects like (2) in Russian are not limited to cases where the pronominal occupies a possessor position within a DP. Cataphora is also ruled out when the pronominal is embedded in a complement PP:



- (5) ???Kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub>.<sup>1</sup>  
 book.NOM about her fell on Maša.  
 A book about her<sub>i</sub> fell on Maša.
- (6) ???Stat'ja o nej<sub>i</sub> kritikuet Mašu<sub>i</sub>.  
 article.NOM about her criticizes Maša.ACC  
 The article about her<sub>i</sub> criticizes Maša<sub>i</sub>.

We might imagine that cases like (2),(4)-(6) in Russian are ruled out by a constraint that would require a pronominal to always linearly follow an R-expression with which it is coindexed. However, such a constraint is not viable, since it would incorrectly rule out a wide range of acceptable cases, as shown in (7)-(10):

- (7) To, čto s nim<sub>i</sub> nikto ne razgovarivaet, rasstraivaet Vasju  
 that with him noone not talks upsets Vasja.ACC  
 The fact that noone talks to him<sub>i</sub> upsets Vasja<sub>i</sub>.
- (8) Učitel'nica, kotoruju ona<sub>i</sub> bol'she vsech ljubit, poxvalila Mašu<sub>i</sub>.  
 teacher.NOM which.ACC she.NOM more anyone.GEN loves praised Maša.ACC  
 The teacher who she<sub>i</sub> loves most of all praised Maša<sub>i</sub>.
- (9) Vanina kniga o eë<sub>i</sub> dostiženijax upala na Mašu<sub>i</sub>.  
 Vanja's book.NOM about her achievements fell on Maša.  
 Vanja's book about her<sub>i</sub> achievement fell on Maša<sub>i</sub>.
- (10) Stat'ja, opisavajuščaja eë<sub>i</sub> dejstvija vo vremja poslednix sobytij, kritikuet Mašu<sub>i</sub>.  
 article.NOM describing her actions during recent events criticizes Maša.ACC  
 The article describing her<sub>i</sub> actions during the recent events criticizes Maša<sub>i</sub>.

Therefore, a more principled, structure-based approach is necessary.

In (2),(4)-(6), the binding violations are created by a pronominal preceding a coindexed R-expression that it doesn't c-command from its overt position. We will refer to binding violations in configurations of this sort as *Anti-Cataphora Effects* (abbreviated as ACE).

The puzzle, then, is what makes (2),(4)-(6) ungrammatical, yet allows (7)-(10). Taking this puzzle as a starting point, we will explore a wide range of binding phenomena from a variety of points of view. We will propose an account of the Anti-Cataphora Effects in Russian, and then discuss how it interacts with other aspects of binding theory and syntax in general.

---

<sup>1</sup> (5)-(6), while ungrammatical, are somewhat better than (2). As we will see later, level of embedding correlates with processing effects that gradually attenuate binding violations – a matter that will receive more attention in Section 4.4.

Crucially, the present work is limited to Anti-Cataphora Effects *within* a tensed clause. Cataphora in multi-clausal constructions is addressed in Reuland & Avrutin (2004) and Kazanina & Phillips (2001; 2010). The aforementioned works investigate the interaction between the *subjects* of an independently tensed clause and a clause with dependent tense, such as a temporal adjunct introduced by complementizers like *while, when, before, after, as soon as* (11a-b). Unlike cases of intra-clausal cataphora investigated here, inter-clausal anti-cataphora constraints target exclusively Nominative subjects.

- (11) a. \*Poka on<sub>i</sub> el jabloko, Ivan<sub>i</sub> smotrel televizor.  
 while he.NOM ate.IMF apple.ACC Ivan.NOM watched TV  
 While he<sub>i</sub> was eating an apple, Ivan<sub>i</sub> was watching TV.
- b. Poka Ivan<sub>i</sub> el jabloko, on<sub>i</sub> smotrel televizor<sup>2</sup>.  
 while Ivan.NOM ate.IMF apple.ACC he.NOM watched TV  
 While Ivan<sub>i</sub> was eating an apple, he<sub>i</sub> was watching TV.  
 (from Reuland and Avrutin 2004, 4)

While it would be interesting to tie the inter-clausal constraints on cataphora to the intra-clausal phenomena explored in current work, this task is outside of the scope of this study and will be left for future research.

---

<sup>2</sup> Sentences like (11b), involving forward cataphora, are reported as fully grammatical in Reuland and Avrutin. This statement may be too strong: according to the results of the judgment survey conducted by Kazanina and Phillips (2010), such sentences scored in the middle of the scale ((i), cf. (11b)), on a par with the sentences where the R-expression definitely c-commands the pronoun (ii), and contrasting with fully acceptable sentences like (iii).

- (i) Forwards anaphora, embedded first: 3.1 (on a scale of 5.0)  
 Poka Marina<sub>i</sub> prosmatrivala teksty soobščenij, ona<sub>i</sub> grimmirovalas' k načalu s'emok.  
 While Marina<sub>i</sub> looked through texts news she<sub>i</sub> put on make up for beginning of shoot.  
 While Marina<sub>i</sub> looked through the news texts she<sub>i</sub> put on make up for the shoot.
- (ii) Forwards anaphora, main first: 3.2 (on a scale of 5.0)  
 Marina<sub>i</sub> prosmatrivala teksty soobščenij, poka ona<sub>i</sub> grimmirovalas' k načalu s'emok.  
 Marina<sub>i</sub> looked through texts news while she<sub>i</sub> put on make up for beginning of shoot.  
 Marina<sub>i</sub> looked through the news texts while she<sub>i</sub> put on make up for the shoot.
- (iii) Control, highly plausible: 4.5 (on a scale of 5.0)  
 Tak kak za poslednie tri goda ona<sub>i</sub> ni razu ne brala otpuska,  
 Since in last three years she<sub>i</sub> not once not took vacation,  
 Olesja<sub>i</sub> tvrdo rešila, što v etom godu uedet otdyxat' na more.  
 Olesja<sub>i</sub> firmly resolved that this year will go on vacation at seaside.  
 Since in the last three years she<sub>i</sub> had never taken time off,  
 Olesja<sub>i</sub> firmly resolved to go to a seaside resort.

In Chapter 2 I will argue that the Anti-Cataphora Effects are not produced by a constraint on linear order of binder and bindee, but are due to a Principle C violation, which arises due to covert movement of pronominals to a position where their c-command domain is expanded. I use Anti-Cataphora Effects to detect c-command domains of pronominals generated in various positions in the clause and embedded in a variety of arguments. Based on the difference between c-command domains of pronominals and R-expressions generated in the same positions I argue that the proposed movement targets only pronominals.

The subsequent chapters address more general issues of Russian anaphora. Chapter 3 sets up background for a proposal regarding the formulation of Principles A and B of binding theory. The proposal is presented in Chapter 4, where its consequences and predictions are explored.

In Chapter 5 I discuss how scrambling fits into the overall picture.

### ***1.1. Remark about judgments.***

Russian is notorious for wild variation in judgments. When there are three Russian speakers in a room, you'd be lucky to obtain fewer than five judgments for an example. I am fully aware of this problem.

Since the present work is theoretical in nature, rather than experimental, I am unable to provide a quantitative analysis for the cases where judgments are subtle. However, throughout the dissertation, I will acknowledge variation where appropriate (as well as to provide an estimate of how common the alternative judgment is). Moreover, I will sometimes be able to provide a hypothesis as to the nature of variation in question or draw dependencies between judgments (e.g., if one accepts sentence x, he should also accept y, and vice versa).

While it is beyond the scope of current research to confirm the judgments with an experimental study or even group varying judgments into dialects, the importance of such research can't be overestimated. I leave this goal to the future work, hoping that present thesis can inform a quantitative investigation of the issues discussed here.

## CHAPTER 2. PRONOMINAL RAISING.

### 2.1. Proposal.

In this chapter we argue that the Anti-Cataphora Effects presented in Chapter 1 are Principle C violations. Crucially, we attribute these Principle C violations to a covert movement operation that I call *Pronominal Raising*. This movement results in the expansion of the pronominals' c-command domain, as illustrated in Figure 1: after the pronominal moves out of the DP where it was initially merged, it c-commands what its immediately dominating DP c-commands (e.g., the R-expression in Figure 1).

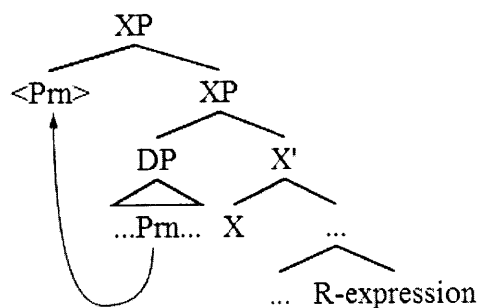


Figure 1: Pronominal Raising.

Consequently, in sentences like (1), Pronominal Raising results in a principle C violation, since the raised pronominal is coindexed with the R-expression that it now c-commands.

- (1) \* $e\ddot{e}_i$  [<sub>DP</sub>  $E\ddot{e}_i$  učitel'] poxvalil Mašu<sub>i</sub>.  
her teacher praised Maša.ACC  
Her<sub>i</sub> teacher praised Maša<sub>i</sub>.

In Sections 2.2-2.5, we will use the presence or absence of condition C violations in a variety of contexts to establish the locality restrictions on the proposed Pronominal Raising. While our investigation will be informed by the Pronominal Raising proposal, it is important to emphasize that the empirical generalizations offered in these sections hold regardless of the theoretical explanation of the facts.

In particular, we will establish the following properties of c-command domains:

- i. the c-command domain of a pronominal immediately dominated by a verbal category (V or v) is consistent with the surface position of that pronominal;
- ii. the c-command domain of a pronominal embedded in a DP is equal to its parent DP's c-command domain (where *parent XP of Y* is the minimal maximal projection of the type X that dominates Y (e.g., in a structure [DP<sub>1</sub> [DP<sub>2</sub> [NP Y Noun]]], Y's *parent DP* is DP<sub>2</sub>, since it is the minimal phrase of type DP that dominates Y);
- iii. ... but not to its grandparent's c-command domain<sup>3</sup>;
- iv. R-expressions differ from pronouns: only the latter expand their c-command domain;
- v. The c-command domain of a pronoun cannot be expanded past a c-commanding DP.

In Section 2.6 we will show that under the movement analysis of ACE, the above generalizations are accounted for by the following constraints on Pronominal Raising:

- A pronominal cannot cross more than one DP
- A pronominal cannot raise over a c-commanding argument
- Pronominal Raising targets only pronominals, not R-expressions

The rest of the chapter is devoted to a theoretical discussion of the facts. We survey possible analyses (including the account of anti-cataphora effects proposed in Despić 2011) and argue that the movement hypothesis proposed here offers the most straightforward account of the observed pattern. I conclude the discussion by pointing out the similarities between Pronominal Raising and other syntactic phenomena, and by offering a more in-depth comparison of ACE in English vs. Russian.

Before we start, I'd like to point out a couple of important assumptions. First of all, we're going to *assume a standard definition of c-command* (as opposed to the one proposed in Kayne (1994). Crucially, under the definition of c-command that we adopt, a specifier of a phrase XP does not c-command what XP c-commands. Second, we will assume that *possessors are generated in SpecDP*.

---

<sup>3</sup> Logically, of course, this follows from property (ii); empirically, however, this generalization (i.e., *lack* of c-command in certain contexts) has to be demonstrated separately.

## 2.2. *C-command like your parent.*

As outlined above, in this section I survey Principle C and Anti-Cataphora Effects in Russian and offer two generalizations in conclusion:

**Surprising generalization** of the section: there is no difference between the c-command domain of a pronominal embedded in a DP and the c-command domain of that DP.

**Unsurprising generalization** of the section: evidence from principle C shows that the c-command domain of Russian DPs is consistent with traditional assumptions about syntactic structure of the sentence: of two arguments of the same verb, the one linearized to the left c-commands the one linearized to the right<sup>4</sup>.

The data presented below can be divided into two categories: examples that show that pronominals in a certain positions c-command other positions, and examples showing lack of c-command.

### 2.2.1. Do c-command:

#### 2.2.1.1. Subjects – internal arguments.

Compare (2) and (3). In (2), the pronominal occupies the position of matrix subject and consequently c-commands the internal argument of the verb – this is consistent with traditional assumptions about c-command. In (3), the pronominal is a possessor embedded in the matrix subject, and it c-commands into the clause too.

(2) \*Ona<sub>i</sub> uvidela Mašu<sub>j</sub>.  
she.NOM saw Maša.ACC  
She<sub>i</sub> saw Maša<sub>j</sub>.

(3) \*[Eë<sub>i</sub> brat] uvidel Mašu<sub>j</sub>.  
her brother.NOM saw Maša.ACC  
Her<sub>i</sub> brother saw Maša<sub>j</sub>.

Embedding the R-expression into a DP does not improve (2)-(3), which is fully expected of a Principle C violation (4)-(5):

---

<sup>4</sup> In this section I only consider *non-scrambled* word orders. For a discussion concerning the interaction of scrambling with c-command and anaphora, see Chapter 5.

- (4) \*Ona<sub>i</sub> uvidela Mašinu<sub>i</sub> podrugu.  
 she.NOM saw Maša's friend.ACC  
 She<sub>i</sub> saw Maša<sub>i</sub>'s friend.
- (5) \*[Eë<sub>i</sub> brat] uvidel Mašinu<sub>i</sub> podrugu.  
 her brother.NOM saw Maša's friend.ACC  
 Her<sub>i</sub> brother saw Maša<sub>i</sub>.

The Anti-Cataphora Effects arise with pronominal complements as well. For that, we need to use an inanimate noun, since pronominal complements of animate nouns tend to take adjectival form. Again, the pronominal in the PP complement of the noun *kniga* 'book' produces a Principle C violation with the R-expression.

- (6) \*Ona<sub>i</sub> upala na Mašu<sub>i</sub> /Mašinu<sub>i</sub> podrugu.  
 she.NOM fell on Maša /Maša's friend  
 She<sub>i</sub> fell on Maša<sub>i</sub> /Maša<sub>i</sub>'s friend.
- (7) \*[Eë<sub>i</sub> kniga] upala na Mašu<sub>i</sub> /Mašinu<sub>i</sub> podrugu.  
 her book.NOM fell on Maša /Maša's friend  
 Her<sub>i</sub> book fell on Maša<sub>i</sub> /Maša<sub>i</sub>'s friend.
- (8) <sup>???</sup>[Kniga o nej<sub>i</sub>]<sup>5</sup> upala na Mašu<sub>i</sub> /Mašinu<sub>i</sub> podrugu.  
 book.NOM about her fell on Maša /Maša's friend  
 The book about her<sub>i</sub> fell on Maša<sub>i</sub> /Maša<sub>i</sub>'s friend.

### 2.2.1.2. Higher internal arguments – lower internal arguments.

The same generalization holds for pronominals within *internal* argument DPs. In the examples below, we see that there is no difference between a pronominal occupying an internal argument position (9) vs. a pronominal possessor embedded in such argument (10) vs. a pronominal complement in such argument (11): in all these cases, the pronominal c-commands the R-expression in the lower argument.

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<sup>5</sup> The complement of the noun is not a DP, but a PP. DPs embedded in PPs are generally known to behave on par with the unembedded DPs (i)-(ii).

- (i) \*It seems to him<sub>i</sub> that John<sub>i</sub> is a genius.  
 (ii) \*Ja rasskazala o nej<sub>i</sub> Mašinoj<sub>i</sub> mame.  
 I told about her Maša's mom.DAT  
 I told Maša<sub>i</sub>'s mom about her<sub>i</sub>.

- (9) \*Ja pokazal eë<sub>i</sub> Mašinoj<sub>i</sub> sestre.  
 I.NOM showed her.ACC Maša's sister.DAT  
 I showed her to Maša's sister.
- (10) \*Ja pokazal [eë<sub>i</sub>;rabotu] Mašinoj<sub>i</sub> sestre.  
 I.NOM showed her work.ACC Maša's sister.DAT  
 I showed her work to Maša's sister.
- (11) ???On uronil [knigu o nej<sub>i</sub>] na Mašu<sub>i</sub>  
 He.NOM dropped book.ACC about her on Maša  
 He dropped a book about her<sub>i</sub> on Maša<sub>i</sub>.

### 2.2.1.3. Internal arguments – adjuncts.

A pronominal occupying or embedded in a DP in the lowest argument position c-commands PPs to its right:

- (12) \*Vanja predstavil Petju ej<sub>i</sub> / [eë<sub>i</sub>; nač'al'niku] v Mašinom<sub>i</sub> ofise  
 Vanja.NOM introduced Petia.ACC she.DAT her boss.DAT in Maša's office  
 Vanja introduced Petia to her boss in Maša's office.

### 2.2.2. Do not c-command:

#### 2.2.2.1. Internal arguments – subjects.

As shown in (13), a pronominal object does not c-command an R-expression embedded in a subject, and neither does a pronominal embedded in an object (14). Note that examples of this sort cannot be tested with an unembedded R-expression in the subject position: such sentences would be inconclusive, since they are ungrammatical due to a principle B violation (15).

- (13) Mašin<sub>i</sub> brat uvidel eë<sub>i</sub> na etoj fotografii<sup>6</sup>.  
 Maša's brother.NOM saw her.ACC in this picture  
 Maša's brother saw her<sub>i</sub> in this picture.
- (14) Mašin<sub>i</sub> brat uvidel [eë<sub>i</sub>; podругu] na etoj fotografii.  
 Maša's brother.NOM saw her friend.ACC in this picture  
 Maša's brothersaw her<sub>i</sub> friend in this picture.

<sup>6</sup> The locative phrase is added to insulate the pronoun from the prosodically prominent edge of the clause, which pronouns not marked with focus tend to avoid.



- (15) \*Maša<sub>i</sub> uvidela eë<sub>i</sub> na etoj fotografii.  
 Maša.NOM saw her.ACC in this picture  
 Maša<sub>i</sub> saw her<sub>i</sub> in this picture.

The same holds for internal arguments of double-object predicates. (16) shows that a pronominal in an internal argument position doesn't c-command the subject, just as expected:

- (16) Mašin<sub>i</sub> brat predstavil eë<sub>i</sub> Vane.  
 Maša's brother.NOM introduced her.ACC Vanja.DAT  
 Maša's brother introduced her to Vanja.

A pronominal *embedded* in an internal argument position, as in (17), does not c-command the subject either:

- (17) Mašin<sub>i</sub> brat predstavil [eë<sub>i</sub> podругu] Vane.  
 Maša's brother.NOM introduced her friend.ACC Vanja.DAT  
 Maša's brother introduced her friend to Vanja.

#### 2.2.2.2. Lower internal arguments – higher internal arguments.

(18) demonstrates that a pronominal embedded in the lowest argument does not raise high enough to c-command the R-expression in the intermediate argument:

- (18) Ja predstavila Mašinu<sub>i</sub> nač'al'nicu eë<sub>i</sub> podругe.  
 I.NOM introduced Maša's boss.ACC her friend.DAT  
 I introduced Maša's boss to her friend.

The evidence for lack of c-command with an unembedded pronominal is less straightforward: (19) is generally judged as degraded. Crucially, there is a contrast between (19) and the "regular" ACE configuration in (20), which suggests that a principle C violation is triggered in (20), but not in (19).

- (19) ??Ja predstavila Mašinu<sub>i</sub> nač'al'nicu e<sub>j</sub> v č'etverg.  
 I.NOM introduced Maša's boss.ACC her on Thursday  
 I introduced Maša's boss to her on Thursday.
- (20) \*Ja predstavila eë<sub>i</sub> nač'al'nicu Maše<sub>i</sub> v č'etverg.  
 I.NOM introduced her boss.ACC Maša's on Thursday  
 I introduced Maša's boss to her on Thursday.

An obvious question arises: why is (19) degraded? The reason for this is most probably the unnatural word order: pronouns in Russian tend to gravitate towards the left periphery of the sentence. Note that (21), where the pronominal is not coindexed with any of the DPs in the sentence and, thus, cannot be bad due to a binding violation, is still degraded, while (22) shows substantial improvement.

(21) ??Ja predstavila Mašinu<sub>i</sub> nač'al'nicu ej<sub>k</sub> v č'etverg.  
 I.NOM introduced Maša's boss.ACC her on Thursday  
 I introduced Maša's boss to her on Thursday.

(22) Ja predstavila ej<sub>k</sub> Mašinu<sub>i</sub> nač'al'nicu<sub>j</sub> v č'etverg.  
 I.NOM introduced her Maša's boss.ACC on Thursday  
 I introduced Maša's boss to her on Thursday.

### 2.3. ...but not like your grandparent.

Based on the data presented in the previous section, it might be tempting to attribute the surveyed Russian Anti-Cataphora Effects purely to a constraint on linear order. However, this is not the case: the degree of embedding of the pronoun in the structure plays a crucial role.

Earlier we pointed out that linear order does not matter if the pronoun is embedded sufficiently deep. I repeat the relevant examples here: each example is a minimal pair, where the (a) examples give an ungrammatical sentence with a shallowly embedded pronominal and the grammatical (b) counterparts give the same sentence with the pronominal embedded deeper.

(23) a. \*Eë<sub>i</sub> učitel'nica poxvalila Mašu<sub>i</sub>.  
 her teacher.NOM praised Maša.ACC  
 Her<sub>i</sub> teacher praised Maša<sub>i</sub>.  
 b. Učitel'nica, kotoruju ona<sub>i</sub> bol'se vsej ljubit, poxvalila Mašu<sub>i</sub>.  
 teacher.NOM which.ACC she.NOM more anyone.GEN loves praised Maša.ACC  
 The teacher who she<sub>i</sub> loves most of all praised Maša<sub>i</sub>.

(24) a. ???Kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub>.  
 book.NOM about her fell on Maša.  
 A book about her<sub>i</sub> fell on Maša.  
 b. Vanina kniga o eë<sub>i</sub> dostiženijax upala na Mašu<sub>i</sub>.  
 Vanja's book.NOM about her achievements fell on Maša.  
 Vanja's book about her<sub>i</sub> achievement fell on Maša<sub>i</sub>.

- (25) a. <sup>???</sup>Stat'ja o nej<sub>i</sub> kritikuet Mašu<sub>i</sub>.  
 article.NOM about her criticizes Maša.ACC  
 The article about her<sub>i</sub> criticizes Maša<sub>i</sub>.
- b. Stat'ja, opisavajuščaja eë<sub>i</sub> dejstvija vo vremja poslednix sobytij, kritikuet Mašu<sub>i</sub>.  
 article.NOM describing her actions during recent events criticizes Maša.ACC  
 The article describing her<sub>i</sub> actions during the recent events criticizes Maša<sub>i</sub>.

The logical question at this point would be: how deep is deep enough? Or, more precisely, what level of embedding neutralizes the Anti-Cataphora Effects?

The minimal pairs below show that embedding the pronoun just one DP deeper yields a complete obviation of Principle C violations. Each of the pairs below contains a sentence where the pronominal is embedded directly into the Subject DP ((a) examples), and a corresponding sentence where the pronominal is embedded into a DP inside the Subject DP. As we see, in the (a) examples, but not the (b) examples, the pronominal ends up in a position where it c-commands into the clause.

- (26) a. \*Eë<sub>i</sub> učitel'nica poxvalila Mašu<sub>i</sub>.  
 her teacher.NOM praised Maša.ACC  
 Her<sub>i</sub> teacher praised Maša<sub>i</sub>.
- b. Učitel'nica eë<sub>i</sub> podrugi poxvalila Mašu<sub>i</sub>.  
 teacher.NOM her friend.GEN praised Maša.ACC  
 Her<sub>i</sub> friend's teacher praised Maša<sub>i</sub>.
- (27) a. <sup>???</sup>Kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub>.  
 book.NOM about her fell on Maša.  
 A book about her<sub>i</sub> fell on Maša.
- b. Kniga o eë<sub>i</sub> dostiženijax upala na Mašu<sub>i</sub>.  
 book.NOM about her achievements fell on Maša.  
 The book about her<sub>i</sub> achievement fell on Maša<sub>i</sub>.
- (28) a. \*Eë<sub>i</sub> rasskazy navredili Maše<sub>i</sub>.  
 her stories.NOM harmed Maša.DAT  
 Her<sub>i</sub> stories harmed Maša<sub>i</sub>.
- b. Rasskazy eë<sub>i</sub> druga navredili Maše<sub>i</sub>.  
 stories.NOM her friend.GEN harmed Maša.ACC  
 Her<sub>i</sub> friend's stories harmed Maša<sub>i</sub>.

The grammaticality of examples (26b)-(28b) clearly rules out a structure like (29a), where the pronominal crosses two DPs via Pronominal Raising and ends up in the same position

as the pronominal specifier in (28a). Naturally, the question arises: if Anti-Cataphora effects are indeed produced by covert movement of pronominals, does the grammaticality of examples (26b)-(28b) result from the pronominal not moving at all (29b) or from the pronominal not moving high enough to c-command the R-expression in the main clause (29c)?

- (29) a.  $e\ddot{e}_i$  [<sub>DP1</sub> Rasskazy [<sub>DP2</sub>  $e\ddot{e}_i$  druga]] navredili Maše<sub>i</sub>  
 stories.NOM her friend.GEN harmed Maša.ACC  
 Her<sub>i</sub> friend's stories harmed Maša<sub>i</sub>.
- b. [<sub>DP1</sub> Rasskazy [<sub>DP2</sub>  $e\ddot{e}_i$  druga]] navredili Maše<sub>i</sub>  
 stories.NOM her friend.GEN harmed Maša.ACC  
 Her<sub>i</sub> friend's stories harmed Maša<sub>i</sub>.
- c. [<sub>DP1</sub> Rasskazy  $e\ddot{e}_i$  [<sub>DP2</sub>  $e\ddot{e}_i$  druga]] navredili Maše<sub>i</sub>  
 stories.NOM her friend.GEN harmed Maša.ACC  
 Her<sub>i</sub> friend's stories harmed Maša<sub>i</sub>.

This is easy to test. Consider (30):

- (30) \* [<sub>DP1</sub> Rasskazy [<sub>DP2</sub>  $e\ddot{e}_i$  druga] o Maše<sub>i</sub>] udivitel'ny.  
 stories her friends.GEN about Maša astonishing  
 Her<sub>i</sub> friends' stories about Maša<sub>i</sub> are astonishing.

Here, the pronominal is embedded in a possessor DP inside DP<sub>1</sub>. If the pronominal stayed in its overt position (29b), it would not c-command the R-expression *Maše* and, consequently, would not produce a Principle C violation, contrary to observation. The ungrammaticality of (30) suggests that the pronominal does indeed undergo Pronominal Raising, but lands inside DP<sub>1</sub> (as in (29c)).

So we conclude that Pronominal Raising obligatorily takes the pronominal out of its parent DP, but not necessarily higher than that.

#### 2.4. *Specifiers.*

In this section I demonstrate that ACE are sensitive to the presence of a specifier in the DP. As was shown earlier, pronominal complements of nouns do trigger ACE (31a-b). However, if the DP contains a possessor c-commanding the pronoun, ACE are neutralized, regardless of whether the possessor is adjectival (32a) or a Genitive NP (32b).

- (31) a. <sup>???</sup>Kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub>.  
 book.NOM about her fell on Maša.  
 A book about her<sub>i</sub> fell on Maša.
- b. <sup>???</sup>Stat'ja o nej<sub>i</sub> kritikuet Mašu<sub>i</sub>.  
 article.NOM about her criticizes Maša.ACC  
 The article about her<sub>i</sub> criticizes Maša<sub>i</sub>.
- (32) a. Vanina kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub>.  
 Vanja's book.NOM about her fell on Maša.  
 Vanja's book about her<sub>i</sub> fell on Maša<sub>i</sub>.
- b. Stat'ja Ivanova o nej<sub>i</sub> kritikuet Mašu<sub>i</sub>.  
 article.NOM Ivanov.GEN about her criticizes Maša.ACC  
 Ivanov's article about her<sub>i</sub> criticizes Maša<sub>i</sub>.

Importantly, this lack of ACE is not correlated either with having a specifier (33a-b) or with having two arguments (34). The relevant property, in pretheoretic terms, is the presence in the DP of an argument that is distinct from the pronoun and c-commands it.

- (33) a. \*Eë<sub>i</sub> kniga upala na Mašu<sub>i</sub>.  
 Her book.NOM fell on Maša.  
 Her<sub>i</sub> book about Vanja fell on Maša<sub>i</sub>.
- b. \*Eë<sub>i</sub> stat'ja kritikuet Mašu<sub>i</sub>.  
 her article.NOM criticizes Maša.ACC  
 Her<sub>i</sub> article about recent events criticizes Maša<sub>i</sub>.
- (34) a. \*Eë<sub>i</sub> kniga o Vane upala na Mašu<sub>i</sub>.  
 Her book.NOM about Vanja fell on Maša.  
 Her<sub>i</sub> book about Vanja fell on Maša<sub>i</sub>.
- b. \*Eë<sub>i</sub> stat'ja o poslednix sobytijax kritikuet Mašu<sub>i</sub>.  
 her article.NOM about recent events criticizes Maša.ACC  
 Her<sub>i</sub> article about recent events criticizes Maša<sub>i</sub>.

Nouns that lend themselves easily to an analysis involving a PRO at the specifier position demonstrate attenuated ACE as well (35). In fact, some speakers report improvement in (31b) over (31a).

- (35) PRO<sub>j</sub> spletni o nëm<sub>i</sub> navredili Vane<sub>i</sub>.  
 rumors about him harmed Vanja.DAT  
 (Other people's) rumors about him<sub>i</sub> harmed Vanja.

## 2.5. *Anti-cataphora with R-expressions.*

In this section I demonstrate that the anti-cataphora effects produced by the expanded c-command domains of pronominals do not occur with R-expressions in the same positions. There are two ways to detect whether possessive R-expressions c-command out of their DPs: Principle C and Principle B.

Evidence from Principle B is inconclusive. Consider (36), which is acceptable:

- (36) *Mašina<sub>i</sub> podrug<sub>a</sub> udarila eë<sub>i</sub>*  
Maša's friend.NOM hit she.ACC  
*Maša<sub>i</sub>'s friend hit her<sub>i</sub>.*

Does this mean that the R-expression *Mašina* does not c-command the pronominal *eë*? Not necessarily. Russian pronominals are anti-subject-oriented, which, simplifying somewhat, means that Principle B violations occur when the pronominal is bound by the subject, but not when it is bound by an internal argument (37)<sup>7</sup>. Suppose now that a nominal possessor does not count as a *proper offending binder* for Principle B purposes. Then, even if the R-expression *Mašina* does c-command the pronominal, (36) would still be good.

- (37) *Maša<sub>i</sub> predstavila Tanju<sub>j</sub> eë<sub>j/\*i</sub> načal'niku.*  
Maša.NOM introduced Tanja.ACC her boss.DAT  
*Maša<sub>i</sub> introduced Tanja<sub>j</sub> to her<sub>j/\*i</sub> boss.*

Principle C is more promising for our purposes, since R-expressions care neither about subjecthood, nor about binding domain. However, there are reasons beyond Principle C that degrade the use of two coindexed R-expressions too close to each other, even when the configuration is not quite under the jurisdiction of Principle C, as in (38):

- (38) <sup>??</sup>*Ivan vošel. Ivan<sub>i</sub> pozdorovalsja.*  
Ivan entered. Ivan said.hi  
*Ivan came in. Ivan said "Hi".*

So (39), while not ungrammatical, sounds strange in regular speech. However, embedding the possessive R-expression deeper does not improve the sentence (40)-(41).

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<sup>7</sup> Principle B and the anti-subject orientation of Russian pronominals are discussed in details in Chapter 3.

- (39) ??Mašina<sub>i</sub> podrug<sub>a</sub> udarila Mašu<sub>j</sub>.  
 Maša's friend.NOM hit Maša.ACC  
 Maša<sub>i</sub>'s friend hit Maša<sub>j</sub>.
- (40) ??Podrug<sub>a</sub> Mašinog<sub>i</sub> brat<sub>a</sub> udarila Mašu<sub>j</sub>.  
 friend.NOM Maša's brother.GEN hit Maša.ACC  
 Maša<sub>i</sub>'s brother's friend hit Maša<sub>j</sub>.
- (41) ??Devočka, s koto<sub>r</sub>oj Maša<sub>i</sub> druž<sub>i</sub>t s detst<sub>v</sub>a, udarila Mašu<sub>j</sub>.  
 girl.NOM that Maša is friends with since childhood hit Maša.ACC  
 The girl who Maša<sub>i</sub> has been friends with since childhood hit Maša<sub>j</sub>.

This effect can be ameliorated if the second R-expression is focused (42a) – in contrast to a regular Anti-Cataphora configuration involving a pronoun, which is not improved by adding focus (42b).

- (42) a. Mašina<sub>i</sub> podrug<sub>a</sub> udarila Mašu<sub>i</sub>, a ne Petju.  
 Maša's friend.NOM hit Maša.ACC but not Petja.ACC  
 Maša<sub>i</sub>'s friend hit Maša<sub>i</sub>, not Petja.
- b. \*Eë<sub>i</sub> podrug<sub>a</sub> udarila Mašu<sub>i</sub>, a ne Petju.  
 her friend.NOM hit Maša.ACC but not Petja.ACC  
 Her<sub>i</sub> friend hit Maša<sub>i</sub>, not Petja.

Another way to provide a convincing test of Principle C effects is to use epithets. Russian epithets obey Principle C in the same way as regular R-expressions do: neither can be coindexed with a c-commanding R-expression (43a-b) or pronoun (44a-b), and neither exhibits locality constraints for Principle C violations (45a-b).

- (43) a. \*Maša<sub>i</sub> poxvalila Mašu<sub>j</sub>.  
 Maša.NOM praised Maša.ACC  
 Maša<sub>i</sub> praised Maša<sub>j</sub>.
- b. \*Maša<sub>i</sub> poxvalila našu umnicu<sub>j</sub>.  
 Maša.NOM praised our good girl.ACC  
 Maša<sub>i</sub> praised our good girl<sub>j</sub>.
- (44) a. \*Ona<sub>i</sub> poxvalila Mašu<sub>j</sub>.  
 She.NOM praised Maša.ACC  
 She<sub>i</sub> praised Maša<sub>j</sub>.
- b. \*Ona<sub>i</sub> poxvalila našu umnicu<sub>j</sub>.  
 She.NOM praised our good girl.ACC  
 She<sub>i</sub> praised our good girl<sub>j</sub>.

- (45) a. \*Maša<sub>i</sub> skazala, čto direktrisa poxvalila Mašu<sub>i</sub>.  
 Maša.NOM said that headmistress.NOM praised Maša.ACC  
 Maša<sub>i</sub> said that the headmistress praised Maša<sub>i</sub>.
- b. \*Maša<sub>i</sub> skazala, čto direktrisa poxvalila našu umnicu<sub>i</sub>.  
 Maša.NOM said that headmistress.NOM praised our good girl.ACC  
 Maša<sub>i</sub> said that the headmistress praised our good girl<sub>i</sub>.

Finally, epithets do seem to obey a purely linear constraint: unlike pronouns, which can precede a coindexed R-expression if embedded sufficiently deep, epithets need to follow the proper R-expression regardless of the level of embedding.

- (46) \*To, čto s etoj merzavkoj<sub>i</sub> nikto ne razgovarivaet, rasstraivaet Mašu<sub>i</sub>  
 that.NOM with this scoundrel noone.NOM not talks upsets Maša.ACC  
 The fact that noone talks to this scoundrel<sub>i</sub> upsets Maša<sub>i</sub>.
- (47) \*Učitel'nica, kotoruju naša umnica<sub>i</sub> bol'se vsej ljubit, poxvalila Mašu<sub>i</sub>.  
 teacher.NOM which.ACC our good girl.NOM more anyone.GEN loves praised Maša.ACC  
 The teacher who our good girl<sub>i</sub> loves most of all praised Maša<sub>i</sub>.

When an R-expression is a possessor embedded in a subject, a coindexed epithet in an object position does not encounter a Principle C violation, which provides another argument for the central claim of this section.

- (48) Mašina<sub>i</sub> učitel'nica poxvalila našu umnicu<sub>i</sub>.  
 Maša's teacher.NOM praised our good girl.ACC  
 Maša<sub>i</sub>'s teacher praised our good girl<sub>i</sub>.
- (49) Mašina<sub>i</sub> mama vsë ravno ljubit etu merzavku<sub>i</sub>  
 Maša's mom.NOM nevertheless loves this scoundrel.ACC  
 Maša<sub>i</sub>'s mom still loves this scoundrel<sub>i</sub>.

Finally, the strongest argument that R-expressions do not c-command from possessive positions comes from sentences involving variable binding (the examples discussed below are largely inspired by Reinhart 1976, 153).

If a wh-word c-commands a variable from its base position, it can bind it (50). Now consider (51). If the wh-word in SpecDP were able to c-command out of the DP in Russian, we would expect (51) to be good, contrary to fact.



- (50) Komu<sub>i</sub> ne xočetsja, čtoby ego<sub>i</sub> zabrali otsjuda?  
 who.DAT not want that.SUBJ he.ACC take from here  
 Who<sub>i</sub> wouldn't want to be taken away from here?
- (51) \*Č'ji<sub>i</sub> studenty uvažajut ego<sub>i</sub>?  
 whose students.NOM respect him  
 Whose<sub>i</sub> students respect him<sub>i</sub>?

A similar argument can be made using quantifier phrases. If a quantifier phrase could bind a variable from its possessor position, we would expect (52)-(54) to be good. If, however, we are correct in our conclusion that an R-expression does not c-command into the clause from a possessor position, the quantifier phrase would only c-command the variable after quantifier raising, i.e., from an A'-position – thus, we would expect (52)-(54) to be ungrammatical for reasons similar to traditional weak crossover configurations. And indeed, these sentences are bad on the bound-variable interpretation<sup>8</sup>.

- (52) \*Roditeli každogo reběnka<sub>i</sub> poxvalili ego<sub>i</sub>.  
 parents.NOM every child.GEN praised him  
 Every child<sub>i</sub>'s parents praised him<sub>i</sub>.
- (53) \*Č'ji<sub>i</sub>-to studenty uvažajut ego<sub>i</sub>.  
 someone's students respect him  
 Someone<sub>i</sub>'s students respect him<sub>i</sub>.
- (54) \*Nič'ji roditeli<sub>i</sub> ne poxvalili ego<sub>i</sub>.  
 noone's parents.NOM not praised him  
 Noone<sub>i</sub>'s parents praised him<sub>i</sub>.

Summarizing the section, evidence from Principle B does not contradict our hypothesis that the R-expressions do not c-command from the SpecDP position, but it is inconclusive due to Russian pronominals' anti-subject orientation. Evidence from Principle C (modulo the pragmatic effects), as well as from variable binding, supports our conclusion that pronominals and R-

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<sup>8</sup> Sentences like (52) are grammatical under a generic interpretation (i). We consider this to be a case of “scope illusion”, where a universal quantifier in a generic statement is able to take wider scope than would be determined by syntax (as discussed in Fox and Sauerland 1996). We, therefore, restrict testing the scope of universal quantifiers to sentences that strongly disfavor a generic interpretation.

(i) <sup>22</sup>Roditeli každogo reběnka<sub>i</sub> sčitajut ego<sub>i</sub> geniєм.  
 parents.NOM every child.GEN consider him genius.ACC  
 Every child<sub>i</sub>'s parents consider him<sub>i</sub> a genius.

expressions generated in the same position have different c-command domains: R-expressions embedded in a DP do not c-command into the clause, while pronominals do.

Assuming possessive R-expressions and possessive pronominals are generated in the same position, the difference can only be explained if pronominals end up occupying a higher position at LF than R-expressions, and therefore, a successful theory of anti-cataphora effects will need to distinguish between the two.

## 2.6. *Locality restrictions.*

As mentioned earlier, we propose to analyze ACE as a result of covert movement of pronominals. In this section I will show that the patterns observed in Sections 2.2-2.5 suggest that Pronominal Raising obeys the locality restrictions that are found in other types of movement. First, let us repeat the list of empirical generalizations presented above:

- i. the c-command domain of a pronominal immediately dominated by a verbal category (V or v) is consistent with the surface position of that pronominal;
- ii. the c-command domain of a pronominal embedded in a DP is equal to its parent DP's c-command domain (but not to its grandparent's c-command domain);
- iii. the c-command domain of a pronoun cannot be expanded past a c-commanding DP;
- iv. the c-command domain of an R-expression is always consistent with its surface position (never gets expanded).

Perhaps, the most obvious inconsistency in Pronominal Raising is the difference in the length of the movement between the pronominals embedded in DPs and the ones immediately dominated by a verbal projection. Consider the lowest argument in a double-object construction. As we have seen in Section 2.2.2, a pronominal in this position does not raise higher than the intermediate argument (Figure 2), which means that it tucks in (Richards 1997; 2001) under the specifier of its own parent projection (VP). A pronominal *embedded* in a DP in the same position would also end up just below DP<sub>2</sub> (Figure 3), moving much further than its unembedded counterpart.

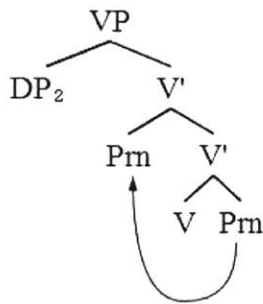


Figure 2

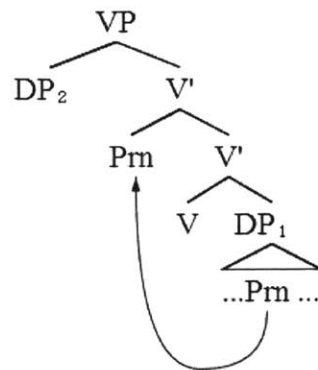


Figure 3

Note, however, that this apparent difference stems from the same principle: the inability of Pronominal Raising to move a pronoun over a c-commanding argument. The presence in a DP of a specifier c-commanding the pronominal has direct consequences on ACE: as we've seen earlier, the pronominal complement of a specifier-less DP moves out of its parent DP, producing ACE (Figure 4), while the complement of a DP that has a specifier does not (Figure 5).

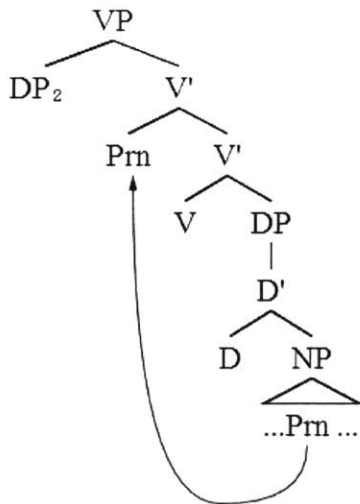


Figure 4

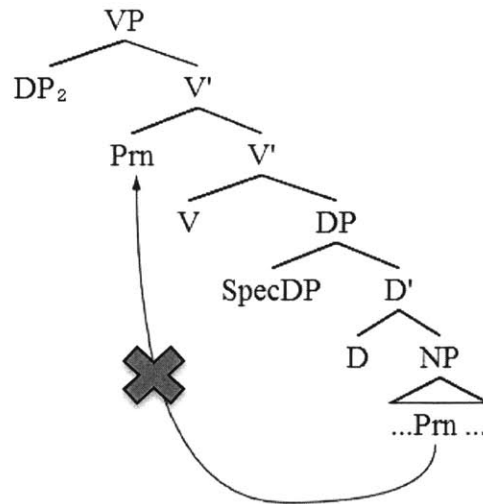


Figure 5

As there is no evidence to the contrary, we will assume that Pronominal Raising cyclically raises the pronominal as high as possible, i.e., until the first c-commanding argument is encountered. This will provide a unified derivation for arguments of DPs (Figure 4/Figure 5) and arguments of predicates (Figure 6/Figure 7). The only difference between the two is the *detectability* of the movement: in a derivation like Figure 6, the c-command domain of the pronominal is expanded without detectable consequences, since it c-commands into the clause

from its base position. On the other hand, in a derivation like Figure 4, the expansion of the c-command domain is detectable, because from the landing site of Pronominal Raising, the pronominal c-commands material it *did not* c-command in its base position.

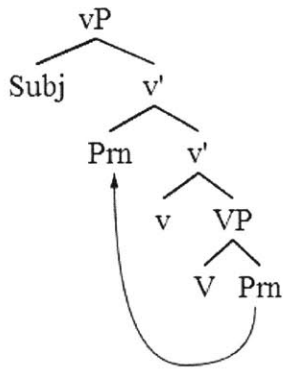


Figure 6

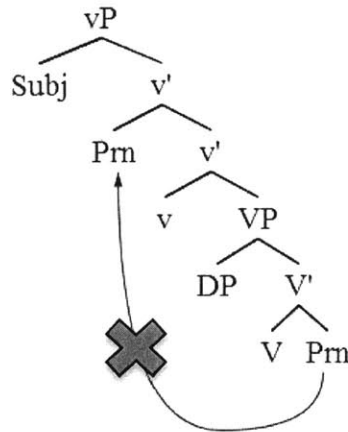


Figure 7

Thus, the locality restrictions on Pronominal Raising can be reduced to the following two principles:

- Pronominal Raising cannot cross more than one DP
- Pronominal Raising cannot raise over a c-commanding argument

These restrictions are very similar to general restrictions on movement found elsewhere. For example, even though Russian allows left branch extraction, this movement cannot cross more than one DP:

- (55) a. Č'ju ty videl ~~ě'ju~~ mašinu?  
 whose you bought car  
 Whose car did you buy?
- b. \*Č'jegoty ty videl mašinu ~~ě'jega~~ druga?  
 whose you bought car friend.GEN  
 Whose friend's car did you buy?

Likewise, in the contexts that allow extraction of a nominal complement form a DP (56a), such movement is impossible in the presence of a specifier (56b), nor can it extract a possessor of a nominal complement (56c-d).

- (56) a. <sup>?</sup>O kom on rasprostranjaj spletni ~~o-kom~~?  
 about who he spread rumors  
 Who was he spreading rumors about?
- b. \*O kom on rasprostranjaj Mašiny spletni ~~o-kom~~?  
 about who he spread Maša's rumors  
 Who was he spreading Maša's rumors about?
- c. <sup>?</sup>O č'jix druž'jax on rasprostranjaj spletni ~~o-č'jix druž'jax~~?  
 about whose friends he spread rumors  
 Whose friends was he spreading rumors about?
- d. \*O č'jix on rasprostranjaj spletni ~~o-č'jix~~ druž'jax?  
 about whose he spread rumors friends  
 Whose friends was he spreading rumors about?

Outside of Russian, similar restrictions are found in overt clitic extraction and wh-movement from DP in Italian. As reported in Cinque (1980), a genitive clitic can be extracted from either a possessor position (57) or a complement position (58)<sup>9</sup>, but the extraction is blocked if the clitic is c-commanded by a specifier (59)-(60).

- (57) Ne è stato scoperto [DP il furto ~~ne~~ dell'icona]  
 of.him has been discovered the theft of the icon  
 His theft of the icon has been discovered.
- (58) Ne è stato scoperto [DP il furto ~~ne~~]  
 of.it has been discovered the theft  
 The theft of it has been discovered.
- (59) \*Ne è stato scoperto [DP il furto del custode ~~ne~~]  
 of.it has been discovered the theft of the custodian  
 The custodian's theft of it has been discovered.
- (60) \*Ne è stato scoperto [DP il tuo furto ~~ne~~]  
 of.it has been discovered the your theft  
 Your theft of it has been discovered.

Cinque (2011) proposes an account of these restrictions based on Relativized Minimality, that basically treats a c-commanding specifier as a defective intervener. While it is clear how this

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<sup>9</sup> Cinque (2011) claims that only subjects can be extracted from the DP. However, it seems that in (58) the clitic must be generated in complement, rather than subject, position.

account would work for probe-driven A-movement, it is unclear why a non-wh specifier should be an intervener for wh-movement.

Perhaps a more promising account of the inability of Pronominal Raising to extract a pronoun over a c-commanding argument is an optimality-theoretic account that favors movement preserving the previously established c-command order (Müller 2001). Such an account would correctly allow the c-command domain expansion that we have seen: it would allow Pronominal Raising of a pronoun to a position where it c-commands material it previously didn't, but it would prohibit Pronominal Raising to reverse a previously established c-command relationship, such as the one between a specifier and a complement.

## 2.7. *Landing site and reasons to move.*

As we've seen in the previous section, the landing site of Pronominal Raising is not a uniform location: a pronoun may end up in a variety of places, depending on its base position. Such behavior is not typical of probe-driven movement: when movement is triggered by a probe, a constituent carrying the relevant feature moves to the same location (i.e., specifier of that probe), regardless of its initial position. For example, wh-movement takes wh-phrases to the same position, no matter where they were generated (61a-c).

- (61) a. Who [TP ~~who~~ introduced [VP John to Mary] ]?  
 b. Who did [TP you introduce [VP ~~who~~ to Mary] ]?  
 c. Who did [TP you introduce [VP John to ~~who~~] ]?

Pronominal Raising exhibits behavior very different from this: the final destination of the pronoun, rather than being a fixed location, is determined by the locality restrictions on movement. This suggests that Pronominal Raising is not a probe-driven movement, but rather movement that happens for the needs of the moving element<sup>10</sup>.

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<sup>10</sup> Of course, one could object to such logic, arguing that in the presence of more than one probe of the same type, the element with a matching feature only has to raise to the most local probe, which means that even a probe-driven movement may leave two elements with the same feature in different locations, depending on their base position (i). So Pronominal Raising could in principle be analyzed as probe-driven movement, although for that to work, a number of heads of varying types would have to be assumed to be potential carriers of a relevant probe. I believe such an account would be uneconomical compared to a goal-driven derivation, advocated here.

(i) [Where C<sub>2</sub><sup>[+wh]</sup> did Mary tell you ~~where~~ [who C<sub>1</sub><sup>[+wh]</sup> she invited ~~who~~]]?

At this point, it is probably worth discussing our assumptions about tucking-in. As mentioned previously, we generally assume that a pronoun tucks in below the specifier of the projection it adjoins to (Figure 8). Originally, tucking-in was proposed in Richards (1997; 2001), where it was motivated by the requirement that the landing site of movement be as close as possible to the probe. However, we have rejected the analysis of Pronominal Raising as a probe-driven movement, so the question is, then: what principle motivates tucking in with a goal-driven movement? We suggest that in this case, tucking-in is motivated by the principle disfavoring the derivations that change c-command relationships.

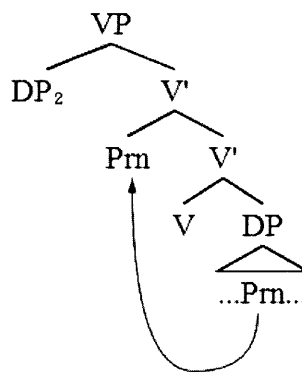


Figure 8

Given the data surveyed so far, there seems to be no obvious answer as to what motivates Pronominal Raising and why only pronouns undergo this movement. Importantly, Pronominal Raising is not unique in this regard: Scandinavian Object Shift is an excellent example of a similar movement. Object Shift in Mainland Scandinavian targets almost exclusively weak pronouns (unlike Icelandic, for example, which allows full DPs to freely undergo this operation; for discussion see Holmberg 1999). Moreover, the reasons for Object Shift are unclear, and some authors have explored the possibility that object-shift is a PF operation (see Holmberg 1986; Holmberg and Platzack 1995).

Nevertheless, in the subsequent chapters I offer an account of what drives Pronominal Raising. In particular, I advocate a view of Pronominal Raising as the first step in a series of movements that pronouns undergo in search of a binder, and I show how this view accounts for anti-subject orientation of pronominals. If this proposal is on the right track, it would explain why pronouns, but not R-expressions undergo Pronominal Raising, as well as offer an answer to the question of why this movement occurs.

## 2.8. *Alternative analyses.*

Now that the details of our present proposal have been laid out, the question we'd like to address is whether movement is the best analysis of Anti-Cataphora Effects. Since ACE cannot be explained by a restriction on relative linear order of a coindexed R-expression and a pronominal (see discussion in Chapter 1), there are two possible structural alternatives to the movement account: one is to formulate an alternative version of Principle C that would be specific to Russian (and other languages where ACE are found); another would be to change the definition of c-command to allow possessors to c-command out of their parent DPs. The second solution was proposed in Despić (2011) and will be discussed in detail in Section 2.9. Let's now rule out the possibility of accounting for the data with a Russian-specific formulation of Principle C. Consider Principle C. from Lasnik (1989):

(62) An R-expression has to be pronoun-free.

This would account for the contrast between the behavior of pronouns and R-expressions with respect to ACE. However, it is quite clear that in cases of classic c-command, Russian Principle C treats pronouns and R-expressions identically:

(63) \*On<sub>i</sub> uvidel Vanju<sub>i</sub> /Vaninu<sub>i</sub> sestru.  
He.NOM saw Vanja.ACC /Vanja's sister.ACC  
He<sub>i</sub> saw Vanja<sub>i</sub>/Vanja<sub>i</sub>'s sister.

(64) \*Vanja<sub>i</sub> uvidel etogo merzavca<sub>i</sub> /sestru etogo merzavca<sub>i</sub>  
Vanja.NOM saw this scoundrel.ACC / this scoundrel's sister.ACC  
Vanja<sub>i</sub> saw this scoundrel<sub>i</sub> /this scoundrel<sub>i</sub>'s sister.

Alternatively, one could imagine a Principle C that would allow the pronominals to “transmit” their features:

(65) An R-expression must be free from:  
1. a coindexed c-commanding DP  
2. a c-commanding DP that g-dominates a pronominal coindexed with the R-expression (where *X g-dominates Y* iff X dominates Y and there is no projection Z of type X that dominates Y and is dominated by X).

This formulation of principle C would raise a number of concerns. Obviously, it would be unclear why Russian should have a principle C specific to it – though this is a weak objection,



since a number of binding phenomena, Principle C included (e.g., in Thai and Vietnamese (Lasnik 1989) and Zapotec (Lee 2003)) are subject to cross-linguistic variation. A more serious concern arises with regard to the relation between the pronoun and the DP, that we called “g-dominate”: its definition correctly captures the difference between R-expressions and pronouns with respect to Principle C, and correctly handles most of the ACE configurations (cases (1)-(4) in Table 1 below). However, it fails to account for the fifth case, i.e., for the fact that a pronoun c-commanded by a specifier fails to produce a Principle C violation. If the “percolation of features” that our definition of g-dominate attempts to capture is the mere consequence of a pronoun’s closeness to the DP, it is in fact surprising that an intervening argument should have any effect on it.

#	CONTEXT	PRINCIPLE C VIOLATION?
1)	[Prn’s N]	present
2)	[N of Prn]	present
3)	[[Prn’s N] N]	absent
4)	[N of [Prn’s N]]	absent
5)	[Spec’s N of Prn]	absent

Table 1: Configurations of ACE.

In contrast, under a movement-based analysis of Anti-Cataphora Effects, the relationship between the offending pronoun and the coindexed R-expression is subject to constraints needed independently, as discussed in Section 2.6, which makes a movement analysis more economical and better motivated.

## 2.9. *Despić 2011.*

An alternative theory of ACE was proposed in Despić (2011). To account for ACE in Serbo-Croatian, Despić combines the definition of c-command proposed in Kayne (1994) with the theory proposed in Bošković (2005; 2008; 2009, among others) that views languages without overt determiners as *lacking* the determiner category altogether. On this view, languages like Russian and Serbo-Croatian have bare NPs (Figure 9).

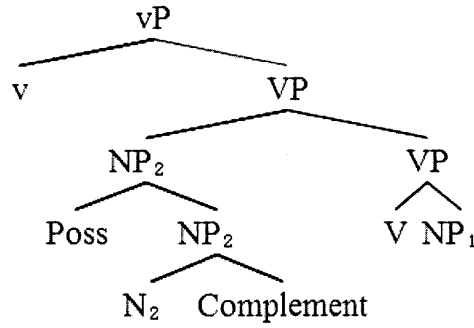


Figure 9

Below I review the definition of c-command that Despić adopts and show why it makes different predictions for DP and NP languages. The definition of c-command proposed in Kayne (1994) is given in (66):

- (66)  $\alpha$  c-commands  $\beta$  iff:
- $\alpha$  and  $\beta$  are categories;
  - no segment of  $\alpha$  dominates  $\beta$  ( $\alpha$  excludes  $\beta$ )
  - and every category that dominates  $\alpha$  also dominates  $\beta$ .

Now consider a traditionally assumed structure where the possessor is located in SpecDP (Figure 10). According to a standard definition of c-command, the DP in Figure 10 c-commands ZP, but SpecDP doesn't. According to (66), SpecDP does c-command ZP: category DP does not dominate SpecDP, since only one of its segments dominates the possessor; category XP doesn't dominate it either, for the same reason; YP (and every category that dominates YP) dominates both the possessor and ZP; therefore, the possessor c-commands ZP.

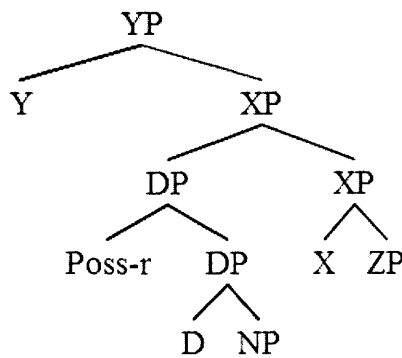


Figure 10

If possessors are assumed to be generated in SpecDP *and* c-command is defined as in (66), English possessors are predicted to c-command into the clause, which is incorrect (67a-b). This leads Kayne to adopt for English the analysis proposed by Szabolcsi (1981; Szabolcsi 1983; Szabolcsi 1992) for the Hungarian possessor construction. Kayne suggests that English possessors are generated in a phrase dominated by the determiner category<sup>11</sup> (Figure 11), similar to Italian (68). In this structure, possessors are correctly expected to not c-command out of the DP, and (67a-b) are accounted for.

- (67) a. His<sub>i</sub> mother loves John<sub>i</sub>. (No Principle C violation)  
 b. \*John<sub>i</sub>'s mother loves himself<sub>i</sub>. (Principle A not satisfied)

- (68) il mio libro  
 the my book  
 my book

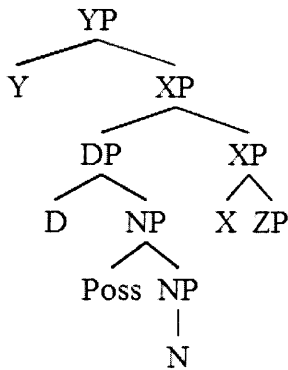


Figure 11: English DP.

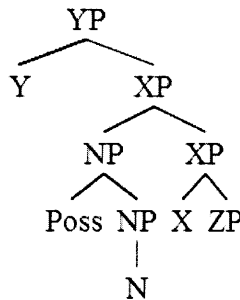


Figure 12: Bare NP

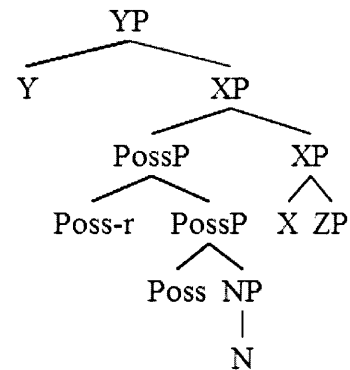


Figure 13: Bare NP, PossP

Now consider the same structure in a language that lacks determiners: the result would be either Figure 12 or Figure 13 – in either case, the Possessor would c-command ZP as a direct consequence of lacking the DP category. This, Despić argues, is the reason for the ACE found in Serbo-Croatian and Russian (he adopts the analysis without the Possessor phrase (Figure 12); since it does not make a difference for the argument presented below, we will follow Despić's assumptions). Below I show several cases for which the no-movement account makes predictions that are not borne out.

<sup>11</sup> Since it does not matter for our current purposes whether the Possessors are generated in SpecNP or in SpecPossP, we will assume the former for simplicity. The crucial part is that possessors are generated *below* D, which means they are dominated by the category DP and, consequently, don't c-command what the DP c-commands (e.g., ZP in Figure 11).

### 2.9.1. Specifiers vs. Complements.

Consider Figure 14. As discussed earlier, SpecNP<sub>2</sub> (Poss) c-commands NP<sub>1</sub>. In contrast, the complement of N<sub>2</sub> does not: it is dominated by the category NP<sub>2</sub> (it is dominated by both of its segments). The prediction, then, is that pronominal possessors will produce ACE and pronominal complements of nouns won't.

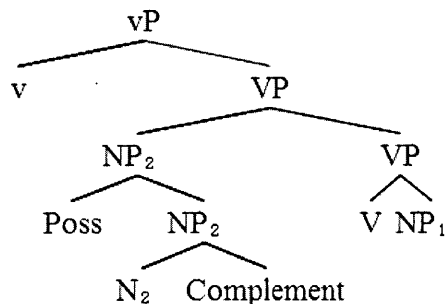


Figure 14

This prediction is not borne out (69)-(70):

- (69) <sup>???</sup>Kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub> /Mašinu<sub>i</sub> podrugu.  
 book.NOM about her fell on Maša /Maša's friend  
 The book about her<sub>i</sub> fell on Maša<sub>i</sub>/Maša<sub>i</sub>'s friend.
- (70) <sup>???</sup>Stat'ja o nej<sub>i</sub> kritikuet Mašu<sub>i</sub>.  
 article.NOM about her criticizes Maša.ACC  
 The article about her<sub>i</sub> criticizes Maša<sub>i</sub>.

### 2.9.2. Pronominals vs. R-expressions.

Another prediction I'd like to discuss concerns the difference between pronominals and R-expressions. The no-movement account ties ACE to the properties of a certain position (SpecNP). On this view, any phrase generated in SpecNP is predicted to c-command like its parent NP, *regardless of its category*. Crucially, this system predicts that R-expressions in possessor positions will behave on par with pronominals in those positions. Section 2.5 provides a detailed discussion that shows this prediction to be incorrect, e.g., the no-movement account would incorrectly rule out (71) and rule in (72)-(73). Despić does not test the latter prediction,

but reports examples similar to (71) as grammatical in Serbo-Croatian ((74), cf. Principle C violation in (75))<sup>12</sup>.

(71) Mašina<sub>i</sub> učitel'nica poxvalila našu umnicu<sub>i</sub>.  
 Maša's teacher.NOM praised our good girl.ACC  
 Maša<sub>i</sub>'s teacher praised our good girl<sub>i</sub>.

(72) \*Č'ji<sub>i</sub> studenty uvažajut ego<sub>i</sub>?  
 whose students.NOM respect him  
 Whose<sub>i</sub> students respect him<sub>i</sub>?

(73) \*Nič'ji roditeli<sub>i</sub> ne poxvalili ego<sub>i</sub>.  
 noone's parents.NOM not praised him  
 Noone<sub>i</sub>'s parents praised him<sub>i</sub>.

(74) Kusturicin<sub>i</sub> film je zaista razocarao Kusturicu<sub>i</sub>.  
 Kusturica's film is really disappointed Kusturica  
 Kusturica's film really disappointed Kusturica.

(75) \*Kusturica<sub>i</sub> poštuje Kusturicu<sub>i</sub>.  
 Kusturica respects Kusturica  
 Kusturica respects Kusturica.

Summarizing the section, we have seen cases where the no-movement account of ACE undergenerates (ruling out ACE with pronominal complements), as well as cases where it overgenerates (allowing R-expressions to c-command out of their parent DPs), which leads us to reject this approach.

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<sup>12</sup> Note, however, the puzzling (i), whose Russian counterpart is grammatical (ii). This example is unexpected on many levels: not only are Serbo-Croatian pronominals anti-subject oriented, but nominal possessors of regular (i.e., non-deverbal) nouns are not considered either proper binders for reflexives or proper offending binders for pronominals (iii). See discussion in Despić (2011).

(i) \*Kusturicin<sub>i</sub> najnoviji film ga<sub>i</sub> je zaista razočarao.  
 Kusturica's latest film him is really disappointed  
 Kusturica<sub>i</sub>'s latest film really disappointed him<sub>i</sub>.

(ii) Mašina<sub>i</sub> podrugica udarila eë<sub>i</sub>  
 Maša's friend.NOM hit she.ACC  
 Maša<sub>i</sub>'s friend hit her<sub>i</sub>.

(iii) Jovan<sub>i</sub> je procitao [NP Marijin<sub>j</sub> članak o njemu<sub>?\*i</sub> /njoj<sub>?j</sub> /sebi<sub>i/\*j</sub>].  
 John is read Mary's article about him /her /self  
 John<sub>i</sub> read Mary<sub>j</sub>'s article about \*him<sub>i</sub>/<sup>?</sup>her<sub>j</sub>/himself/\*herself.

## 2.10. *Conclusion.*

In this chapter we have argued that the reason for Anti-Cataphora Effects is a Principle C violation that arises due to *Pronominal Raising*, an operation that takes the pronominals outside of their parent DP projection and adjoins them to the maximal projection immediately dominating their parent DP. This movement is regulated by locality restrictions that are independently motivated and found with other types of movement.

The biggest puzzle at this point is the driving force behind Pronominal Raising, its nature and the reasons why it affects only pronouns. The answer to this puzzle will be given in the subsequent chapters, where I will argue that Pronominal Raising is a part of the trajectory that pronouns travel in their search of a binder. This hypothesis will be a part of a more general proposal reformulating conditions A and B of the Binding Theory and providing an account of (anti)-subject-orientation.

## CHAPTER 3. WHERE ARE ALL THE PRONOUNS?

In the previous chapter we have shown that ACE effects in Russian are due to Pronominal Raising – a covert movement that expands the c-command domain of Russian pronouns. The driving force behind this movement was unclear. As promised above, this puzzle will be solved by the proposal that we introduce in this and the following chapter. This proposal will ultimately call for a view of anaphors and pronominals<sup>13</sup> as allomorphs of a single syntactic entity, while conditions A and B of the Binding Theory will be replaced by rules determining the spell-out of this underlying entity.

Ultimately, the motivation for this proposal comes from the investigation of *subject orientation* of reflexives<sup>14</sup> (1) and *anti-subject orientation* of pronominals (2), which is the main topic of the present chapter.

- (1) Subject-oriented anaphor *svoi* ‘self’s’: can be bound by subject, but not by object.  
Vanja<sub>i</sub> pokazal Saše<sub>j</sub> svoego<sub>i/\*j</sub> načal’nika.  
Vanja.NOM showed Sasha.DAT self’s boss.ACC  
Vanja<sub>i</sub> showed Sasha<sub>j</sub> self’s<sub>j/\*i</sub> boss.
- (2) Anti-subject-oriented pronominal *ego* ‘his’: must be free from subject, but not by object  
Vanja<sub>i</sub> pokazal Saše<sub>j</sub> ego<sub>j/\*i</sub> načal’nika.  
Vanja.NOM showed Sasha.DAT his boss.ACC  
Vanja<sub>i</sub> showed Sasha<sub>j</sub> his<sub>j/\*i</sub> boss.

This chapter is structured as follows. Section 3.1 provides an overview of the facts. There, we discuss the distribution of Russian anaphors and pronominals, their binding domains and what it means to be *(anti)-subject-oriented*. In Section 3.2 we survey the existing theories of *(anti)-subject orientation*, pinpointing their strengths and weaknesses.

Finally, in Section 3.3 we argue that movement-based and competition-based approaches are in principle compatible. We support this conclusion by demonstrating that the data are compatible with the hypothesis that pronominals and anaphors follow exactly the same paths and

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<sup>13</sup> Since we will frequently refer to these two classes together, we need a cover term. While the term *pronouns* is traditionally used to refer to a superclass including anaphors and pronouns, in generative literature, it has been used to refer to pronominals in particular. Thus, adopting this term would be confusing, so we choose a more neutral, though less succinct term *anaphoric elements*, which will hopefully avoid any confusion.

<sup>14</sup> The present thesis does not address the behavior of reciprocals. See Appendix 3 for some discussion.

occupy exactly the same syntactic positions. This sets up the background for our subsequent proposal, which is introduced in Chapter 4.

### 3.1. *Empirical generalizations.*

We have mentioned above that Russian reflexives are subject-oriented and pronominals are anti-subject-oriented. To make this description precise, we need to define the set of subjects relevant for Principle A and Principle B. The notion of subject in Russian is very complex: Testelefs (2001, chap. 6) identifies 15 features that track various properties associated with the term subject. Below we attempt to characterize the set of *subjects* associated with Principle A and Principle B.

#### 3.1.1. Reflexives.

##### 3.1.1.1. Proper binders.

Russian reflexives are subject-oriented: they can be bound by a subject, but not by an internal argument:

- (3) Ja<sub>i</sub> rasskazala Vane<sub>j</sub> o sebe<sub>i/\*j</sub>.  
 I told Vanja.DAT about self  
 I told Vanja about myself/\*himself.

The set of elements that count as “subjects” in this sense is quite diverse: it includes regular Nominative subjects, both generated as subjects (4) and promoted to a subject position via A-movement (5); elements occupying SpecDP position (6)-(8), experiencers, both Dative (9) and, for some speakers, Accusative (10); as well as demoted agents in Passives marked with Instrumental case (11)<sup>15</sup>.

- (4) **Graždani<sub>i</sub>** sčitaet sebja<sub>i</sub> pisatelem.  
 citizen.NOM considers self.ACC writer.INST  
 The citizen<sub>i</sub> considers himself<sub>i</sub> a writer.
- (5) **Xan<sub>i</sub>** byl ubit svoim<sub>i</sub> testem.  
 khan.NOM was killed self's father-in-law.INST  
 The khan<sub>i</sub> was killed by his<sub>i</sub> father-in-law.

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<sup>15</sup> Examples are adapted in a simplified form from [www.ruscorpora.ru](http://www.ruscorpora.ru).



- (6) **Ego<sub>i</sub>** slova o sebe<sub>i</sub> ... ja očen' xorošo ponimal.  
 his words about self I very well understood  
 I understood his word about himself very well.
- (7) **Mašino<sub>i</sub>** videnie sebja<sub>i</sub> očen' izmenilos'.  
 Maša's vision self.GEN very changed  
 Maša's<sub>i</sub> vision of herself<sub>i</sub> changed a lot.
- (8) **Eë<sub>i</sub>** trebovatel'nost' k sebe<sub>i</sub> ne imela granic.  
 her demand to self not had boundaries  
 Her<sub>i</sub> demand of herself<sub>i</sub> didn't have boundaries.
- (9) **Emu<sub>i</sub>** bylo žalko sebja<sub>i</sub>.  
 he.DAT was pity.ADV self.ACC  
 He<sub>i</sub> felt sorry for himself<sub>i</sub>.
- (10) **Ninu<sub>i</sub>** volnovalo svoë otraženie v zerkale.  
 Nina.ACC worry self's reflection.NOM in mirror  
 Her<sub>i</sub> reflection in the mirror worried Nina<sub>i</sub>.
- (11) Turistam do six por pokazyvajut monumental'nyj mavzolej  
 tourists.DAT until now show.PL monumental mausoleum.ACC  
 vozvedënnjy **etim monarxom<sub>i</sub>** dlja sebja i svoix potomkov.  
 erected this monarch.INST for self and self's descendants  
 (They) still show tourists the monumental mausoleum erected by this monarch<sub>i</sub> for  
 himself<sub>i</sub> and his<sub>i</sub> descendants.

Possessive and locative PPs could be argued to belong to the class of eligible binders as well: reflexives can be bound by possessors embedded under the preposition *u* 'to' (12), as well as locative phrases (13). It is not clear, however, that such cases should be analyzed in the same way as examples (4)-(11). Here, the reflexive does not act simply to identify two identical participants or facilitate binding, as in (4)-(11), it also has the extra meaning that can be roughly translated as "one's own, separate, special". On the other hand, examples (12)-(18) clearly demonstrate a distributive reading, in the sense that the possessum of the reflexive covaries with the binder (i.e., roles covary with people in (12); rules – with houses in (13)). Such an interpretation is typically considered indicative of binding. Moreover, possessors and locative phrases are known cross-linguistically to exhibit subject-like properties (cf. locative inversion in English).

- (12) **U každygo<sub>i</sub>** svoja<sub>i</sub> rol'.  
 to everyone self's role.NOM  
 Everyone<sub>i</sub> has his<sub>i</sub> own role.

- (13) **V každom dome<sub>i</sub>** svoi<sub>i</sub> pravila.  
 in every house.OBL self's rules.NOM  
 Every house<sub>i</sub> has its<sub>i</sub> own rules.

Similar reflexives are also found with Dative recipients (14)-(18). Perhaps Dative arguments in examples (14)-(18) can be analyzed as possessor subjects of a small clause.

- (14) Žena ... podala im<sub>i</sub> čaj, **každomu<sub>i</sub>** svoi<sub>i</sub>...  
 wife served them.DAT tea.NOM each.DAT self's.NOM  
 The wife served them<sub>i</sub> tea, to each<sub>i</sub> – his own.
- (15) **Každomu<sub>i</sub>** – svoě<sub>i</sub>.  
 each.DAT self's.NOM  
 To each – his own.
- (16) **Každomu<sub>i</sub>** – svoja<sub>i</sub> rol'.  
 each.DAT self's role.NOM  
 To each – his own role.
- (17) Tětuška... nakladyvaet **každomu<sub>i</sub>** svoju<sub>i</sub> porciju.  
 aunt gives each.DAT self's portion.ACC  
 The aunt gives everyone his portion.
- (18) ...krug, v ktorom **každoj spice<sub>i</sub>** prednaznačeno svoě<sub>i</sub> mesto  
 circle in which each spoke.DAT assigned self's place.NOM  
 ...circle, in which each spoke is assigned its place.

I will leave the ultimate resolution of the issue of “quirky” reflexives to the future and will limit the following discussion to cases where the reflexive does not have to be interpreted as “one’s own, separate” (i.e., to the types of binders illustrated in examples (4)-(11)).

### 3.1.1.2. Binding domain.

Rappaport (1986) identifies the binding domain of a Russian reflexive as “the minimal finite clause containing it”, which means that a reflexive can be bound by any SUBJECT between its surface position and the closest tensed subject. In examples below, the possible binders are boldfaced, and the reflexive is given in italic. In (19), the reflexive embedded in a DP can be bound either by SpecDP, or by the matrix subject. (20) and (21) show that subjects of non-finite clauses (PRO) do not constitute a binding domain for the reflexive. In contrast, a finite subject does (22), even in cases where the anaphor is embedded in the subject itself (23). This last constraint includes subjunctive subjects as well (24)-(25).

- (19) **Ja<sub>i</sub>** čital **ego<sub>j</sub>** stat'ju o *sebe<sub>i/j</sub>*  
 I.NOM read his article.ACC about self  
 I read his article about me/himself. (from Rappaport 1986)
- (20) **Professor<sub>i</sub>** poprosil **assistanta<sub>j</sub>** **PRO<sub>j</sub>** čitat' *svoi<sub>i/j</sub>* doklad.  
 professor asked assistant to read self's paper  
 The professor<sub>i</sub> asked the assistant<sub>j</sub> to read his<sub>i/j</sub> paper. (from Rozental' 1974)
- (21) **General<sub>i</sub>** ne razrešacet sekretarše<sub>j</sub> [**PRO<sub>j</sub>** pozvolit' dvorniku<sub>k</sub>  
 general.NOM not permit secretary.DAT to-allow yard.keeper.DAT  
 [**PRO<sub>k</sub>** nazyvvat' *sebja<sub>i/j/k</sub>* Valej]]  
 to-call self.ACC Valja.INST  
 The general<sub>i</sub> does not permit the secretary<sub>j</sub> [**PRO<sub>j</sub>** to allow the yard-keeper<sub>k</sub> [**PRO<sub>k</sub>** to call  
 him<sub>i</sub>/her<sub>j</sub>/himself<sub>k</sub> *Valja*]]. (from Klenin 1974 via Rappaport 1986)
- (22) Vanja<sub>i</sub> znaet, [čto **Volodja<sub>j</sub>** ljubit *sebja<sub>j/\*i</sub>*].  
 Vanja.NOM knows that Volodja.NOM loves self.ACC  
 Vanja<sub>i</sub> knows that Volodja<sub>j</sub> loves himself<sub>j/\*i</sub>. (from Rappaport 1986)
- (23) \*Vanja<sub>i</sub> znaet, čto [[stat'ja o *sebe<sub>i</sub>* /*svoej<sub>i</sub>* žene] pojavilas' v gazete].  
 Vanja.NOM knows that article.NOM about self /self's wife appeared in newspaper  
 Vanja<sub>i</sub> knows that an article about himself<sub>i</sub>/his<sub>i</sub> wife appeared in the paper.
- (24) \*Volodja<sub>i</sub> xočet čtoby svoja<sub>i</sub> žena poexala v Evropu  
 Volodya wants that.SUBJ self's wife went to Europe  
 Volodya<sub>i</sub> wants his<sub>i</sub> wife to go to Europe. (from Avrutin and Babyonyshev 1997)
- (25) \*Volodja<sub>i</sub> xočet čtoby sebe<sub>i</sub> bylo veselo.  
 Volodya wants that.SUBJ him.DAT was.SG.NEUT fun  
 Volodya wants to be having fun.

### 3.1.2. Pronominals.

Russian pronominals can be characterized as *anti-subject-oriented* in the sense that arguments that are not eligible binders for reflexives never produce a Principle B violation (26). However, the pattern is more complex than this: the set of arguments that trigger principle B violations is a *subset* of binders that can bind a reflexive. In particular, Nominative subjects always produce Principle B violations (27)-(28)<sup>16</sup>. All other arguments that are eligible binders for reflexives only produce Principle B violations when they are coarguments of the pronominal (see (29) vs. (30)).

<sup>16</sup> Within a local domain – we get back to this issue later.

- (26) Ja pokazala Vane<sub>i</sub> ego<sub>i</sub> /\*svoë<sub>i</sub> rabočee mesto.  
 I.NOM showed Vanja.DAT his /\*self's work place.ACC  
 I showed Vanja<sub>i</sub> his workplace.
- (27) \*Vanja<sub>i</sub> uvidel ego<sub>i</sub>.  
 Vanja.NOM saw him.ACC  
 Vanja<sub>i</sub> saw him<sub>i</sub>.
- (28) \*Vanja<sub>i</sub> uvidel ego<sub>i</sub> načal'nika.<sup>17</sup>  
 Vanja.NOM saw his boss.ACC  
 Vanja<sub>i</sub> saw his<sub>i</sub> boss.
- (29) Emu<sub>i</sub> bylo žalko sebja<sub>i</sub> /\*ego<sub>i</sub>.  
 he.DAT was pity.ADV self.ACC /\*him.ACC  
 He<sub>i</sub> felt sorry for himself<sub>i</sub>.
- (30) Emu<sub>i</sub> bylo žalko svoju<sub>i</sub> /ego<sub>i</sub> sestru.  
 he.DAT was pity.ADV self's /his sister.ACC  
 He<sub>i</sub> felt sorry for his<sub>i</sub> sister.

### 3.1.3. Summary.

Table 2 provides a simplified summary of the distribution of reflexives and pronominals. The cells that require extra discussion are marked with square brackets. E.g., we have not identified the locality constraints on Principle B violations with finite subjects – we'll return to these later. Moreover, we will see that the availability of pronominals with non-subject coarguments is subject to interesting variation. This issue, too, will be addressed in the subsequent chapters.

Abstracting away from these complications, the distribution of reflexives and anaphors is very nearly complementary: e.g., if we only considered coargument domains, or only looked at prototypical subjects and non-subjects, we could say that reflexives and pronominals in Russian are in direct competition. Non-complementarity arises in cases with non-prototypical subjects that are non-coarguments to the anaphoric element.

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<sup>17</sup> Although a minority of speakers accepts sentences like (28), this dialect will not be included in the present study (see Avrutin 1994 for a discussion of a similar dialect). The reasons underlying this variation require further investigation. For example, it remains to be seen whether this dialect exhibits a systematic difference from the prevailing dialect with respect to subject orientation or ACE.

	Finite Subject		SUBJECT /Spec-vP		Everything else	
	RFL	PRN	RFL	PRN	RFL	PRN
Coarguments	✓	*	✓	*	*	[✓]
Non-coarguments	✓	[*]	✓	✓	*	✓

Table 2

### 3.2. Theories of (anti)-subject orientation.

This section offers a survey of theoretical views of subject orientation and anti-subject orientation. Before we start the main discussion, I would like to make an important terminological and theoretical remark: the subject orientation of reflexives and the anti-subject orientation of pronominals is really one property rather than two. Descriptively speaking, subject-orientation of anaphors can be conceived of as Principle A being defined not for the entirety of potential binders, but a subset of them that have a certain property (in this case, occupy a subject<sup>18</sup> position). This extra restriction on the set of eligible binders will then produce *subject orientation* of anaphors, since principle A *requires* a binder. Correspondingly, if Principle B is defined for the same restricted subset of binders, *anti-subject orientation* of pronominals would result<sup>19</sup>, since principle B a *negative* principle whose goal is to *eliminate* binders. Distinguishing *subject-orientation* and anti-subject orientation as two different properties is akin to saying that anaphors are c-commanding-binder-oriented and pronominals are anti-c-commanding-binder-oriented. I will, therefore, refer to this property with a cover term (*anti*)-*subject orientation* or *subject sensitivity*.

Supporting the idea that the uniformity of subject sensitivity is not purely terminological, we have seen in the previous section that reflexives and pronominals exhibit near complementary distribution. Such distribution is observed cross-linguistically: anti-subject-oriented pronominals are found in languages that have corresponding subject-oriented anaphors, which has been the

<sup>18</sup> As we go, we will delve deeper into the definition of *subject*.

<sup>19</sup> Some languages, e.g., Norwegian and Danish, have anaphoric elements that exhibit mixed properties of anaphors and pronominals and can be analyzed as anti-subject-oriented anaphors. E.g., Danish *ham selv* (Vikner 1985) has to be locally bound, but can't be bound by a subject. Crucially, anaphors of this sort are only attested in the languages that have a subject-oriented counterpart, such as *sig selv* in Danish.

Similarly, while there are long-distance anaphors that have to be bound by a non-local subject (Danish/Norwegian *sig*), there is no long-distance pronominals, that would require to be either free from any subject, no matter how distant, or to be free from a distant subject.

basis for a number of competition-based approaches to anti-subject-orientation of pronouns, as discussed below.

Crucially, though, we have shown that this complementarity breaks down in a number of contexts. Summarizing this, we would like to have binding theory that would:

- provide an account of (anti)-subject orientation
- capture the complementarity in the distribution of anaphors and pronominals in the languages where every subject-oriented anaphor is paired with an anti-subject-oriented pronominal
- allow for the cases of non-complementarity

In what follows, we will survey the following theories of (anti)-subject orientation, assessing how well each of them fits our “wishlist”.

- 1) ***Parameterization approach*** (Vikner 1985; Manzini and Wexler 1987): In addition to parameterizing the binding domain of anaphoric elements, these authors introduce a “proper binder parameter” that can take either the value “subject” or the value “anything”. If the Proper Binder Parameter is set to “subject” for a certain class of elements (say, reflexives in Russian), principle A will be applied only to subjects.
- 2) ***Movement-based approach*** (Pica 1985; Pica 1987; Hestvik 1992): (Anti)-subject orientation is derived by identifying a structural position that an anaphoric element occupies at LF. In this approach, being a proper binder means simply being high enough to c-command the LF position of the anaphoric element in question. The difference between anaphoric elements that exhibit subject-sensitivity and those that don’t is tied to their syntactic properties (such as being a head or a maximal projection).
- 3) ***Competition-based approach*** (Levinson 1987; Hellan 1988; Burzio 1991; Burzio 1998; Safir 2004): anti-subject-oriented pronominals are excluded in the positions where a subject-oriented reflexive is available. The competition principle explains this in a straightforward manner: since pronominals are in competition with reflexives, and reflexives are subject-oriented, pronominals are going to lose the competition to a reflexive precisely in cases when they are bound by a subject.

### 3.2.1. Parameterization approaches

Some of the first approaches to (anti)-subject orientation were proposed in Vikner (1985) and Manzini and Wexler (1987). I will refer to these theories as *the Parameterization approach*. According to the Parameterization approach, anaphors should be specified not only for a binding domain, but also for a “proper binder”, a parameter that can take the value ‘subject’ (as in Russian, Norwegian, Danish) or ‘anything’<sup>20</sup> (English). In addition to the proper binder parameter, a definition of *subject* is necessary for the system to work, and as we have seen in Section 3.1, this is not a trivial matter. Consider the definition of subject that Vikner (1985) offers:

- (31) SUBJECT Definiton:  
The SUBJECT is AGR in tensed clauses, and the subject elsewhere (“the most prominent nominal element” (Chomsky 1981, 209)).

This definition is both too permissive and too restrictive. Consider Russian subject-less “adversity” predicates (32). The “most prominent nominal element” there is the accusative object *voditelja*, yet it is unable to bind the reflexive even in the absence of a better binder.

- (32) (Kogda mašina perevernulas’) **voditelja<sub>i</sub>** udarilo ego<sub>i</sub> /\*svoej<sub>i</sub> sumkoj.  
(when the car capsized) driver.ACC hit.SG.NEUT his /\*self’s bag.INST  
When the car toppled over, (it) hit the driver<sub>i</sub> with his<sub>i</sub> bag.

On the other hand, when there is more than one eligible binder in a sentence, both are able to bind the reflexive:

- (33) V etot restoran Vanja<sub>i</sub> byl priglašěn Mašej<sub>j</sub> na svoj<sub>i/j</sub> den’ roždenija.  
to this restaurant Vanja.NOM was invited Maša.INST on self’s birthday  
In this restaurant, Vanja<sub>i</sub> was invited by Maša<sub>j</sub> for his<sub>i</sub>/her<sub>j</sub> birthday.

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<sup>20</sup> Note that Vikner (1985) proposes a more subtle parameterization for the proper binder parameter:

X is a proper binder for Y, iff

X is a subject and X and Y are both contained in a category that also contains

- a) anything else
- b) an INFL
- c) an AGR
- d) etc.

This definition is perhaps redundant, since it includes the definition of locality that is already addressed by the binding domain specification.

Manzini and Wexler (1987) do not propose an explicit definition of a subject, but consider any SpecDP or SpecTP within the binding domain of an anaphor to be a proper binder. Importantly, they do not consider experiencers to be proper binders: e.g., discussing the Italian sentence (34), they derive the ability of the experiencer object *Mario* to bind the reflexive by saying that, since the subject of the reflexive’s binding domain is *inaccessible*, “*sè* is predicted not to be subject to any binding condition”.

- (34) Alice<sub>j</sub> sapeva che [[i miei ritratti di sè<sub>i/j</sub>] spaventavano Mario<sub>i</sub>].  
 Alice knew that my portraits the self frightened Mario  
 Alice knew that my portraits of herself/himself frightened Mario

However, this is too permissive a condition. First of all, long-distance binding is generally *more* selective, not *less* selective than local binding<sup>21</sup> – even generally “omnivorous” anaphors, while bound distantly, start to exhibit subject orientation. Consider English cases of the so-called “i-within-i” condition (35). If an inaccessible subject did indeed free anaphors from all conditions, we would expect *each other* to accept both potential binders in the matrix clause (especially since English reciprocals are not subject-oriented). However, as Chomsky (1986, 175) points out, only the subject *they* can bind the reciprocal. English reflexives also exhibit subject orientation, when bound long-distantly (36).

- (35) They<sub>i</sub> told us<sub>j</sub> that pictures of each other<sub>i/\*j</sub> would be on sale.  
 (36) John<sub>i</sub> told Mary<sub>j</sub> that pictures of himself<sub>i</sub>/\*herself<sub>j</sub> would be on sale.

Moreover, going back to (34), Belletti and Rizzi (1988) demonstrate that psych verbs consistently contrast with non-psych verbs in the object’s ability to bind the reflexive. In both (37a) and (37b), the reflexive *sè* is embedded in the subject. Therefore, if Manzini and Wexler’s analysis of (34) is correct, we would expect the reflexive to not be subject to binding conditions in *both* (37a) and (37b). However, only (37a) is grammatical. This means that experiencer positions have to be included in the list of “subjects” for the proper binder parameter.

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<sup>21</sup> Manzini and Wexler (1987) make a similar observation regarding Icelandic *sig* and Italian *sè*. However, in the cases they bring up, the subject is not inaccessible. Providing a theoretical account for this generalization (that long-distance binding makes even omnivorous anaphors subject-oriented) is beyond the scope of this study, but see Appendix 3 for some discussion.



- (37) a. Questi pettegolezzi su di sè preoccupano Gianni più di ogni altra cosa.  
 These gossips about himself<sub>i</sub> worry Gianni<sub>i</sub> more than anything else.
- b. \*Questi pettegolezzi su di sè descrivono Gianni meglio di ogni biografia ufficiale.  
 These gossips about himself<sub>i</sub> describe Gianni<sub>i</sub> better than any official biography.  
 (from Belletti and Rizzi 1988, 312)

In conclusion, the Parameterization approach has been criticized (Hestvik 1992) for stipulating that some anaphors are specified for a proper binder, while others are not. Indeed, the Parameterization approach does not attempt to tie the distribution of (anti)-subject orientation to any particular property of the anaphoric elements.

Since the proper binder parameter applies uniformly to Principle A and Principle B, it suggests precisely the uniformity of subject orientation and anti-subject orientation that we discussed at the beginning of this section. Despite this, the Parameterization approach actually does not predict the coincidence of subject-oriented anaphors with anti-subject-oriented pronominals. In fact, Manzini and Wexler explicitly hypothesize that parameters (including the proper binder parameter) may be set individually for every lexical item (38). While the mechanism of parameterization is very powerful descriptively, it is not restrictive enough to rule out the unattested systems.

- (38) **Lexical Parameterization Hypothesis:** Values of a parameter are associated not with particular grammars but with particular lexical items (Manzini and Wexler 1987, 424)

Another challenge for the Parameterization approach is that *in addition* to the proper binder parameter itself, the list of proper binders must be specified, and, as we've seen above, once non-traditional binders such as experiencers are considered, the definition of a subject emerges as a fairly complex list of positions, for which the parameterization approach does not provide a generalization. In fact, such lists would have to be provided *for each anaphoric element separately*: for example, based on our observations from Section 3.1, the list of proper binders for Russian anaphors will be different from the list of proper binders for Russian pronominals (and the latter set relies not only on certain syntactic positions, but also, crucially, on the *relationship* between the binder and bindee).

Naturally, one is tempted to search for a principle (or, perhaps, principles) underlying the sets of *proper binders*, which brings us to the next section.

### 3.2.2. Movement-based approaches

An alternative theory, to which I refer here as the *movement-based approach*, was proposed by Pica (1985; 1987) for subject-orientation of anaphors. According to Pica, the set of positions able to bind an anaphor is derived in the same way for subject-oriented and non-subject-oriented anaphors: this set consists simply of the DPs that c-command the position that the anaphor in question occupies at LF. The difference between subject-oriented and non-subject-oriented anaphors is then tied to the difference in positions they occupy at LF, which, in turn, is the result of their different internal syntactic structure. According to this view, subject-oriented anaphors are heads in nature ( $X^0$ ), which drives them to undergo covert head movement and adjoin to a functional projection (INFL or D). In this position, the only argument that both c-commands the anaphor and is within its binding domain is the specifier of the functional projection to whose head the anaphor is adjoined (SpecDP or matrix subject). In contrast, non-subject-oriented anaphors are considered maximal projections (XP), unable to undergo head movement and, consequently, staying low enough for internal arguments to bind them.

Hestvik (1992) extends Pica's proposal to account for the anti-subject orientation of pronominals. According to Hestvik, pronominals, just like anaphors, can be divided into two classes,  $X^0$  and XP, which undergo precisely the same type of movement that  $X^0$ - and XP-anaphors do. The rest follows automatically: an anti-subject-oriented pronoun is adjoined to INFL, so the only argument that c-commands it and can trigger a Principle B violation is the subject.

The movement-based approach is attractive since it defines the set of proper binders for (anti)-subject-oriented elements through the c-command relation. However, the success of the movement-based approach hinges on the position that pronouns occupy at LF, which in turn is derived from their being an  $X^0$  or XP. The problem is, whether a pronoun is a head or a phrase is not directly observable. So, in order to avoid circularity, a successful theory of subject orientation needs an observable property that would allow it to correctly sort the pronouns into the two classes,  $X^0$  and XP.

Capitalizing on the generalization that long-distance anaphors are morphologically simplex<sup>22</sup> and subject-oriented, while complex anaphors are local (Pica 1985; Pica 1987; Yang 1983), a morphological criterion was proposed: simplex anaphors are taken to be  $X^0$ , and complex ones are analyzed as XPs. For anaphors, morphological simplicity is at least correlated with subject orientation: it is a sufficient condition for subject orientation (though not a necessary one: there are *complex* subject-oriented anaphors, such as Japanese *zibun zisin*, Norwegian *seg selv*, Danish *sig selv*<sup>23</sup>). For pronominals, it is not even sufficient: morphologically simplex pronominals are not necessarily subject-sensitive, unlike simplex anaphors.

Hestvik notes this problem, pointing out, for example, that English pronominals are simplex, but not subject-oriented. He seeks to address the issue by introducing a syntactic criterion. Following Jackendoff (1977), he adopts the idea that restrictive modifiers must be sisters to  $X^0$  or  $X'$  – which means they should be unable to attach to a maximal projection). It follows from this that  $X^0$  pronouns should be able to take restrictive modifiers (39a), while XP pronouns shouldn't (39b). In other words, Hestvik's proposal predicts that the anti-subject orientation of pronominals should correspond to their ability to take restrictive modifiers.

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<sup>22</sup> Norvin Richards (p.c.) points out that Finnish anaphors are a potential counterexample to this rule: as reported in van Steenbergent (1991), Finnish anaphors occur with a possessive suffix *-nsa* (i). This suffix itself is sometimes analyzed as an anaphor ((ii) vs. (iii)), which would make *itse-nsa* a morphologically complex, yet long-distance, anaphor. However, van Steenbergent analyzes *-nsa* as agreement, and points out its clitic-like properties (it attaches to head nouns and non-finite verbs).

- (i) Pekka<sub>i</sub> näki itse-nsä<sub>i</sub>  
Pekka saw self-POSS  
Pekka<sub>i</sub> saw himself<sub>i</sub>.
- (ii) Pekka<sub>i</sub> luki kirjaa-nsa<sub>i</sub>  
Pekka read book-POSS  
Pekka<sub>i</sub> read his<sub>i</sub> book.
- (iii) Pekka<sub>i</sub> luki hänen<sub>j</sub> kirjaa-nsa<sub>j</sub>  
Pekka read he.GEN book-POSS  
Pekka<sub>i</sub> read his<sub>j/\*i</sub> book.

<sup>23</sup> Moreover, as pointed out in the previous section, subject orientation is not necessarily an inherent property of anaphors, but in many cases depends on the context (i.e., a non-subject-oriented anaphor becomes subject-oriented due to being bound distantly).



Contrary to Hestvik's hypothesis about restrictive modification, a theory that ties the anti-subject orientation of pronominals to the availability of subject-oriented reflexives (as competition-based approach does) makes more accurate predictions.

This is related to another issue. Since the Movement-based approach derives the (anti)-subject orientation separately and independently for anaphors and pronominals, nothing prevents a language from having  $X^0$  anaphors (which move to INFL and are, consequently, subject-oriented) and XP pronominals (which don't, and are, therefore, non-anti-subject-oriented), and vice versa. Under the movement-based approach, the fact that a language has anti-subject oriented pronominals if and only if it has subject-oriented anaphors is unexpected. In this regard, competition-based theories are superior to movement-based ones since they predict and derive this distribution, unlike movement-based approaches.

Finally, the movement-based approach faces a challenge explaining the pronominals' *motivation* for the movement. What compels a pronoun to move? This question has been given a number of answers for the reflexives' side of the story: anaphors are generally assumed to be deficient in some way and consequently to need something from their binders that can only be received via agreement facilitated by movement<sup>25</sup>.

However, an answer of this sort is not directly applicable to pronominals. First of all, the movement of *anti*-subject-oriented pronominals doesn't get them *to* their binder (as movement facilitating agreement would be expected to), but rather, *away* from it (i.e., out of its c-command domain). Moreover, a pronominal doesn't always receive a linguistic binder in a sentence. Therefore, even if it does need to rely on its antecedent for some features, it must be able to employ an extra-linguistic mechanism to get them directly from the referent, as there may be no linguistic antecedent in the sentence.

### 3.2.3. Competition-based approaches

While the movement-based approach does raise certain issues, as we just pointed out, the competition-based approach has a challenge of its own: cases of non-complementarity, where more than one anaphoric element is possible with exactly the same interpretation. There are a

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<sup>25</sup> This, of course, raises another question: compared to agreement-based approaches to subject orientation, what evidence do movement-based approaches offer of movement per se? Generally, Movement-based approaches are not concerned with the need to provide evidence for movement. However, Pronominal Raising provides exactly such evidence.

number of ways in which competition can be stated; I base the evaluation of the competition-based theories on Safir (2004), as his book provides the most recent, detailed and formal representation of the competition-based family.

Consider (42):

- (42) Vanja<sub>i</sub> poprosil Sašu<sub>j</sub> PRO<sub>j</sub> raspečatat' ego<sub>i</sub> doklad.  
 Vanja asked Saša to print his report  
 Vanja<sub>i</sub> asked Saša<sub>j</sub> to print his<sub>i</sub> report.

Let's evaluate the predictions that Safir (2004) makes for sentences of this sort. According to this theory, the pronominal *ego<sub>i</sub>* should be ungrammatical if the pronominal can be substituted with a more dependent form (an anaphor), holding everything else constant about the numeration. So, simplifying a bit, given the numeration in (43), we should assess whether the numeration in (44) would produce a convergent derivation with the same interpretation.

- (43) {Vanja<sub>i</sub>, poprosil, Sašu<sub>j</sub>, PRO<sub>j</sub>, raspečatat', ego<sub>i</sub>, doklad}  
 (44) {Vanja<sub>i</sub>, poprosil, Sašu<sub>j</sub>, PRO<sub>j</sub>, raspečatat', svoj<sub>i</sub>, doklad}

Since Russian reflexives can optionally stay in the infinitival clause or raise to the matrix clause, the numeration in (44) can equally produce either the non-convergent (45a) or the convergent (45b) (note, the two sentences are derived from identical numerations with *identical indexation*).

- (45) a. \*Vanja<sub>i</sub> poprosil Sašu<sub>j</sub> PRO<sub>j</sub> [T<sup>0</sup>+svoj<sub>i</sub>]raspečatat' svoj<sub>i</sub> doklad.  
 Vanja asked Saša to print his report  
 b. Vanja<sub>i</sub> [T<sup>0</sup>+svoj<sub>i</sub>]poprosil Sašu<sub>j</sub> PRO<sub>j</sub> raspečatat' svoj<sub>i</sub> doklad.  
 Vanja asked Saša to print his report  
 Vanja asked Saša to print his report.

Which of these two derivations should compete with (42)? Safir's answer is that they both should. If there is a convergent derivation produced by the numeration with a more dependent element, then the more dependent element should be used. Therefore, (42) is incorrectly ruled out via competition with (45b). A similar issue arises for the availability of a pronominal in a DP (46).

- (46) Vanja<sub>i</sub> uslyšal Petinu spletnju o nĕm<sub>i</sub> /o sebe<sub>i</sub>.  
 Vanja heard Petja's rumor about him /about self  
 Vanja<sub>i</sub> heard Petja's rumor about him<sub>i</sub>.

Cases of non-complementarity of this sort are not peculiar to Russian: they have been reported for Danish (47), and Norwegian (48).

- (47) Danish (from Vikner 1985, 17):  
 at Susan<sub>i</sub> overtalte Anne<sub>j</sub> til PRO<sub>j</sub> at høre på sig<sub>i</sub> /ham<sub>i</sub>.  
 that Susan persuaded Anne to to listen to self /her  
 Susan<sub>i</sub> persuaded Anne to listen to herself/her<sub>i</sub>.

- (48) Norwegian (from Hestvik 1992, 578):  
 John<sub>i</sub> bad Marit<sub>j</sub> PRO<sub>j</sub> kikke bak seg<sub>i</sub> /ham<sub>i</sub>.  
 John asked Mary to look behind self /him  
 John<sub>i</sub> asked Mary to look behind him<sub>i</sub>.

These cases are in principle explainable by restricting the competition to local domains. This would account for the cases of non-complementarity discussed so far: in sentences (42), (46)-(48), both reflexive and pronominal are available for the binder that is outside of the minimal binding domain of the anaphoric element, and, therefore, competition does not apply to it.

However, there is another class of cases where complementarity breaks down: as we've seen in Section 3.1, non-Nominative binders generally don't trigger a Principle B violation in non-coargument configurations, e.g., Dative experiencers (49) or nominal specifiers (50). Crucially, these cases cannot be accounted for in terms of binding domain: consider a hypothesis that (50) is good because PP constitutes a binding domain for competition, and, since SpecDP is outside of this domain, both reflexive and pronominal are allowed. If that hypothesis were correct, we would expect PP to constitute a binding domain for competition in (51) as well, yet the pronominal is ungrammatical there. Therefore, we conclude that complementarity depends not only on where the binder is, but also on what kind of binder it is.

- (49) Vane<sub>i</sub> stydno za ego<sub>i</sub> /svoix<sub>i</sub> druzej.  
 Vanja.DAT ashamed of his /self's friends  
 Vanja<sub>i</sub> is ashamed of his<sub>i</sub> /self's<sub>i</sub> friends.
- (50) Petiny<sub>i</sub> rasskazy o svoix<sub>i</sub> /ego<sub>i</sub> putešestvijax...  
 Petja's stories about self's his travels  
 Petja<sub>i</sub>'s stories about his<sub>i</sub> travels...

- (51) Petja<sub>i</sub> rasskazal o svoix<sub>i</sub> /\*ego<sub>i</sub> putešestvijax.  
 Petja.NOM spoke about self's /\*his travels  
 Petja<sub>i</sub> spoke about his<sub>i</sub> travels.

### 3.2.4. Movement or competition? Both!

Both the Movement-based and the Competition-based approaches have their strengths and weaknesses. The question is, which of the accounts should we prefer?

First of all, the Competition-based approach and the Movement-based approach differ only in their analysis of Principle B: while the Competition approach derives anti-subject orientation of pronominals from their competition with subject-oriented anaphors, it still needs an account of subject orientation.

Moreover, even in the treatment of anti-subject orientation, the Movement-based approach is not incompatible with the Competition-based one. The Movement-based approach addresses mainly *the position that pronominals occupy at LF* – but then principle B can be formulated in a variety of ways, from traditional to competition-based. In contrast, the Competition-based approach is very particular as to *how principle B is to be formulated* (namely, it has to be a part of the general competition mechanism between more and less dependent forms), but leaves the position of the pronominals open to interpretation. While it does not *require* pronouns to occupy precisely the same position as reflexives do, it does not *prohibit* them from doing so.

One could imagine combining these two approaches into a single hypothesis, which would state that pronominals both occupy the same position as anaphors, and are in competition with them. Under the assumption that pronominals and anaphors are different syntactic creatures, such a combination seems redundant: if just one of the two mechanisms supplies the needed explanation, why add another one? Ultimately, we will argue that anaphors and pronominals aren't just in competition with each other: they are, in fact, allomorphs of the same syntactic element.

### 3.3. Positions of pronominals.

This section sets up the background for our proposal in Chapter 4. Here, I will go through an abstract syntactic tree and review the evidence we have regarding reflexives and pronominals



occupying each of the positions labeled below. Figure 15 provides the schema and the labels for the positions we're going to refer to:

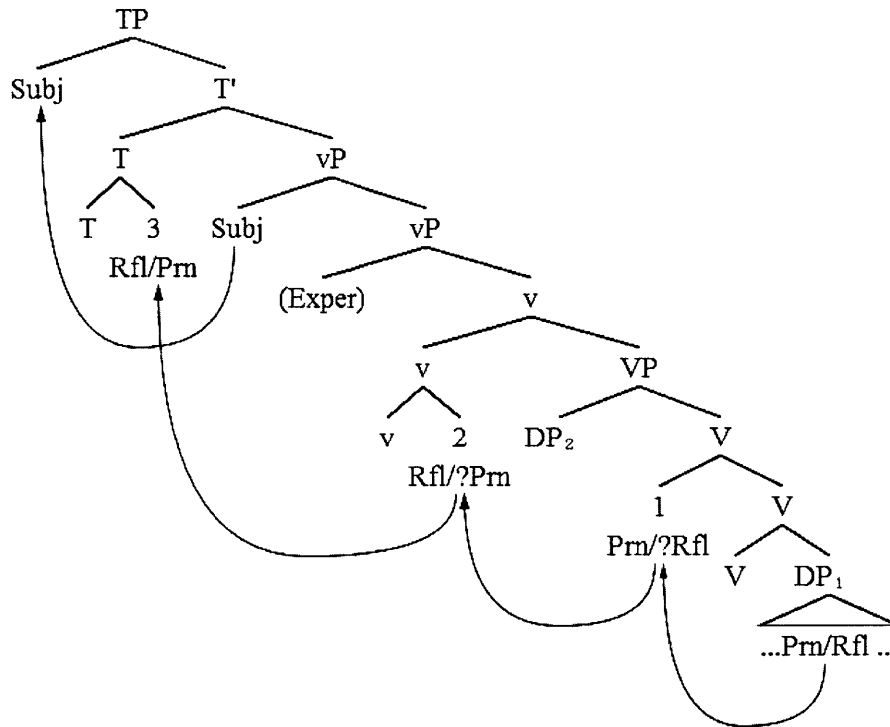


Figure 15

### 3.3.1. Position 1

#### 3.3.1.1. Prenominals

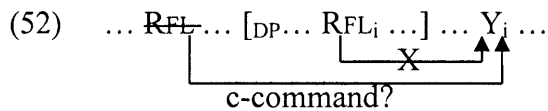
In Chapter 2 we have determined using evidence from principle C violations that the highest position from which pronominals c-command into the clause is either their surface position or the innermost specifier of the head immediately dominating their parent DP. So, for example, in a structure like the one represented in Figure 15, we have determined that the pronominal moves out of DP<sub>1</sub> to position 1, where it c-commands everything that DP<sub>1</sub> does, but does not c-command DP<sub>2</sub>.

#### 3.3.1.2. Reflexives

If a reflexive moves through position 1 in Figure 15, just like pronominals do, we would expect it to produce a Principle C violation of the same sort that pronominals produce (i.e. ACE). However, as I argue below, there exists no derivation that would allow us to conclude that a

reflexive triggers a Principle C violation. Let's imagine what configuration could be used as evidence that a reflexive c-commands into the clause from its covert position. This would be a sentence with the properties listed below (a schema for this sentence is provided in (52)):

- a) it contains a reflexive and a DP Y, coindexed with the reflexive;
- b) the reflexive does not c-command Y from its overt base position, but covertly raises out of its parent DP to a position where it c-commands Y;
- c) the sentence is ungrammatical due to a principle C violation<sup>26</sup>.

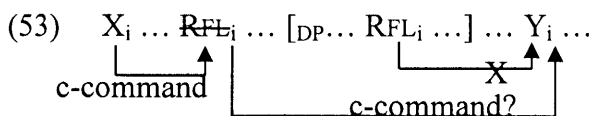


I am going to argue that this configuration cannot possibly provide us with evidence that the reflexive c-commands Y from its covert position outside of the DP. The described configuration could exist if one of two logical possibilities held<sup>27</sup>:

1. there is **NO** local argument that c-commands the highest occurrence of the reflexive and is coindexed with it.
2. there **IS** a local argument that c-commands the highest occurrence of the reflexive and is coindexed with it.

In case a), the sentence may be ungrammatical due to the fact that there is no binder for the reflexive (i.e., classic principle A violation). Since there is an alternative reason why such a sentence may be bad, we cannot be sure that it is bad because the reflexive c-commands Y. Therefore, this test case is inconclusive.

Case b) is illustrated below:



<sup>26</sup> Why are we not considering a Principle B violation? Recall that pronominals moving out of DPs do not produce Principle B violations.

<sup>27</sup> I'm going to only consider word orders without scrambling. For a detailed discussion of how scrambling interacts with binding, see Chapter 5.

Here is what is known about the case in (53): by assumption, the base position of the reflexive does not c-command Y, and X c-commands the highest occurrence of the reflexive.

Can we be sure in this case that the sentence corresponding to (53) is ungrammatical due to a Principle C violation produced by the reflexive? No, because a principle C violation can be produced by any DP that c-commands Y and is coindexed with it. As shown below, *X c-commands Y* and *X is coindexed with Y*. Therefore, a principle C violation can be produced by X and we cannot conclude in this case that the reflexive c-commands Y from its position outside of its parent DP.

**X c-commands Y:** Since, by assumption, in (53) X c-commands the highest occurrence of the reflexive, it must also c-command the sister of that node (i.e., the complement of the head  $H^0$ ), as well as everything the sister node dominates. It follows from this that X c-commands Y.

**X is coindexed with Y:** Coindexation is transitive: if A is coindexed with B and B is coindexed with C, A is coindexed with C. By assumption, X is coindexed with the reflexive and the reflexive is coindexed with Y. Therefore, X is coindexed with Y.

### 3.3.2. Position 2

#### 3.3.2.1. Pronominals

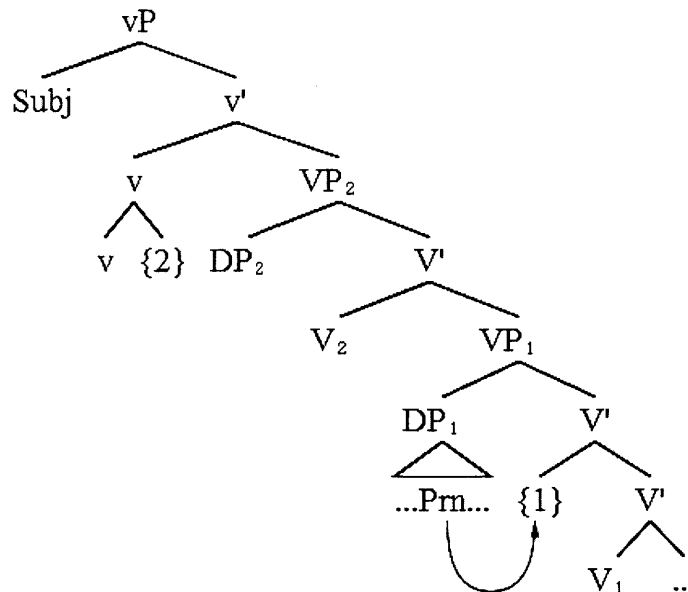


Figure 16

Consider Figure 16. Based on ACE, we have determined that a pronominal moving out of  $DP_1$  does not c-command  $DP_2$ . Does that, however, necessarily mean that pronominals *do not*

*raise beyond* that position? Or, to put it differently, would it be problematic to assume that, after landing in position 1, the pronominal subsequently raises to adjoin to  $v^0$  (position 2 in Figure 16)?

The data are compatible with the pronominal occupying position 2 at LF, as long as it does not c-command<sup>28</sup>  $VP_2$  (and everything that it dominates). In fact, this is precisely what Hestvik argues for in order to explain why pronominals undergoing head movement into INFL do not produce principle C effects with other internal arguments.

Consider (54):

- (54) Vanja<sub>i</sub> pokazal Saše<sub>j</sub> ego<sub>j/\*i</sub> načal'nika.  
 Vanja showed Sasha.DAT his boss.ACC  
 Vanja<sub>i</sub> showed Sasha<sub>j</sub> his<sub>j/\*i</sub> boss.

The binding facts require the pronominal to:

- i. be c-commanded by the subject (to explain why a principle B violation occurs if the pronominal is coindexed with *Vanja*);
- ii. not be c-commanded by *Saše* (to explain the lack of principle B violation under coindexation);
- iii. not c-command *Saše* (to explain the lack of principle C violation under coindexation).

The only way to satisfy both requirements (ii) and (iii) is for the pronominal to occupy position 2, as shown in Figure 17, and to not c-command from that position.

Assuming that the pronominal c-commands from position 2 would incorrectly rule out (55):

- (55) Vanja ego<sub>j</sub> pokazal Saše<sub>j</sub> [ego<sub>j</sub> načal'nika].  
 Vanja showed Sasha.DAT his boss.ACC  
 Vanja<sub>i</sub> showed Sasha<sub>j</sub> his<sub>j/\*i</sub> boss.

Moreover, assuming that the pronominal does not raise above *Saše* by the time principle B is evaluated would also rule out (55): suppose principle B is evaluated when the pronominal is

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<sup>28</sup> As mentioned in Chapter 2, we assume the standard c-command definition. Note that the head-movement account of anti-subject orientation is incompatible with Kayne's c-command definition (see Section 2.9), according to which an element adjoined to a head c-commands everything that the head does, e.g., in Figure 16, a pronoun in position 2 would c-command  $DP_2$ .

in position 1. It is c-commanded by a coindexed argument, *Saše*. This should produce a principle B violation, which will rule out this derivation regardless of what happens next.

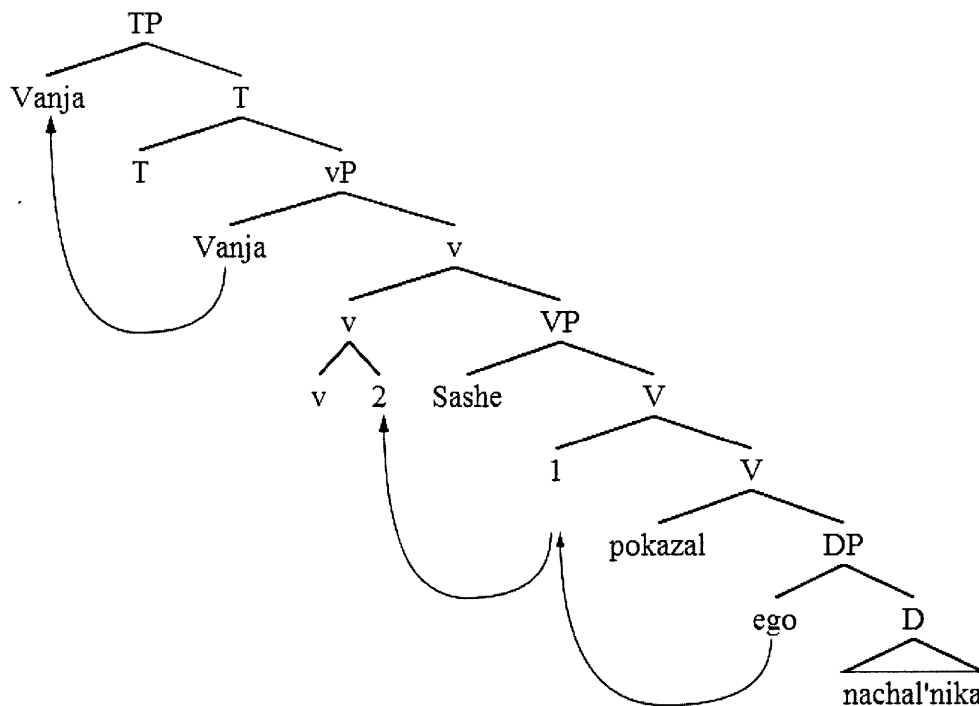


Figure 17

We conclude, therefore, that at the time of principle B evaluation, the pronominal must be adjoined to a functional projection c-commanding *Saše* (i.e., at least as high as  $v^0$ ) and unable to c-command into the clause from this position.

### 3.3.2.2. Reflexives

Since we have already determined that after the first step of Pronominal Raising, the anaphoric elements adjoin to functional heads, evidence from *binding down* is going to be unavailable from position 2 up. We, therefore, will have to rely on evidence from *binding from above*.

In Section 3.1.1 we have determined that Russian reflexives can be bound by arguments generated as specifiers of a functional projection (such as experiencers and agents), but not by arguments generated in a lexical projection (such as non-experiencer Datives, Accusatives and Instrumentals). This suggests that by the time of Principle A evaluation, reflexives raise high enough to not be c-commanded by internal arguments, but are still c-commanded by the head

where experiencers are generated (for current purposes, I will assume  $v^0$ ). This is precisely position 2 in Figure 17.

### 3.3.3. 2 or 3?

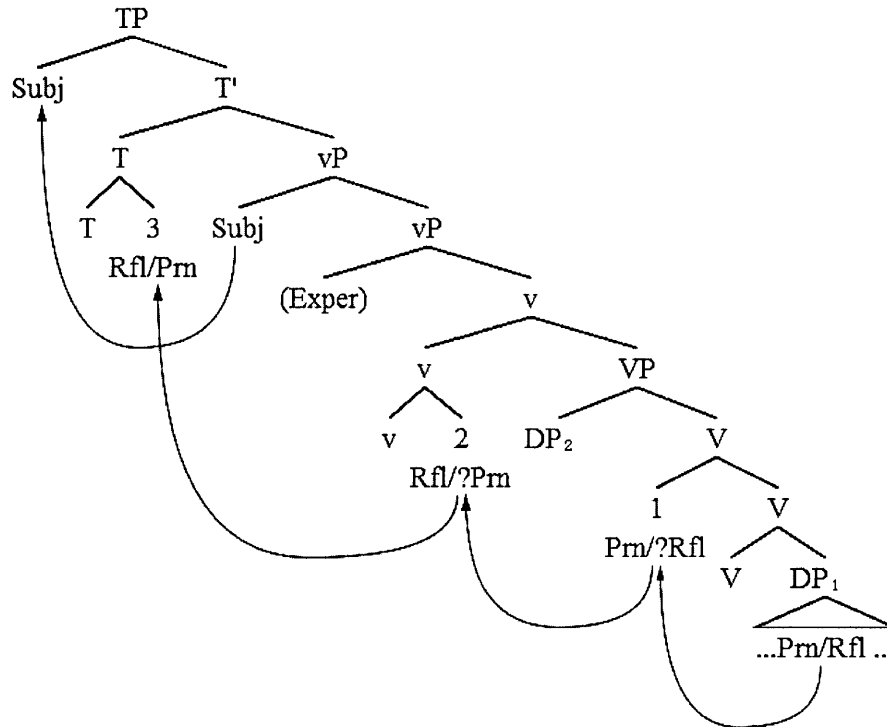


Figure 18

Consider Figure 18. We have already shown that reflexives and pronominals raise at least as high as position 2. But is it possible to tell whether they move to position 3 (adjoined to  $T^0$ )?

We know that subjects that receive case from finite T (either Nominative or, if it is an uninflected tense (56), Dative<sup>29</sup>) are eligible binders for reflexives and produce Principle B violations even in non-coargument cases (the distribution of reflexives and pronominals was reviewed in Section 3.1 and repeated here, in Table 3).

- (56) Emu<sub>i</sub> ne opublicovat' svoej stat'ji.  
 he.DAT not publish.INFL self's paper.GEN  
 It's not in the cards for him<sub>i</sub> to publish his<sub>i</sub> paper.

<sup>29</sup> As analyzed in Moore and Perlmutter (2000; 2002).

Importantly, this holds even of anaphoric elements generated inside an experiencer (Spec-vP on our assumptions). Presumably, in cases of psych verbs, the Nominative agent is generated in an internal argument position (inside VP) and subsequently undergoes A-movement to SpecTP.

- (57) Vanja<sub>i</sub> nravitsja svoim<sub>i</sub> /\*ego<sub>i</sub> kollegam  
 Vanja.NOM pleases self's /\*his colleagues.DAT  
 His<sub>i</sub> colleagues like Vanja<sub>i</sub>.

	Spec-vP				Non Spec-vP	
	Finite T		elsewhere		RFL	PRN
	RFL	PRN	RFL	PRN		
Coarguments	✓	*	✓	*	*	[✓]
Non-coarguments	✓	[*]	✓	✓	*	✓

Table 3

Crucially, evidence from anaphor binding cannot tell us whether the reflexive necessarily raises to T<sup>0</sup> when Principle A is evaluated (if the reflexive is in v<sup>0</sup>, SpecTP still c-commands it). However, evidence from Principle B can: as we have seen previously in Section 3.1.2, pronominals can escape a Principle B violation<sup>30</sup> with binders that are generated in Spec-vP, but do not get case from T<sup>0</sup> (e.g. object experiencers). We suggest that in (58), a Principle B violation is not observed because by the time Principle B is evaluated, the pronominal raises *past* the experiencer, as shown in (59).

- (58) Vane<sub>i</sub> nravjatsja ego<sub>i</sub> kollegi  
 Vanja.DAT please.PL his colleagues.NOM  
 Vanja<sub>i</sub> likes his<sub>i</sub> colleagues.

- (59) [TP [T<sup>0</sup>+ego] [vP Vane<sub>i</sub> nravjatsja ego<sub>i</sub> kollegi]]  
 Vanja.DAT please.PL his colleagues.NOM

### 3.3.4. Summary

Below I summarize what is and what is not known at this point about the positions of reflexives and pronominals:

- ❖ **Position 1** (i.e., the position of a tucked-in specifier c-commanding into the clause):

<sup>30</sup> Note, this “escape route” is unavailable with coargument binders. We’ll get back to this later.

- **Pronominals:** ACE provide strong evidence supporting pronominals moving into this position;
  - **Reflexives:** There exists no configuration that could either support or refute the hypothesis that reflexives go through position 1.
  - **Overall:** while position 1 is relevant for principle C, it is not relevant for evaluation of principle A or principle B.
- ❖ **Position 2** (i.e., adjoined to  $v^0$ ):
- **Pronominals:**
    - **Evidence from binding-down:** Under the assumption that pronouns do not c-command into the clause from their adjunction site to  $v$  (position 2), there is no evidence contradicting the idea that pronominals raise to position 2.
    - **Evidence from being bound:** The evidence is complex. When a pronominal's coargument is in Spec- $vP$ , a Principle B violation is registered. In a non-coargument domain, pronominals can raise higher to escape a Principle B violation.
  - **Reflexives:** since reflexives can be bound by arguments that are generated in Spec- $vP$ , but never raise as high as SpecTP, position 2 must belong to the set of positions where principle A is evaluated.
- ❖ **Position 3** (i.e., adjoined to  $T^0$ ):
- **Pronominals:**
    - **Evidence from binding-down:** same as position 2.
    - **Evidence from being bound:** Position 3 is definitely relevant for Principle B application: arguments in SpecTP always trigger Principle B effects.
  - **Reflexives:** position 3 belongs to the set of positions where principle A is evaluated.

Summarizing even further, the facts surveyed above are consistent with *pronominals and reflexives undergoing precisely the same type of movement*:

From its base position, the pronoun raises to become a specifier (position 1 in Figure 19). At this point of the derivation, the pronoun is a sister of a verbal projection and c-commands into the clause. This is the position where ACE are produced.

Then the pronoun undergoes head movement and adjoins to  $v^0$  (position 2 in Figure 19) – and, subsequently, to  $T^0$  (position 3 in Figure 19). During this chain of movement, phrasal



movement (from DP to the sister of V') feeds head movement. This is a possibility that any movement-based approach to binding has to assume. The mechanism for this is proposed in Matushansky (2006): after becoming a specifier of a head  $H^0$ , the pronoun undergoes *m-merger*. Unlike Matushansky's original proposal, I don't assume that *all* head movement includes the intermediate step of phrasal movement: if head movement could feed phrasal movement, we would potentially see pronouns producing Principle C violations as they move cyclically from V to T, contrary to observation.

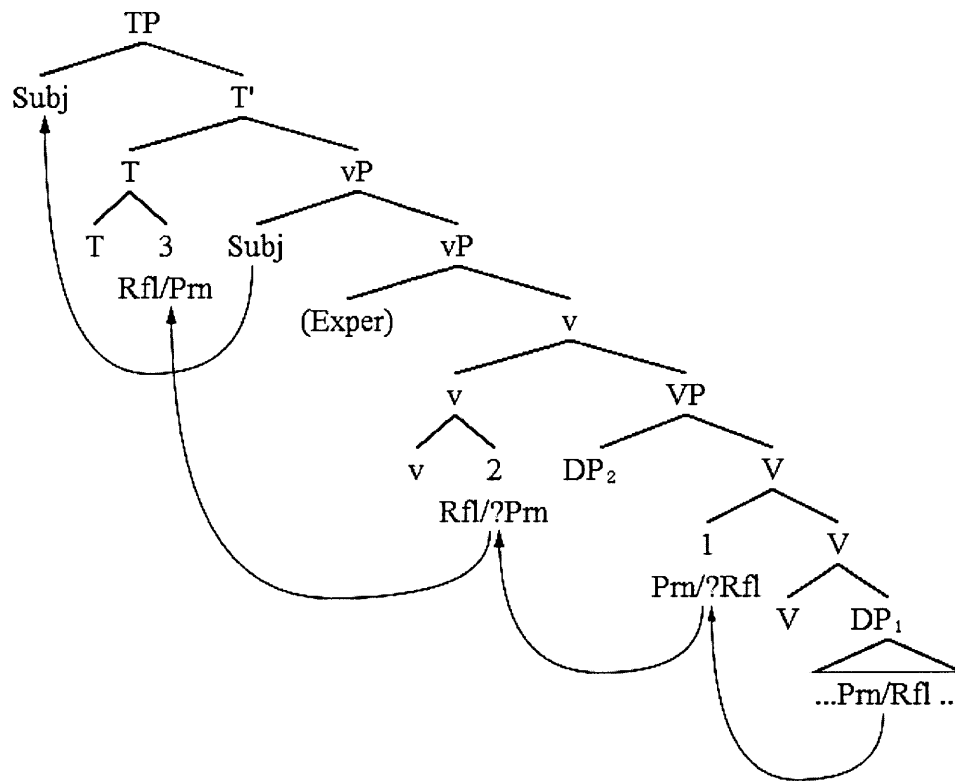


Figure 19

### 3.4. Conclusion.

In this chapter I surveyed (anti)-subject orientation from an empirical and theoretical point of view. Below I recap the two most important conclusions that will be relevant for the next chapter. First, after reviewing the empirical generalizations, we concluded that a theory of (anti)-subject orientation should, on one hand, capture the overwhelming complementarity in the distribution of subject-oriented anaphors and anti-subject-oriented pronominals, and on the other, should allow the aforementioned complementarity to break down in certain contexts. The second

important conclusion was reached in Section 3.3, where I have shown that the data is compatible with reflexives and pronominals undergoing precisely the same movement at LF.

In the next chapter, I will use these conclusions to formulate a proposal that combines the ideas from movement-based approaches to (anti-)subject orientation (Pica 1985; Pica 1987; Hestvik 1992) and competition-based approaches to binding theory (Safir 2004).

## CHAPTER 4. PROPOSAL: THE INDEX THEORY.

In the previous chapter we reviewed a number of approaches to (anti)-subject orientation and established that the Movement-based and the Competition-based approach are, in fact, compatible. In this chapter I introduce a proposal that incorporates ideas from both of the approaches reviewed above and will hopefully inherit their advantages, as well as avoid their shortcomings.

In Section 3.3 we have established that there are no difficulties for assuming that anaphors and pronominals undergo the same series of movements and occupy the same positions. Moreover, pronominals and anaphors have been shown to exhibit nearly complementary distribution.

So, simplifying the picture, we basically have two classes of elements that have identical syntactic properties (in terms of movement they undergo and positions they occupy) and that are (mostly) in competition with each other. It is tempting to conclude in this situation that these two types of elements are really underlyingly the same. Essentially, I propose that anaphors and pronominals are allomorphs of the same entity, which I assume to be a  $D^0$  generated with an index, but without lexical content. For brevity, I will refer to an entity of this sort as *an index*.

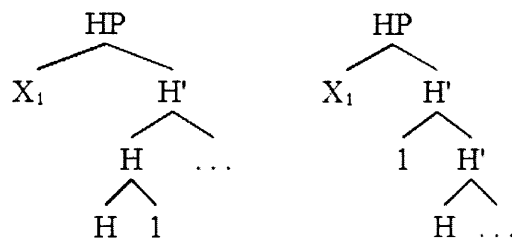
An index is inserted into a derivation not specified as either an anaphor or pronominal. It then undergoes movement that is driven by its need to determine its phonological form, which is essentially achieved through agreement with its binder, the process that we will call Reflexivization (which we define later). In our proposal, Principles A and B are substituted by the rules regulating movement and spell-out rules for the indices.

On this view, what we proposed earlier under the title *Pronominal Raising* is really just one of the steps in the movement that the index undergoes in search of a binder, which we will refer to as *Index Raising*.

The structure of the chapter is as follows. In Section 4.1 we spell out the proposal, stating formally the principles that determine the pronunciation of an index. After that, we will go through several derivations to see how these principles interact and what contrasts they derived. Following that, each of the principles discussed, providing the motivation for it. The chapter concludes with a discussion of the remaining issues.

## 4.1. The Principles.

- I. **Movement:** An index must undergo Index Raising unless it is at a Reflexivization site or movement is no longer possible<sup>31</sup>;
- II. **Reflexivization site:** an index is sister to a node with label D/v/T<sup>32</sup> and is c-commanded by a specifier (as illustrated in Figure 20).



or  
Figure 20

- III. **Coargumental Reflexivization:** if an index is at a reflexivization site and is coindexed with a specifier which is its coargument, the index has to be realized as reflexive<sup>33</sup>.
- IV. **Reflexivization at spell-out:** when the sentence is sent to spell-out, if an index is coindexed with the specifier of the projection to which it is adjoined, the index has to be realized as reflexive
- V. **Pronominal is an elsewhere condition:** If an index has not been realized as reflexive, it is realized as pronominal.

### 4.1.1. Index Raising.

As mentioned before, Pronominal Raising that we described in Chapter 2 is now viewed as the phrasal part of the more general operation, Index Raising.

Pronominal Raising cyclically raises an index from the projection where it is generated to a projection immediately dominating it. In Chapter 2 we have explored the constraints on Pronominal Raising to the extent to which they can be determined based solely on Principle C effects. We repeat them below, and then generalize these conditions to Index Raising.

<sup>31</sup> Restrictions on movement are discussed in Section 4.1.1.

<sup>32</sup> Given that an index can be either adjoined to a projection, or adjoined to the head of the projection, this formulation aims to *not* distinguish between being a sister to  $X^0$  or  $X^1$  or  $XP$ . This would be fairly straightforward within a Bare Phrase Structure architecture.

<sup>33</sup> Cf. Reinhart and Reuland (1993).

- (1) Restrictions on Pronominal Raising (from Section 2.6):
  1. Pronominal Raising targets only pronominals, not R-expressions
  2. A pronominal cannot raise over a c-commanding argument
  3. A pronominal cannot cross more than one DP

We assume that Index Raising always starts with the phrasal phase (Pronominal Raising). When further Pronominal Raising is impossible (because it would violate locality restrictions stated in (1)), phrase movement feeds head movement.

Now let's take another look at the first two conditions in (1). The first one is a straightforward consequence of Index Raising being driven by the need of the index to find its binder. R-expressions, unlike indices, are generated with  $\varphi$ -features and don't need to receive them from a binder. Consequently, R-expressions don't undergo Index Raising<sup>34</sup>.

Condition 2 can be generalized as follows:

- (2) If DP X c-commands an index  $i$ ,  $i$  cannot c-command X after Index Raising.

To comply with this principle, Index Raising can raise an index phrasally up to the closest c-commanding argument (such as position 1 in Figure 21)<sup>35</sup>. After that, Index Raising can continue as head movement (raising  $i$  to position 2 in Figure 21), but not as phrase movement (if  $i$  moves to position 3 in Figure 21, from there it would c-command the DP X, violating (2)).

In this system the landing site of head movement does not c-command the initial position. One possible concern with that is the interpretability of such movement. Note, however, that Index Raising doesn't have to be interpretable: it happens solely for the purposes of determining the phonological form of the index.

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<sup>34</sup> At least in Russian. See, however, Lee (2003) for a proposal for Zapotec, according to which indices copy the entire phonological form of their binders as a result of agreement.

<sup>35</sup> Note that after moving out of its parent DP, the index may expand its c-command domain, c-commanding from the landing site DPs that it didn't c-command before. It does not violate (2) as long as those DPs did not c-command the index at its base position, which is the case in the anti-cataphora configurations like *His<sub>i</sub> mother loves John<sub>i</sub>*.

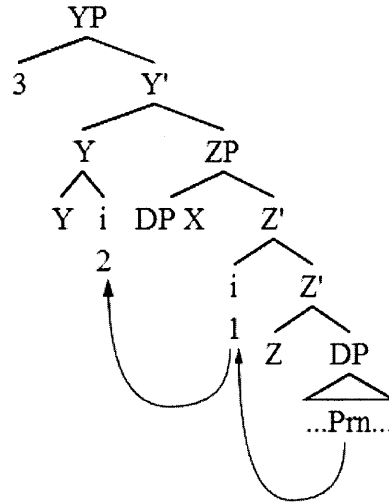


Figure 21

Finally, we impose an extra condition on the head-movement part of Index Raising:

- (3) Head movement out of a tensed TP is prohibited.

This is our way of capturing the generalization that Russian anaphors cannot be bound outside of a finite TP. So, to recap, here are the principles deriving Index Raising:

- (4) Index Raising:
1. Phrasal movement is preferred to Head movement;
  2. If DP X c-commands an index  $i$ ,  $i$  cannot c-command X after Index Raising;
  3. Phrasal part of Index Raising cannot cross more than one phase;
  4. Head movement out of a tensed TP is prohibited.

Finally, according to principle I from Section 4.1, movement is required if the index is not at a reflexivization site. However, if the index is at a reflexivization site and movement is possible, the index can optionally move further, since there is nothing in the conditions on Index Raising to prevent movement. This, for example, allows an index at an embedded infinitival T to move into the matrix clause to be bound by the matrix subject (5).

- (5) Maša<sub>*i*</sub> poprosila Vanju<sub>*j*</sub> PRO<sub>*j*</sub> vstretit' svoju<sub>*i/j*</sub> sestru.  
 Maša.NOM asked Vanja.ACC to meet self's sister.ACC  
 Maša<sub>*i*</sub> asked Vanja<sub>*j*</sub> to meet her<sub>*i*</sub>/his<sub>*j*</sub> sister.

Now that all the principles are spelled out, we are ready to see how the system works.

## 4.2. Sample derivations.

In this section we'll discuss how the principles stated above work. We will refer to the principles stated in Section 4.1 by their respective numbers from I through V.

The first type of cases under consideration is (6), illustrating ACE. Here, the index  $i$  generated at Spec of the Accusative DP is required to move by I, since its base position is not a reflexivization site (by II). Since phrasal movement is preferred to head movement, as stated in Section 4.1.1, the index moves out of its parent DP and adjoins to T. From this landing site, the index c-commands the R-expression *Vanju*, which produces a principle C violation, crashing the derivation.

- (6) \*Ego<sub>i</sub> druž'jam žal' Vanju<sub>i</sub>.  
his friends.DAT pity Vanja.ACC  
His<sub>i</sub> frients are sorry for Vanja<sub>i</sub>.

Before we move on to the next derivation, I would like to spell out our assumptions about the structure. I will assume that a DP that gets structural case from T (Nominative, in case of a standard finite T, but also sometimes Dative, see Section 4.7.3) is located in SpecTP. I will also assume that experiencers are generated in Spec-vP.

Now consider (7). The index  $i$  is generated as a direct object of the predicate 'to pity'. The phrasal part of Index Raising cyclically raises it to vP and tucks it in under the Dative DP. This is a reflexivization site by II (the index is a sister to a node  $v$  and it is c-commanded by a specifier). By III, the index has to be marked as reflexive at this point, since it is at a reflexivization site and is c-commanded by a coindexed *coargument*. This explains unavailability of a pronominal form in this position.

- (7) Vane<sub>i</sub> žal' sebja<sub>i</sub> /\*ego<sub>i</sub>.  
Vanja.DAT pity self.ACC /\*him.ACC  
Vanja is sorry for himself.

In contrast, in (8) pronominal form is available. Let's see how this derivation goes. The index's initial position is SpecDP. Since it is not c-commanded by a specifier, by II, it is not a reflexivization site and the index is compelled to move (by I). Just as in (7), the phrasal part of the movement leaves the index tucked in under the Dative DP in Spec-vP. This is a reflexivization site. However, in this configuration, III does not apply, because *Vane* and the

index are not coarguments. This is where complementarity breaks down: at this point, the index is free to choose whether to stay or to move further. If it stays adjoined to *v*, at the spell-out it will be c-commanded by a coindexed DP *Vane*, so by IV, it would be pronounced as reflexive. Alternatively, it can head-move to T. In this case, at the spell-out, it will not be c-commanded by a coindexed specifier, so IV does not apply; by V, it will be pronounced as a pronominal.

- (8) *Vane<sub>i</sub> žal' svoix<sub>i</sub> /ego<sub>i</sub> druzej.*  
*Vanja.DAT pity self /his friends.ACC*  
*Vanja is sorry for his<sub>i</sub> friends.*

Now consider (9) and (10). The only difference from the previous two cases is that the R-expression *Vanja* is in SpecTP. Crucially, in (10) the index cannot move past *Vanja*, since Index Raising cannot phrase-move it past a c-commanding argument, nor can it head-move it from TP. Therefore, by the time of the spell-out, the index *i* has to be c-commanded by *Vanja* and, therefore, by IV, will be pronounced as reflexive. This explains the difference in availability of pronominal in (10) vs. in (8).

- (9) *Vanja<sub>i</sub> žaleet sebja<sub>i</sub> /\*ego<sub>i</sub>.*  
*Vanja.NOM pities self.ACC /\*him.ACC*  
*Vanja pities himself.*

- (10) *Vanja<sub>i</sub> žaleet svoix<sub>i</sub> /\*ego<sub>i</sub> druzej.*  
*Vanja.NOM pities self /\*his friends.ACC*  
*Vanja pities his<sub>i</sub> friends.*

Finally, consider (11). By I, the index is required to raise to vP, where it tucks in under the Dative DP *Gene*. Importantly, nothing in our system requires it to move further, into TP. What explains unavailability of the pronominal form for index *i* in this case? On its way to SpecTP, *Denis* goes through SpecvP, so SpecvP contains a covert copy of the Nominative subject. Consequently, even if the index stays inside vP, at the spell-out it is c-commanded by a coindexed specifier, which results in reflexivization of the index.

- (11) [<sub>TP</sub> *Denis<sub>i</sub> nraivsja* [<sub>vP</sub> ~~*Denis*~~ *Gene svoej<sub>i</sub> /sderžannost'ju*]].  
*Denis.NOM pleased Gena.DAT self's /\*his reserve*  
*Gena liked Denis<sub>i</sub> for his<sub>i</sub> reserve (lit.: He<sub>i</sub> pleased Denis<sub>i</sub> with his<sub>i</sub> reserve).*



### 4.3. Reflexivization site: which heads?

Earlier versions of the movement-based approaches to subject orientation (Pica 1985; 1987; Hestvik 1992) were proposed when fewer functional projections were assumed than nowadays. So a requirement that a pronoun occupy a functional projection would automatically bring it to INFL. Question is, what should this requirement translate into in contemporary terms?

In our system, a reflexivization site is specified through presence of a specifier and a type of the projection. The heads that qualify for reflexivization site are D, v and T. Since now there is assumed to exist many more functional projections than this, simply requiring an index to be in a functional projection is not restrictive enough, which is why we specify this set. At this point, it is not quite clear how this set is to be derived from a uniform principle, so for now, we will leave this set simply stipulated. Below I discuss why certain heads are included and why some are excluded.

That D should be included in this set is beyond doubt: as shown in (12), SpecDP can reflexivize an index.

- (12) Ja<sub>2</sub> uslyšala Vaniny<sub>1</sub> rasskazy o sebe<sub>1</sub>  
I heard Vania's stories about self  
I heard Vania's stories himself.

Outside of the nominal domain, things are more complicated.

#### 4.3.1. Why both v and T

First of all, trying to translate INFL into a single head would preclude us from allowing non-complementarity with non-SpecTP binders (such as experiencers). Consider (13), discussed earlier. If under current proposal, we assume that indices are always evaluated at the same location, there will be no way to make both reflexive and pronominal form available in this case. Therefore, it is necessary to allow an index to occur either in vP or in TP during the spell-out, which is why both head types are included in our definition of a reflexivization site.

- (13) Vane<sub>i</sub> žal' svoix<sub>i</sub> /ego<sub>i</sub> druzej.  
Vanja.DAT pity self /his friends.ACC  
Vanja is sorry for his<sub>i</sub> friends.

Note that this is not an artifact of our proposal: this case is difficult to handle for other approaches to anti-subject-orientation as well. According to the Competition approach, since the reflexive is available in (13), pronominal should be excluded. A similar problem arises for Hestvik's (1992) account: if the pronominal occupies precisely the same position as the reflexive would, then we would expect (13) to produce a Principle B violation.

#### 4.3.2. Not V.

While an index is allowed to occur in v or T, it is prohibited from stopping in VP.

Restricting Reflexivization to heads D/v/T ensures that a specifier of V (e.g. an indirect object generated in SpecVP) is unable to mark the index as reflexive. In particular, this accounts for the inability of internal arguments to bind anaphors (14) or produce a Principle B violation with pronominals (15) (illustrated in Figure 22; the heads of the projections where the index can stop are marked with (i), heads where it can't are marked with (\*i)).

- (14) Petja<sub>i</sub> pokazal Vane<sub>j</sub> svoju<sub>i/\*j</sub> fotografiju.  
 Petja showed Vanja.DAT self's photo.ACC  
 Petja<sub>i</sub> showed Vanja<sub>j</sub> his<sub>i/\*j</sub> photo.
- (15) Petja<sub>i</sub> pokazal Vane<sub>j</sub> ego<sub>j/\*i</sub> fotografiju.  
 Petja showed Vanja.DAT his photo.ACC  
 Petja<sub>i</sub> showed Vanja<sub>j</sub> his<sub>j/\*i</sub> photo.

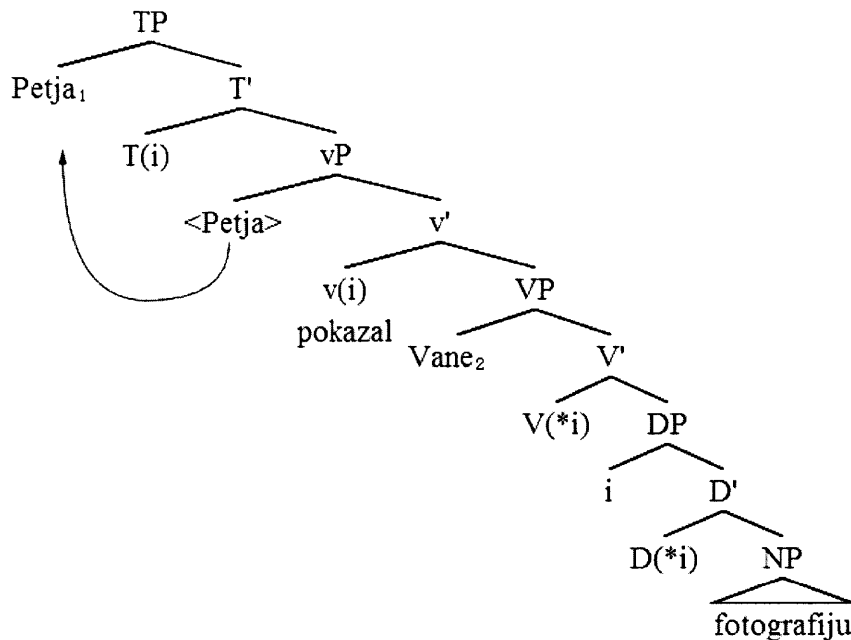


Figure 22

Crucially, our principle I requires the index to be at a reflexivization site at the spell-out (unless further movement is impossible). Principle I cannot be satisfied by having reached a reflexivization site once. Here is the motivation for this.

As we pointed out before, once the index has reached a reflexivization site, it doesn't have to stay there (nothing in our principles prevents an index from moving out of a reflexivization site). As mentioned earlier, this optionality allows index *i* in a sentence like (16) to move into the matrix clause (where it is reflexivized by the matrix subject) despite the fact that the infinitival T is a reflexivization site.

- (16) Maša<sub>i</sub> poprosila Vanju<sub>j</sub> PRO<sub>j</sub> vstretit' svoju<sub>i/j</sub> sestru.  
 Maša.NOM asked Vanja.ACC to meet self's sister.ACC  
 Maša<sub>i</sub> asked Vanja<sub>j</sub> to meet her<sub>i</sub>/his<sub>j</sub> sister.

Crucially, if the index moves out of the embedded T and raises to, say, matrix V, it is no longer at a reflexivization site and is required by principle I to move further. For example, consider (17). If index *i* moves out of the infinitival T (which is a possible reflexivization site), principle I prohibits it from stopping at V. Consequently, we correctly predict that it cannot be bound by the internal argument *Vane*.

- (17) Maša<sub>i</sub> poobeščala Vane<sub>j</sub> PRO<sub>i</sub> vstretit' svoju<sub>i/\*j</sub> sestru.  
 Maša.NOM promised Vanja.DAT to meet self's sister.ACC  
 Maša<sub>i</sub> promised Vanja<sub>j</sub> to meet her<sub>i</sub>/\*his<sub>j</sub> sister.

### 4.3.3. Internal arguments vs. Experiencers.

Unlike garden-variety internal arguments, object experiencers are generated in privileged positions – for the purposes of this work, we assume Spec-vP. This difference in their base positions explains why non-experiencer arguments cannot bind reflexives, while experiencers can.

Consider the predicate *tošnit* 'to nauseate'. It can be interpreted either as a psych verb ('to be sick of') or as a subjectless "bad health" predicate. While both interpretations are generally available (20), when the Accusative argument of this predicate triggers reflexivization, only psych interpretation is possible (18)-(19). This is indicative of the difference in syntactic structure. Figure 23 shows the syntactic structure for the psych verb interpretation of (19). There, *Mašu* is generated in SpecvP, which means there is a reflexivization site where an index is c-commanded by this argument. The structure for the "bad-health" interpretation is given in Figure 24. In this case, the Accusative DP is generated inside VP, so there is no reflexivization site where the index is c-commanded by *Mašu*, which explains why this structure is ruled out with the reflexive.

- (18) Mašu<sub>i</sub> tošnit ot sebja<sub>i</sub> /\*ot neě.  
 Maša.ACC nauseates from self /\*from her  
 Maša is sick of herself<sub>i</sub>/\*of her<sub>i</sub>. (only psych verb interpretation is plausible)
- (19) Mašu<sub>i</sub> tošnit ot svoej<sub>i</sub> strjapni.  
 Maša.ACC nauseates from self's cooking  
 ✓ Psych interpretation: Maša is sick of her<sub>i</sub> cooking.  
 \* Physical interpretation: Maša is nauseous from her<sub>i</sub> cooking.
- (20) Mašu<sub>i</sub> tošnit ot eě<sub>i</sub> strjapni.  
 Maša.ACC nauseates from self's cooking  
 ✓ Psych interpretation: Maša is sick of her<sub>i</sub> cooking.  
 ✓ Physical interpretation: Maša is nauseous from her<sub>i</sub> cooking.

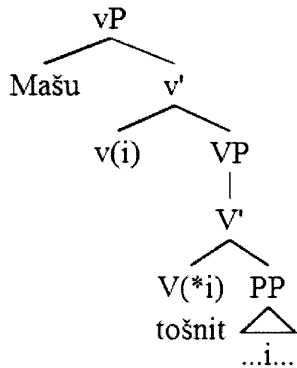


Figure 23

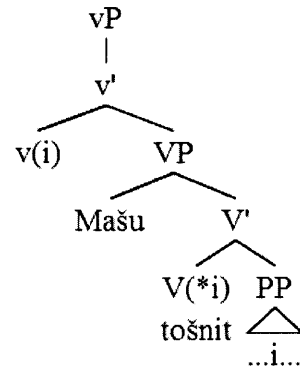


Figure 24

#### 4.4. *Specifiers.*

Presence of a c-commanding specifier in a potential binding domain is known to affect the binding possibilities. For example, in English, DP can constitute a binding domain for an anaphor (21a-b), but only if it contains a DP c-commanding the anaphor (21c-d). One could imagine posing a null argument PRO coindexed with *John* at SpecDP of ‘picture’ in (21c). Then, PRO<sub>i</sub> could be assumed to bind the anaphor locally. The problem with this analysis is that in (21c), *John* doesn’t have to be interpreted as an owner or author of the picture, which is unexpected if SpecDP is indeed occupied by PRO<sub>i</sub>.

- (21) a. \*John<sub>i</sub> saw my picture of himself<sub>i</sub>.  
 b. \*They<sub>i</sub> saw my pictures of each other<sub>i</sub>.  
 c. John<sub>i</sub> saw a picture of himself<sub>i</sub>.  
 d. They<sub>i</sub> saw each other<sub>i</sub>’s pictures.

A similar situation is found with Russian reciprocals:

- (22) a. Oni<sub>i</sub> polučili žaloby drug na druga<sub>i</sub>.  
 they.NOM received complaints about each other  
 They<sub>i</sub> received complaints about each other<sub>i</sub>.  
 b. \*Oni<sub>i</sub> polučili moi žaloby drug na druga<sub>i</sub>.  
 they.NOM received my complaints about each other  
 They<sub>i</sub> received my complaints about each other<sub>i</sub>.

So it is a general principle that a specifier-less constituent does not constitute a binding domain in a way that a constituent with a specifier does. In Section 2.4 we have shown that presence of a specifier in a phrase neutralizes ACE (31a-b).

- (23) a. <sup>???</sup>Kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub>.  
 book.NOM about her fell on Maša.  
 A book about her<sub>i</sub> fell on Maša.
- b. Vanina kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub>.  
 Vanja's book.NOM about her fell on Maša.  
 Vanja's book about her<sub>i</sub> fell on Maša<sub>i</sub>.

Importantly, it also affects the ability of an index to stop movement in a DP (or, in other words, an ability of the DP to serve as a reflexivization site for the index). Examples (24)-(25) show that an index can stay inside the DP that has a c-commanding specifier.

- (24) Maša<sub>2</sub> kupila Vaniny<sub>1</sub> rasskazy o sebe<sub>1</sub>  
 Maša bought Vania's stories about self  
 Maša bought Vania<sub>i</sub>'s stories himself<sub>i</sub>.
- (25) Maša<sub>2</sub> kupila Vaniny<sub>1</sub> rasskazy o nej<sub>2</sub>  
 Maša bought Vania's stories about her  
 Maša<sub>i</sub> bought Vania's stories about her<sub>i</sub>.

As shown in Figure 25, index 1 can stay inside the DP to be reflexivized by the coindexed specifier *Vaniny*.

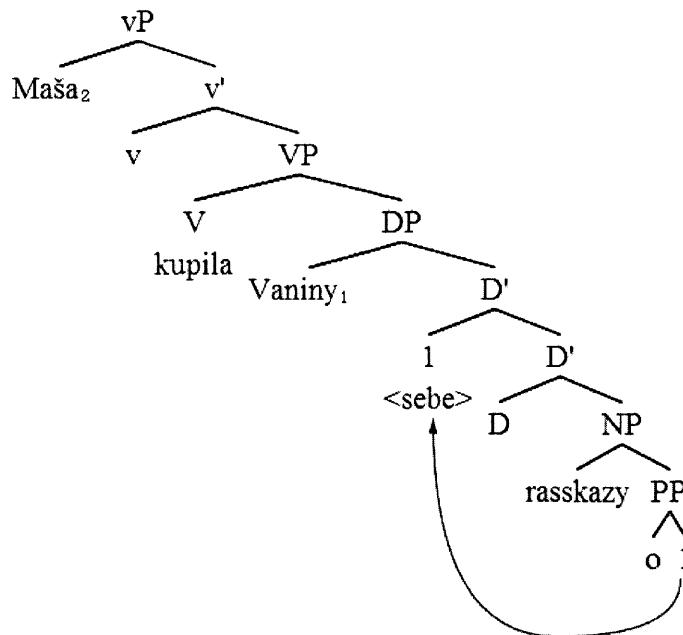


Figure 25

Figure 26 illustrates the derivation in (25), where the index 2 can stop moving after tucking in under SpecDP. At the spell-out, the only specifier that is close enough to the index to influence its form is SpecDP, but not the matrix subject, which allows the index to be realized as a pronominal.

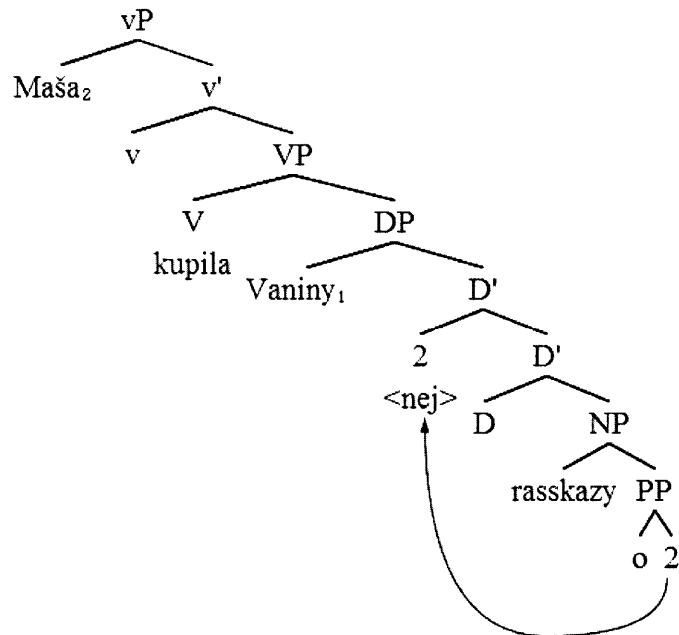


Figure 26

In contrast, if the DP doesn't have a specifier, an index is forced to move to the main clause. Figure 27 illustrates the derivation in (26): positions where the index would be realized as a pronominal are marked with <nej>; positions where the index cannot stop are marked with a \*; positions where the index is realized as a reflexive are marked with <sebe>. As we see, the only position where the index can stop is the position where the index has to be realized as a reflexive. This correctly rules out the pronominal form of the index 2 in (26).

- (26) Maša<sub>2</sub> kupila rasskazy o sebe<sub>2</sub> /\*nej<sub>2</sub>  
 Maša bought stories about self /\*her  
 Maša<sub>i</sub> bought stories about herself<sub>i</sub>.

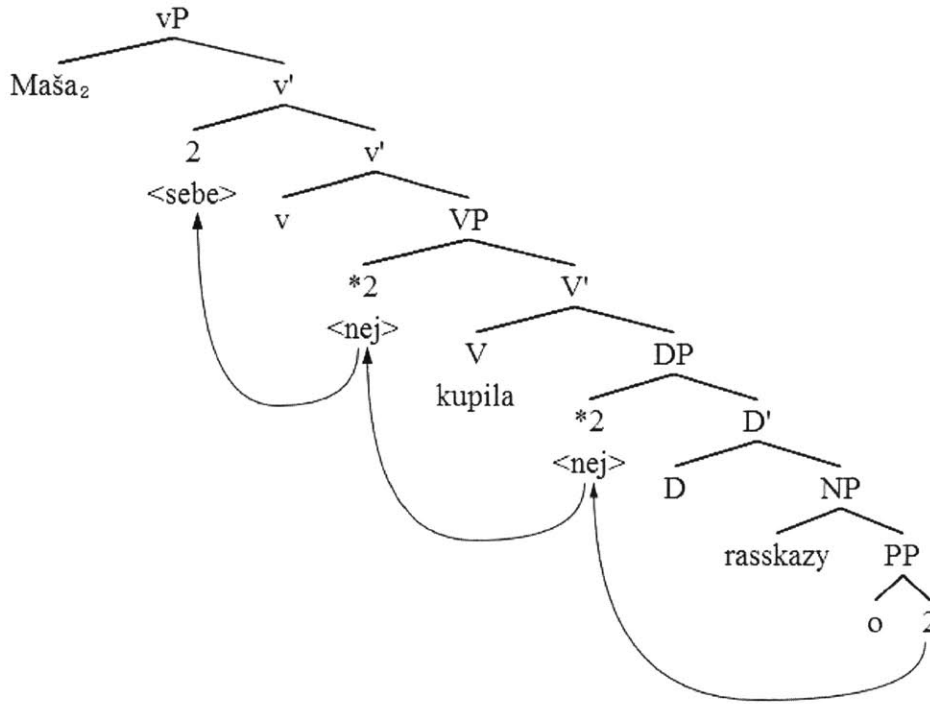


Figure 27

Note that principle I is subject to gradual attenuation (Figure 28): while an index immediately embedded in a specifier-less DP is forced to move, the longer it has to move to reach the binder in the matrix clause, the less pronounced Principle B effects become (27). I hypothesize that such cases are subject to processing effects. In other languages, Principles B and C are known to fade with deeper embedding.

- (27) Maša<sub>i</sub> uvažajet druga učitelja eë<sub>i</sub> /<sup>??</sup>svoego<sub>i</sub> brata.  
 Maša.NOM respects friend.ACC teacher.GEN her /<sup>??</sup>self's brother.GEN  
 Maša respects her<sub>i</sub> brother's teacher's friend.

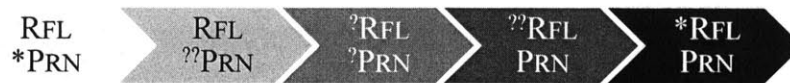


Figure 28: The effect of embedding depth on Principle A/B..

#### 4.5. Constraints on Index Raising and Subjects.

Consider again the following restrictions on Index Raising:

1. Phrasal part of Index Raising cannot cross more than one phase;
2. Head movement out of a tensed TP is prohibited.



In Section 2.6 we demonstrated that the phrasal part of the Index Raising obeys certain restrictions that other types of movement (e.g, wh-movement) obey. For example, we have shown that Index Raising cannot phrasally cross more than one DP: ACE are neutralized when the index is embedded in a DP inside another DP (see (28) vs. (29)).

- (28) \*E<sub>i</sub> učitel'nica uvažajet Mašu<sub>i</sub>.  
her teacher.NOM respects Maša.ACC  
Her<sub>i</sub> teacher respects Maša<sub>i</sub>.
- (29) Druz'ja e<sub>i</sub> učitel'nicy uvažajut Mašu<sub>i</sub>.  
friends.NOM her teacher.GEN respect Maša.ACC  
Her<sub>i</sub> teacher's friends respect Maša<sub>i</sub>.

We generalized this restriction to the condition that prohibits the phrasal part of Index Raising to cross more than one phase. This means that after crossing a DP or a vP, an index can move further only via head movement. And, since head movement cannot take an index out of a finite TP, this results in indices being evaluated inside the finite TP in which they were merged (cf. Rappaport's statement of binding domain of Russian reflexives, discussed in Section 3.1.1).

The only exception to this are the subjects. Consider an index generated in SpecvP, and then undergoing A-movement to SpecTP. From there, Index Raising should be able to move it outside TP. Let's see whether this makes correct predictions.

We hypothesize that Index Raising should obey general restrictions on movement.

Russian is known to prohibit any sort of movement out of a finite CP (30). Consequently, we would expect that even if a subject moves out of a finite TP, it would be unable to reach the matrix clause and be bound there. This is correct: in (31), the index *i* can be realized as a pronominal, without any obviation effects from the coindexed matrix subject.

- (30) \*Kogo ty skazal Maše, čto ja vstretila kogo?  
who.ACC you tell Maša that I met  
Who did you tell Maša that I met?
- (31) Vanja<sub>i</sub> skazal Maše, čto on<sub>i</sub> opozdaet.  
Vanja told Maša that he will be late  
Vanja<sub>i</sub> told Maša that he<sub>i</sub> will be late.

Unlike independently valued tensed CPs, subjunctive clauses allow extraction.

- (32) Kogo ty xočeš, čtoby Maša vstretila kogo?  
 who.ACC you want so that Maša.NOM meet.SUBJ  
 Who do you want Maša to meet?

This means that Index Raising should be able to move a pronominal subject of a subjunctive clause into the matrix clause, where it would be realized as a reflexive if it is coindexed with the matrix subject. However, since the index is a subject of a tensed clause, it is Nominative, and Russian lacks a Nominative form for reflexives: for example, in (33), where the Dative experiencer obligatorily reflexivizes the index *i*, neither reflexive nor pronominal form is acceptable<sup>36</sup>. The index cannot be realized as a pronominal, since that would violate principle III, but it cannot be realized as a reflexive, since the Nominative form of a reflexive is unavailable.

- (33) Ivanu<sub>i</sub> nraivitsja \*on<sub>i</sub> /\*<rfI>.  
 Ivan.DAT likes he.NOM /\*self.NOM  
 Ivan<sub>i</sub> likes himself<sub>i</sub>.

This is precisely what Avrutin and Babyonyshev (1997) observe for the subjunctive clauses (34): when the Nominative subject of the subjunctive clause is coindexed with the matrix subject, a Principle B violation occurs, despite unavailability of the reflexive form. Moreover, they observe lack of such obviation effects with Dative arguments bearing lexical case (35), which we assume to occupy SpecvP, or with possessors of Subjects (36), which is precisely what we expect.

- (34) \*Volodja<sub>i</sub> xočet, čtoby on<sub>i</sub> poceloval Nadju.  
 Volodja.NOM wants that he.NOM kiss.SUBJ Nadja.ACC  
 Volodja wants to kiss Nadja. (Avrutin and Babyonyshev 1997, 230)

- (35) Vania<sub>i</sub> xočet, čtoby emu<sub>i</sub> bylo veselo.  
 Vania wants that he.DAT was happy  
 Vania wants to be happy.

---

<sup>36</sup> For some speakers, this sentence can be pronounced as (i). An account of emphatics is beyond the scope of the present thesis.

- (i) Ivanu<sub>i</sub> nraivitsja on<sub>i</sub> sam.  
 Ivan.DAT likes he.NOM EMPH  
 Lit.: Ivan<sub>i</sub> likes him<sub>i</sub> himself<sub>i</sub>.

- (36) Vania<sub>i</sub> xočet, čtoby ego<sub>i</sub> drug vyigral.  
 Vania wants that his friend won  
 Vania wants his friend to win.

It remains to be seen whether the intra-clausal Anti-Cataphora effects (37) discussed in Reuland & Avrutin (2004) and Kazanina & Phillips (2010) could be accounted for in a similar way (note, again, they are restricted to Nominative subjects – for details, see Reuland and Avrutin 2004).

- (37) \*Poka/\*kogda on<sub>i</sub> el jabloko Ivan<sub>i</sub> smotrel televizor.  
 while/ when he ate apple Ivan watched TV  
 While/When he<sub>i</sub> was eating an apple, Ivan<sub>i</sub> was watching TV.

#### 4.6. *Escaping reflexivization: staying low.*

According to the principles stated in 4.1, there are two ways for an index to not be realized as a reflexive in the situation where the sentence contains a c-commanding binder:

1. stop moving before reaching the binder
2. move past the binder

As we have seen earlier, if there is a reflexivization site between the base position of the index and the projection where the binder is located, the index can be realized as a pronominal (cf. (38) vs. (39)).

- (38) Maša<sub>2</sub> kupila Vaniny<sub>1</sub> rasskazy o nej<sub>2</sub>  
 Maša bought Vania's stories about her  
 Maša<sub>i</sub> bought Vania's stories about her<sub>i</sub>.
- (39) Maša<sub>2</sub> kupila rasskazy o sebe<sub>2</sub> /\*nej<sub>2</sub>  
 Maša bought stories about self /\*her  
 Maša<sub>i</sub> bought stories about herself<sub>i</sub>.

Similarly, an index merged in an embedded infinitival clause can escape reflexivization by the coindexed matrix subject by staying in the embedded clause:

- (40) Maša<sub>i</sub> poprosila Vanju<sub>j</sub> PRO<sub>j</sub> pokritikovat' eë<sub>i</sub> /eë<sub>i</sub> stat'ju.  
 Maša.NOM asked Vanja.ACC to criticize her.ACC /her paper.ACC  
 Maša<sub>i</sub> asked Vanja to criticize her<sub>i</sub>/her<sub>i</sub> paper.

#### 4.7. Moving high.

In this section I will show that complementarity between reflexives and pronominals breaks down in cases where the index can move past the coindexed argument. Consider (41). As shown in Figure 29, the index 1 has to go through DP on its way up. Since the index's position in the DP is a reflexivization site, by principle III, it has to be realized as a reflexive, since SpecDP is its coargument. Consequently, the pronominal form is unavailable. In contrast, in (42) *Vaniny* and the index are not coarguments. Therefore, when the index is in the DP, principle III does not apply, leaving the index an opportunity to escape reflexivization by moving out of DP. Consequently, it can be pronounced as a pronominal.

- (41) \*Ja<sub>2</sub> kupila Vaniny<sub>1</sub> rasskazy o nĕm<sub>1</sub>  
 I bought Vania's stories about him  
 I bought Vania<sub>1</sub>'s stories about him<sub>1</sub>.
- (42) Ja<sub>2</sub> kupila Vaniny<sub>1</sub> rasskazy o ego<sub>1</sub> issledovanijax.  
 I bought Vania's stories about his research  
 I bought Vania<sub>1</sub>'s stories about his<sub>1</sub>research.

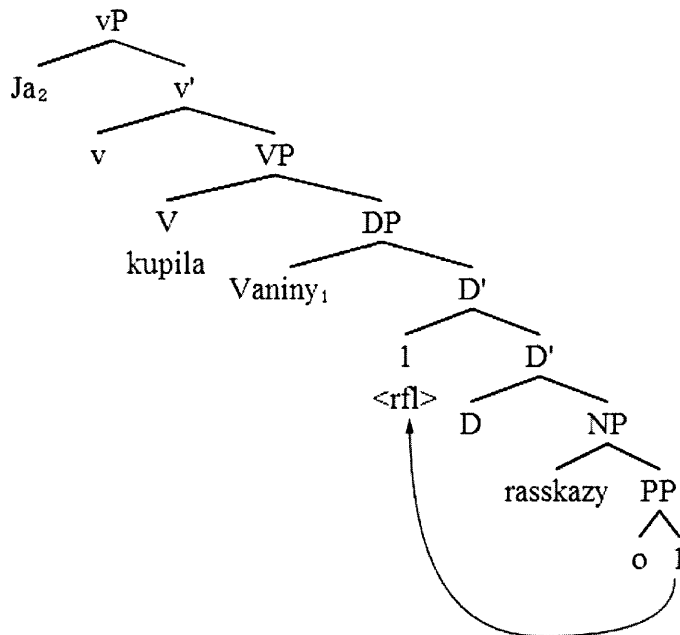


Figure 29

Another contrast, which we've seen earlier, is between the arguments located in SpecTP, and those located below. In (44), as Figure 30 illustrates, the index can move to T, where it is not

c-commanded by *Vane*, which allows it to be realized as a pronominal. This “escape” hatch is unavailable in (43) and (45), where the index is a coargument with its binder and, thus, must be realized as a reflexive by principle III. And, most importantly, this strategy is unavailable in (46), where the subject is located in SpecTP: T is the highest position to which Index Raising can move index *i*, yet in this position the index is still c-commanded by *Vanja*, which results in obligatory reflexivization.

- (43) *Vane<sub>i</sub> žal' sebja<sub>i</sub> /\*ego<sub>i</sub>.*  
*Vanja.DAT pity self.ACC /\*him.ACC*  
*Vanja is sorry for himself.*
  
- (44) *Vane<sub>i</sub> žal' svoix<sub>i</sub> /ego<sub>i</sub> druzej.*  
*Vanja.DAT pity self /his friends.ACC*  
*Vanja is sorry for his<sub>i</sub> friends.*
  
- (45) *Vanja<sub>i</sub> žaleet sebja<sub>i</sub> /\*ego<sub>i</sub>.*  
*Vanja.NOM pities self.ACC /\*him.ACC*  
*Vanja pities himself.*
  
- (46) *Vanja<sub>i</sub> žaleet svoix<sub>i</sub> /\*ego<sub>i</sub> druzej.*  
*Vanja.NOM pities self /\*his friends.ACC*  
*Vanja pities his<sub>i</sub> friends.*

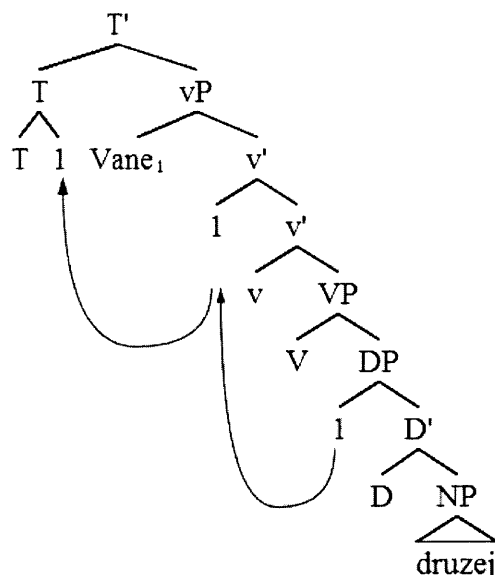


Figure 30

The pattern discussed above is summarized in Table 4. Reflexivization of an index is obligatory if it is coindexed with a c-commanding coargument, or if it cannot move to a position where it is not c-commanded by its binder.

	Spec of finite TP	Below SpecTP	Color coding:
Coarguments:	RFL/*PRN	RFL/*PRN	Obligatory RFL
Non-coarguments:	RFL/*PRN	RFL/'PRN	Optional RFL

Table 4: Obligatory vs. Optional Reflexivization.

The index theory, therefore, predicts that there Principle B effects should be systematically found in cases with coarguments, as well as cases where the binder is in Spec of a finite TP. They should be neutralized with low, non-coargumental binders. Below I assess this prediction with a variety of binders. In each pair of examples, the first one is the coargument case and the second one is the minimal pair where the index is embedded in a DP.

#### 4.7.1. “Non-finite” cases.

##### 4.7.1.1. SpecDP

SpecDP is not in Spec of finite TP, so it is possible to move past it. Therefore, we predict that SpecDP would only trigger a Principle B violation with coarguments.

- (47) Mašiny<sub>i</sub> rasskazy o sebe<sub>i</sub> /\*o nej<sub>i</sub> udivitel'ny.  
 Maša's stories about self /about her astonishing  
 Maša<sub>i</sub>'s stories about her<sub>i</sub> are astonishing.
- (48) Mašiny<sub>i</sub> rasskazy o svoix<sub>i</sub> /o eë<sub>i</sub> putešestvijax udivitel'ny.  
 Maša's stories about self's /about her travels astonishing  
 Maša<sub>i</sub>'s stories about her<sub>i</sub> travels are astonishing.

##### 4.7.1.2. PRO subject of infinitival clause

Judgments on Principle B violations in infinitival clauses are subtle and are subject to variation, however, there are two important generalizations that seem to be robust enough: in coargument cases, pronominals are as unacceptable in infinitival clauses as in finite clauses, in non-coargument cases, sentences exhibit varied degrees of improvement compared to their finite counterparts. Although amount of improvement varies and does not reach full grammaticality for all cases and all speakers, the contrast seems to support our generalization.

Direct object:

- (49) Maša poprosila Vanju<sub>j</sub> PRO<sub>j</sub> pokritikovat' sebja<sub>j</sub> /\*ego<sub>j</sub>.  
Maša.NOM asked Vanja.ACC to criticize self.ACC /him.ACC  
Maša asked Vanja<sub>j</sub> to criticize him<sub>i</sub>.
- (50) Maša poprosila Vanju<sub>j</sub> PRO<sub>j</sub> pokritikovat' svoju<sub>j</sub> /<sup>??</sup>ego<sub>j</sub> stat'ju.  
Maša asked Vanja to criticize self's /his paper  
Maša asked Vanja<sub>j</sub> to criticize his<sub>i</sub> paper.

PP:

- (51) Ja poprosila Vanju<sub>i</sub> PRO<sub>i</sub> posmotret' na sebja /\*na nego<sub>i</sub>  
I asked Vania.ACC to look at self /at him  
I asked Vanja<sub>i</sub> to look at him<sub>i</sub>.
- (52) Ja poprosila Vanju<sub>i</sub> PRO<sub>i</sub> posmotret' na svoego<sub>i</sub> /ego<sub>i</sub> kollegu  
I asked Vania.ACC to look at self's /his colleague  
I asked Vanja<sub>i</sub> to look at his<sub>i</sub> colleague.

### 4.7.1.3. Experiencers

(see also 4.7.3 Dative subjects)

As mentioned before, we assume that experiencers are generated in Spec-vP, which places them high enough to c-command the index at one of the sites of Reflexivization ( $v^0$ ). I use here the predicate *tošnit* 'to nauseate', which, beside physical, has a psych verb interpretation, where the Accusative argument is generated as an experiencer. As can be seen below, the Accusative experiencer can bind reflexive independently from its coargument status, but only produces a Principle B violation with a coargument pronominal, which conforms with the predictions of the present proposal.

- (53) Mašu<sub>i</sub> tošnit ot sebja<sub>i</sub> /\*ot neě.  
Maša.ACC nauseates from self /\*from her  
Maša is sick of herself<sub>i</sub>/\*of her<sub>i</sub>.
- (54) Mašu<sub>i</sub> tošnit ot svoej<sub>i</sub> /eě<sub>i</sub> strjapni.  
Maša.ACC nauseates from self's /her cooking  
Maša is sick of her<sub>i</sub> cooking.

#### 4.7.1.4. Demoted (Instrumental) agents in Passives

A similar picture arises in Passives. There, the Instrumental argument (the demoted agent) is generated in a position where it can bind a reflexive, but since it does not get case from the finite T, it behaves like a non-finite subject: its ability to produce a Principle B violation is restricted to coarguments.

- (55) Eto pis'mo bylo otpravleno Vanej<sub>i</sub> sebe<sub>i</sub> /\*emu<sub>i</sub>.  
this letter was sent Vanja.INST self.DAT /he.DAT  
This letter was sent by Vanja<sub>i</sub> to himself<sub>i</sub>/\*to him<sub>i</sub>.
- (56) Eto pis'mo bylo otpravleno Vanej<sub>i</sub> ?svoemu<sub>i</sub> /ego<sub>i</sub> kollege.  
this letter was sent Vanja.INST self's /his colleague.DAT  
This letter was sent by Vanja<sub>i</sub> to his<sub>i</sub> colleague.

#### 4.7.2. Finite subjects

##### 4.7.2.1. Nominative subjects.

Unlike “non-finite” subjects, subjects that get case from a finite T do not exhibit contrast between coargument and non-coargument cases.

- (57) \*Vanja<sub>i</sub> raskritikoval ego<sub>i</sub>.  
Vanja criticized him  
Vanja<sub>i</sub> criticized him<sub>i</sub>.
- (58) \*Vanja<sub>i</sub> raskritikoval ego<sub>i</sub> stat'ju  
Vanja criticized his paper  
Vanja<sub>i</sub> criticized his<sub>i</sub> paper.
- (59) \*Vanja<sub>i</sub> posmotrel na nego<sub>i</sub>.  
Vanja looked at him  
Vanja<sub>i</sub> looked at him<sub>i</sub>.
- (60) \*Vanja<sub>i</sub> posmotrel na ego<sub>i</sub> kollegu.  
Vanja looked at his colleague  
Vanja<sub>i</sub> looked at his<sub>i</sub> colleague.

##### 4.7.2.2. PRO in Imperatives.

Under the simplest, pre-theoretic view, there should be no reason to expect a contrast in Principle B effects between PRO in infinitival clauses vs. PRO in imperatives. According to our proposal, however, an index can move past PRO in an infinitival clause, which should ameliorate



Principle B effects. In contrast, this option should be unavailable with PRO in imperatives, since moving past it is impossible. As expected, a Principle B violation is found with non-coargument pronominals in imperatives (62), but not with a non-finite PRO (63).

- (61) PRO<sub>i</sub> posmotri na sebja<sub>i</sub> /\*na tebj<sub>i</sub>.  
 look.IMV.SG at self /\*at you  
 Look at yourself/\*at you.
- (62) PRO<sub>i</sub> posmotri na svoix<sub>i</sub> /\*tvoix<sub>i</sub> druzej.  
 look.IMV.SG at self /\*at your friends  
 Look at your friends.
- (63) Ja poprosila tebj<sub>a</sub> PRO<sub>i</sub> posmotret' na svoix<sub>i</sub> /tvoix<sub>i</sub> druzej  
 I asked you.ACC to look at self's /your friends  
 I asked you<sub>i</sub> to look at your<sub>i</sub> friends.

#### 4.7.2.3. Overt subjects in Imperatives.

We assume overt subjects of imperatives to be in SpecTP, so we predict that they would behave on a par with regular Nominative subjects with respect to Principle B. Our prediction is confirmed by lack of contrast in Principle B between (65)-(66).

- (64) Vsem<sub>i</sub> smotret' na sebja<sub>i</sub> /\*nix /\*vas.  
 all.DAT stay.IMV in self /\*them /\*you  
 Everyone<sub>i</sub> look at yourselves<sub>i</sub>.
- (65) Vsem<sub>i</sub> ostavat'sja na svoix<sub>i</sub> /\*ix /\*vašix mestax.  
 all.DAT stay.IMV in self's /\*their<sub>i</sub> /\*your places  
 Everyone<sub>i</sub> stay in your places.
- (66) Vse<sub>i</sub> ostalis' na svoix<sub>i</sub> /\*ix mestax.  
 all.NOM stayed in self's /\*their<sub>i</sub> places  
 Everyone<sub>i</sub> stayed in their<sub>i</sub> places.

#### 4.7.3. Dative subjects

Moore and Perlmutter (2000) argue that Russian Dative subjects can be divided into two categories: lexical Dative subjects, where Dative case is assigned to the subject by the predicate, and functional Dative subjects, where Dative case is assigned to the subject by T. The functional Dative subjects are assumed to be getting case from the T because the Dative case assignment does not depend on the predicate:

- (67) Borisu tut ne rabotat' /ne sdat' ekzamen.  
 Boris.DAT here not work.INF /not pass.INF exam  
 It's not in the cards for Boris to work here/to pass the exam.

In contrast, lexical Dative depends on the predicate: when the predicate is exchanged for another, Dative is no longer assigned: compare examples (a) and (b) in (68)-(69).

- (68) a. Borisu stydno.  
 Boris.DAT ashamed  
 Boris is ashamed.
- b. \*Borisu serdito.  
 Boris.DAT angry  
 Boris is angry.
- (69) a. Borisu nravitsja kurit'.  
 Boris.DAT likes to smoke  
 Boris likes to smoke.
- b. \*Borisu ljubit kurit'.  
 Boris.DAT loves to smoke  
 Boris likes to smoke.

For our proposal it means that lexical Datives, being low, should contrast with the finite Nominative subjects, while functional Datives, being in SpecTP, are predicted to behave on a par with Nominatives. The examples below show that the prediction is confirmed.

In (70a-b), we see contrast in principle B effects between coargument and non-coargument case, as expected of a subject not agreeing with a finite T. The minimal pair with a nominative subject is given in (71). Same contrast is found in (72) (Lexical Dative subject) vs. (73) (minimal pair with a Nominative subject).

- (70) a. Vane<sub>i</sub> stydno za sebja<sub>i</sub> /\*za nego<sub>i</sub>.  
 Vanja.DAT ashamed of self /\*of him  
 Vanja<sub>i</sub> is ashamed of himself<sub>i</sub>.
- b. Vane<sub>i</sub> stydno za svoix<sub>i</sub> /za ego<sub>i</sub> druzej.  
 Vanja.DAT ashamed of self /of his friends  
 Vanja<sub>i</sub> is ashamed of his<sub>i</sub> friends.
- (71) a. Vanja styditsja sebja<sub>i</sub> /\*ego<sub>i</sub>.  
 Vanja.NOM ashamed self.GEN /\*him.GEN  
 Vanja<sub>i</sub> is ashamed of himself<sub>i</sub>.

- b. Vanja styditsja svoix<sub>i</sub> /\*ego<sub>i</sub> družej.  
 Vanja.NOM ashamed self /\*his friends.GEN  
 Vanja<sub>i</sub> is ashamed of his<sub>i</sub> friends.
- (72) a. Vane<sub>i</sub> žal' sebja<sub>i</sub> /\*ego<sub>i</sub>.  
 Vanja.DAT pity self.ACC /\*him.ACC  
 Vanja is sorry for himself.
- b. Vane<sub>i</sub> žal' svoix<sub>i</sub> /ego<sub>i</sub> družej.  
 Vanja.DAT pity self /his friends.ACC  
 Vanja is sorry for his<sub>i</sub> friends.
- (73) a. Vanja<sub>i</sub> žaleet sebja<sub>i</sub> /\*ego<sub>i</sub>.  
 Vanja.NOM pities self.ACC /\*him.ACC  
 Vanja pities himself.
- b. Vanja<sub>i</sub> žaleet svoix<sub>i</sub> /\*ego<sub>i</sub> družej.  
 Vanja.NOM pities self /\*his friends.ACC  
 Vanja pities his<sub>i</sub> friends.

(74)-(75) show that functional Datives behave like finite subjects, exhibiting no contrast in principle B violations between coargument vs. non-coargument cases.

- (74) Borisu ne zaščitit' sebja<sub>i</sub> /\*ego<sub>i</sub> (ot etix obvinenij).  
 Boris.DAT not defend.INF self.ACC /\*him (from these accusations)  
 It's not in the cards for Boris to defend himself<sub>i</sub>/\*him<sub>i</sub> (from these accusations).
- (75) Borisu ne zaščitit' svoego<sub>i</sub> /<sup>???</sup>ego<sub>i</sub> soobščnika (ot etix obvinenij).  
 Boris.DAT not defend.INF self's /\*his accomplice (from these accusations)  
 It's not in the cards for Boris to defend his<sub>i</sub> accomplice (from these accusations).

#### 4.7.4. Not due to lack of movement: ACE in non-finite clauses.

While our definition of Reflexivization makes correct predictions for a variety of cases discussed above, there is a hypothesis that needs to be ruled out. One could argue that the crucial difference between the cases of “non-finite” subjects and “finite” subject is *the position of the pronominals*: perhaps, in non-finite constituents (such as DP (76) or infinitival clause (77)) the pronominal can stay inside the DP, which would “shield” it from Principle B effects, while in a finite clause the movement is obligatory (78)-(79).

- (76) Mašiny<sub>i</sub> rasskazy o eë<sub>i</sub> putešestvijax udivitel'ny.  
 Maša's stories about her travels astonishing  
 Maša<sub>i</sub>'s stories about her<sub>i</sub> travels are astonishing.

- (77) ?Ja poprosila Vanju<sub>i</sub> PRO<sub>i</sub> posmotret' na ego<sub>i</sub> kolegu  
 I asked Vania.ACC to look at his colleague  
 I asked Vanja<sub>i</sub> to look at his<sub>i</sub> colleague.
- (78) \*Maša<sub>i</sub> rasskazala o eë<sub>i</sub> putešestvijax.  
 Maša spoke about her travels  
 Maša<sub>i</sub> spoke her<sub>i</sub> travels.
- (79) \*Vanja<sub>i</sub> posmotrel na ego<sub>i</sub> kolegu.  
 Vanja looked at his colleague  
 Vanja<sub>i</sub> looked at his<sub>i</sub> colleague.

Such a hypothesis would have difficulty accounting for the contrast between experiencers and Nominative subjects in finite clauses. Moreover, it is easy to show that pronominals move out of DPs in non-finite environments using anti-cataphora effects.

If the contrast in principle B effects is produced by optionality of movement, we would expect that speakers who find a contrast between (80a) and (80b) would also find a contrast between (81a) and (81b); similarly, the degree of contrast in (82a-b) should correspond to that in (83a-b) and (84a-b).

- (80) a. \*Maša<sub>i</sub> pročitala eë<sub>i</sub> knigu.  
 Maša read her book  
 Maša<sub>i</sub> read her<sub>i</sub> book.
- b. ?Ja poprosila Mašu<sub>i</sub> PRO<sub>i</sub> pročitat' eë<sub>i</sub> knigu.  
 I asked Maša to read her book  
 I asked Maša<sub>i</sub> to read her<sub>i</sub> book.
- (81) a. \*Vanja<sub>i</sub> pročital eë<sub>i</sub> knigu Mašinym<sub>i</sub> detjam  
 Vanja read her book.ACC Maša's children.DAT  
 Vanja to read her<sub>i</sub> book to Maša's children.
- b. \*Ja poprosila Vanju<sub>j</sub> PRO<sub>j</sub> pročitat' eë<sub>i</sub> knigu Mašinym<sub>i</sub> detjam.  
 I asked Vanja to read her book.ACC Maša's children.DAT  
 I asked Vanja to read her<sub>i</sub> book to Maša's children.
- (82) a. \*Maša<sub>i</sub> rasskazala o eë<sub>i</sub> putešestvijax.  
 Maša spoke about her travels  
 Maša<sub>i</sub> spoke about her<sub>i</sub> travels.
- b. ?Ja poprosila Mašu<sub>i</sub> PRO<sub>i</sub> rasskazat' o eë<sub>i</sub> putešestvijax.  
 I asked Maša to tell about her travels  
 I asked Maša<sub>i</sub> to speak about her<sub>i</sub> travels.

- (83) a. \*Vanja<sub>j</sub> rasskazal o eë<sub>i</sub> putešestvijax Mašinym<sub>i</sub> detjam  
 Vanja tell about her travels Maša's children.DAT  
 Vanja spoke about her<sub>i</sub> travels to Maša<sub>i</sub>'s children.
- b. ???Ja poprosila Vanju<sub>j</sub> PRO<sub>j</sub> rasskazat' o eë<sub>i</sub> putešestvijax Mašinym<sub>i</sub> detjam.  
 I asked Vanja to tell about her travels Maša's children.DAT  
 I asked Vanja to speak about her<sub>i</sub> travels to Maša<sub>i</sub>'s children.
- (84) a. \*Vanja<sub>j</sub> rasskazal eë<sub>i</sub> detjam o Mašinym<sub>i</sub> putešestvijax  
 Vanja tell her children.DAT about Maša's travels  
 Vanja spoke to her<sub>i</sub> children about Maša<sub>i</sub>'s travels.
- b. ???Ja poprosila Vanju<sub>j</sub> PRO<sub>j</sub> rasskazat' eë<sub>i</sub> detjam o Mašinym<sub>i</sub> putešestvijax.  
 I asked Vanja to tell her children.DAT about Maša's travels  
 I asked Vanja to speak to her<sub>i</sub> children about Maša<sub>i</sub>'s travels.

While judgments on principle B effects in infinitival clauses vary, the relevant point can still be made: even in cases where the contrast in principle B effect between finite and non-finite clauses is significant, the amount of contrast in ACE effects is none to negligible. This suggests that movement happens in the same way in finite and non-finite clauses and cannot be the reason for the contrast between (76)-(77) vs. (78)-(79).

#### 4.8. *Positions relevant for binding.*

Present work ties ACE, as well as (anti)-subject orientation to movement, suggesting that the various positions through which an index goes in its search of a binder are relevant for Principle C, as well as determining the form of the index. A possible problem for this account concerns the ability of the index to bind something from these positions, and there are two types of contexts where this is relevant.

The first class of contexts was identified in connection to Hestvik's account of anti-subject orientation (Hestvik 1992, 574, ft.14). An anonymous reviewer of that paper points out that, under Hestvik's proposal, in (85) both pronominals are supposed to adjoin to INFL (Figure 31), so the sentence is expected to result in a principle B violation, since one of the pronominals will end up c-commanding the other<sup>37</sup>. The prediction is not borne out, as (85) is grammatical.

<sup>37</sup> Hestvik (1992, 574) addresses the issue by redefining c-command as follows:

(i)  $x$  c-commands  $y$  iff every node dominating  $x$  includes  $x$  and  $y$ , and  $x$  does not dominate  $y$

- (85) John viste ham<sub>i</sub> [hans<sub>i</sub> bilder].  
 John showed him his pictures  
 Johh showed him<sub>i</sub>; his<sub>i</sub> pictures.

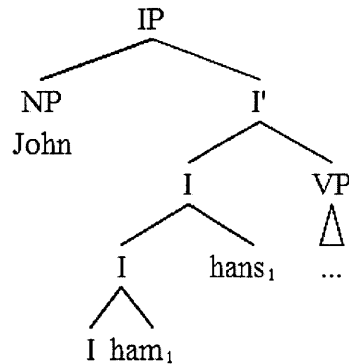


Figure 31

A similar problem arises for the Index Theory. Consider the case illustrated in Figure 32:

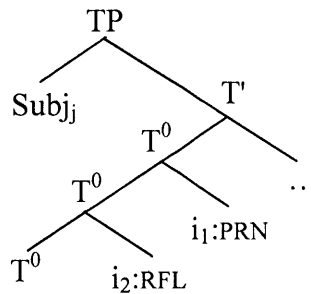


Figure 32

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(where  $x$  includes  $y$  iff  $y$  is dominated by every segment of  $x$ , as proposed in May 1985)

This definition makes *c-command* undefined for an adjunct, so for example, in Figure 31, *hans* does not *c-command* *ham* according to this definition. While this solution provides a correct account for the derivations in (85)-(87), it would also predict *any adjunct* to be unable to *c-command* anything, and that is an undesirable outcome. Firstly, Pesetsky (1995, 161) demonstrates that adjunct PPs can bind anaphors (iia-b). Second, it predicts no ACE. Consider (iii). As demonstrated in Chapter 2, the pronominal embedded in the DP *eë mama* moves to a position from which it *c-commands* the R-expression (*Valju*). Importantly, the landing site of Pronominal Raising is a position where the pronominal is not dominated by *all* segments of the phrase to which it adjoins. Therefore, according to (i), *c-command* would not be defined for the covert occurrence of the pronoun in (iii), so in this sentence, there would be no instance of the pronoun *eë<sub>i</sub>* that *c-commands* the R-expression *Valju<sub>i</sub>*, and (iii) would be incorrectly ruled in.

- (ii) a. Sue plays concerts in these countries<sub>i</sub> on each other<sub>i</sub>'s national holidays.  
 b. Mary danced with these people<sub>i</sub> in each other<sub>i</sub>'s hometowns
- (iii) \*eë [Eë<sub>i</sub> mama] ljubit Valju<sub>i</sub>.  
 Her mom.NOM loves Valja.ACC  
 Her<sub>i</sub> mom loves Valja<sub>i</sub>.

There are 2 indices  $i$  in this example, one of them c-commanding the other (under standard definition). The higher of the two indices,  $i_1$ , is not c-commanded by anything coindexed with it, so it's not marked as reflexive. For  $i_2$ , the lower of the two indices, however, there is a coindexed element c-commanding it:  $i_1$ , so it should be marked as reflexive.

Is this prediction correct? This configuration, depending on our assumptions, could arise in one of two cases. If we assume that the relative ordering of the indices at the adjunction site to T reflects the relative height of their base positions, the source sentence for the configuration in Figure 32 would be (86):

- (86) \*Ja rasskazala emu<sub>i1</sub> o svoix<sub>i2</sub> družjax.  
 I told him about self's friends.  
 I told him about self's friends.

Another possibility is that the relative order of indices at T is the opposite of what their base position was, which means,  $i_2$  is merged higher than  $i_1$ . Then we would expect the configuration in Figure 32 to correspond to (87) below:

- (87) \*Ja rasskazala sebe<sub>i2</sub> o ego<sub>i1</sub> družjax.  
 I told him about self's friends.  
 I told him about self's friends.

Whatever the underlying structure is for derivation in Figure 32, both sentences are ungrammatical, which suggests that an index adjoined to a head is irrelevant for reflexivization.

The issue is even more obvious for the positions where indices produce ACE. Since these positions are relevant for Principle C, the simplest prediction would be that they should also be relevant for principle A/B. However, this prediction is not borne out. Reciprocals (which are not subject-oriented unless embedded in an animate noun phrase – see Appendix 3 for discussion) cannot be bound by a pronominal possessor (88a-c).

- (88) a. \*Ix<sub>i</sub> spletni navredili drug drugu<sub>i</sub>  
 their rumors.NOM harmed each other.ACC  
 Their<sub>i</sub> rumors harmed each other<sub>i</sub>.
- b. \*Ja pokazala ix<sub>i</sub> raboty drug drugu<sub>i</sub>  
 I.NOM showed their works.ACC each other.DAT  
 I showed their<sub>i</sub> works to each other<sub>i</sub>.

- c. \*Žaloby na nix<sub>i</sub> rasstroili drug druga<sub>i</sub>  
 complaints.NOM about them upset each other.ACC  
 Complaints about them<sub>i</sub> upset each other<sub>i</sub>.

Moreover, if c-command was a sufficient condition for binding an anaphor, we would expect a pronominal possessor moving out of a subject (89a) or an experiencer (89b) to be able to bind a reflexive (since it adjoins to vP/TP, which are reflexivization sites). Similarly, we would expect a pronominal possessor of a subject to cause Principle B effects (89c). Neither prediction is borne out, as seen in (89a-c).

- (89) a. \*eë<sub>i</sub> [Eë<sub>i</sub> učitel'nica] poxvalila sebja<sub>i</sub>  
 her teacher.NOM praised self.ACC  
 Her<sub>i</sub> teacher praised herself<sub>i</sub>.
- b. \*ego<sub>i</sub> [Ego<sub>i</sub> drugu] stydno za sebja<sub>i</sub>.  
 his friend.DAT ashamed for self  
 His<sub>i</sub> friend is ashamed of himself<sub>i</sub>.
- c. eë<sub>i</sub> [Eë<sub>i</sub> učitel'nica] poxvalila eë<sub>i</sub>  
 her teacher.NOM praised her.ACC  
 Her<sub>i</sub> teacher praised her<sub>i</sub>.

These derivations reveal two generalizations:

- (i) the set of positions where an anaphoric element can be bound does not equal the set of positions where it can bind
- (ii) the set of positions relevant for Principle C does not equal the set of positions relevant for Principle A/B

Both (i) and (ii) obtain cross-linguistically for a variety of movements. For example, Barss (1986, 33) observes that an anaphor can be bound at an intermediate A'-position of successive-cyclic wh-movement (90a). However, binding from an A'-position is impossible.

- (90) a. [Which pictures of himself<sub>i</sub>] did John<sub>i</sub> think Fred liked?  
 b. \*John<sub>i</sub> thinks that Fred likes these pictures of himself<sub>i</sub>.

Similarly, there are several types of movement that exhibit properties similar to Pronominal Raising: they affect Principle C, but have no consequences for Principle A. Examples of such movement include Tagalog scrambling (Richards 2013), German scrambling (Grewendorf and Sabel 1999), already mentioned earlier Scandinavian Object Shift (Holmberg



and Platzack 1995), as well as Russian scrambling (Nikolaeva 2012). It is possible that these movements share some property (perhaps, tied to timing of the movement or its landing site) that makes them visible for Principle C, but inert to principle A. If future research could identify this common property and, thus, provide an explanation for this pattern, it would make significant progress in our understanding of these phenomena, however, the ultimate resolution of this puzzle is beyond the scope of current thesis.

#### ***4.9. Conclusion.***

In this chapter I presented a sketch of an alternative view of binding theory. On this view, anaphors and pronominals are assumed to be the same underlying entity – an Index. In search of a binder, Indices are driven to undergo a movement that we call Index Raising. This movement accounts for the ACE explored in Chapter 2. Unlike principle C, which we adopt in its traditional formulation, principles A and B are substituted with the principles that determine the phonological form of an index.

The proposed theory captures the near complementarity in the distribution of anaphors and pronominals, as well as provides an account for the cases where this complementarity is systematically absent.

## CHAPTER 5. BINDING THEORY AND SCRAMBLING.

In this chapter I explore the interaction between scrambling and binding theory. In particular, I investigate whether the tail of the chain formed by scrambling is visible for binding purposes, and, if so, whether its visibility is obligatory or optional. Similar issues will be explored for the head of the chain.

The chapter is structured as follows: Section 5.2 presents evidence that identifies scrambling as A-movement. In particular, I evaluate scrambling with respect to Weak Crossover effects and its ability to create antecedents for variables. Section 5.3 discusses the syntactic structure of scrambling and the motivation for this movement.

In Section 5.4, I turn to investigating the properties of scrambling that are relevant for the present work. As concluded in Section 5.2, scrambling is an instance of A-movement; however, unlike garden-variety A-movement, scrambling does not assign case to the fronted constituent at the landing site. The combination of these factors makes it an excellent testing ground for Wholesale Late Merger (WLM) theory proposed in Takahashi and Hulsey (2009). The traditional A/A'-movement dichotomy correlates the reconstruction properties of movement with the properties of its landing site, while the Wholesale Late Merger proposal ties reconstruction effects to availability of case. The former theory predicts that scrambling should behave like A-movement with respect to reconstruction. WLM predicts it should exhibit certain similarities to A'-movement. In Section 5.4 I demonstrate that scrambling lends strong support to Takahashi and Hulsey's proposal. In addition to that, the data that I discuss has an important theoretical implication, providing an argument for existence of determiners in Russian.

After a basic understanding of scrambling and its properties has been established, I will point out the residual problems that this movement's interaction with anaphora poses.

### ***5.1. The definition of scrambling.***

Let me begin by delimiting the range of phenomena that I'm going to discuss in this chapter. In what follows, I discuss a specific subclass of syntactic phenomena traditionally called *scrambling*. In particular, I'm going to discuss movement with the following characteristics:

- i. it is local (clause-bound);
- ii. it fronts given material to the left periphery of the sentence, leaving the focused arguments to the right of the predicate (cf. Kučerová 2012);
- iii. by changing the word order, it affects scope and information structure of the sentence.

Finally, in Russian, the left periphery can accommodate not only given material, but foci as well. Generally, a focused phrase stranded from the right edge bears prominent stress (1b). In what follows, I will disregard the cases of foci at the left periphery, limiting myself to evaluation of the cases where the left periphery is filled with given constituents.

- (1) a. Devočka pročítala knigu.  
 girl.NOM read book.ACC  
 A girl read a book.
- b. DEVOČKA pročítala knigu.  
 girl.NOM.FOC read book.ACC  
 \*A girl read a book.  
 It's a girl who read a book.

To distinguish the subclass of phenomena that I consider from *scrambling* in general, I will refer to the former as *Left-Periphery Fronting* (LPF hereafter).

## 5.2. The Case for A-movement.

### 5.2.1. Weak-Crossover effects.

In this section I use evidence from Weak Crossover (WCO) effects to show that LPF is an instance of A-movement. Before applying this test, I would like to establish some background.

WCO effects are typically used to distinguish between A- and A'-movement. In English, WCO effects are observed with *wh*-movement, a classic instance of A'-movement (2a). Quantifier Raising is also considered an instance of A'-movement and WCO is responsible for the badness of (2b), in contrast with the acceptable (2c).

- (2) a. \*Who<sub>i</sub> did his<sub>i</sub> mother praise ~~who~~<sub>i</sub>?  
 b. \*His<sub>i</sub> mother praised [every child]<sub>i</sub>.  
 LF: [[every child]<sub>i</sub>] [<sub>j</sub> his<sub>i</sub> mother praised <sub>j</sub>]  
 c. His<sub>i</sub> mother loves John<sub>i</sub>.

In order to use WCO effects as a testing ground for LPF, it is necessary to establish that Russian patterns with English with respect to WCO. If we can show that classic instances of A'-

movement (wh-movement and Quantifier Raising) indeed produce WCO effects in Russian, then a *lack* of WCO effects in Russian LPF could be taken to suggest that LPF is not A'-movement.

Below is the structure of the argument typically found in papers that attempt to determine the properties of scrambling (Lavine and Freidin 2002; Bailyn 2004, among others).

To demonstrate that classic instances of A'-movement trigger WCO effects in Russian, examples like (3)-(6) are used (Wh-movement in (3)-(4); Quantifier Raising in (5)-(6), compare to examples (35)-(37) in Lavine and Freidin (2002, 275–277) and examples in Bailyn (2004, sec. 2.2.4).

- (3) \*Kogo<sub>i</sub> budet kontrolirovat' ego<sub>i</sub> načal'nik ~~kogo~~<sub>i</sub>?  
 who.ACC will monitor his boss.NOM  
 Who will his boss monitor?
- (4) \*Čto<sub>i</sub> tebe podaril ego<sub>i</sub> avtor ~~čto~~<sub>i</sub>?  
 What.ACC you.DAT gave its author  
 What did its author give to you?
- (5) \*Ego<sub>i</sub> načal'nik budet kontrolirovat' [každogo novogo sotrudnika]<sub>i</sub>.  
 his boss.NOM will monitor every new employee.ACC  
 His<sub>i</sub> boss will monitor every new employee<sub>i</sub>.
- (6) \*Eë<sub>i</sub> avtor podaril mne [každuju iz etix knig]<sub>i</sub>.  
 its author gave me.DAT every.ACC of these books  
 Its<sub>i</sub> author gave me [each of these books]<sub>i</sub>.

In contrast with A'-movement, the argument goes, LPF does not yield WCO effects (see Bailyn 2004 for more examples with a wide variety of constructions involving scrambling):

**Ō V S**<sup>38</sup>

- (7) [Každogo novogo sotrudnika]<sub>i</sub> budet kontrolirovat' ego<sub>i</sub> načal'nik  
 every new employee.ACC will monitor his boss.NOM  
 His<sub>i</sub> boss will monitor every new employee<sub>i</sub>.
- (8) [Každuju iz etix knig]<sub>i</sub> mne podaril eë<sub>i</sub> avtor  
 every.ACC of these books you.DAT gave its author  
 Each of these books, its author gave to me.

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<sup>38</sup> In the word order description that I utilize here, the underlined argument contains a pronominal and an argument with an overbar is a QNP. (I suggest the following mnemonic for this symbolization: QNP is a binder, so it has to be in a c-commanding position, on top, and the pronominal is a bindee, so it needs to be in a c-commanded position, on the bottom.)

Below I am going to argue that Lavine and Freidin (2002) and Bailyn (2004) are ultimately correct in their conclusions regarding WCO. However, in light of our discoveries about ACE, it is important to point out a flaw in their reasoning.

The problem is that examples (3)-(6) cannot be directly compared to their English counterparts, because the “control” examples, where the wh-phrase/QNP is substituted with a plain NP, are not acceptable, unlike English (2c):

(9) \*Ego<sub>i</sub> načal’nik budet kontrolirovat’ Ivanova<sub>i</sub>.  
 his boss.NOM will monitor Ivanov.ACC  
 His<sub>i</sub> boss will monitor Ivanov<sub>i</sub>.

(10) \*Eë<sub>i</sub> avtor podaril mne etu knigu<sub>i</sub>.  
 its author gave me.DAT this book.ACC  
 Its<sub>i</sub> author gave me this book<sub>i</sub>.

Given the ungrammaticality of (9) and (10), it’s not quite clear that (3)-(6) are bad for WCO reasons rather than anti-cataphora effects.

In principle, one could argue that, while (9)-(10) are ungrammatical, (5)-(6) are even worse, and should probably be marked by two stars. The degradedness of (5)-(6) even compared to the ungrammatical (9)-(10) could be taken as proof that the former are bad for two reasons (ACE and WCO), while the latter for only one (ACE). Unfortunately, this argument is not likely to hold water under serious scrutiny.<sup>39</sup>

In Chapter 2 we showed that ACE are ameliorated once the pronominal is embedded deeper in the DP:

(11) Načal’nik ego<sub>i</sub> otdela budet kontrolirovat’ Ivanova<sub>i</sub>.  
 boss.NOM his department.GEN will monitor Ivanov.ACC  
 His<sub>i</sub> department’s boss will monitor Ivanov<sub>i</sub>.

Structures like (11) can serve as a reliable control item for tests involving WCO. Once a control is established, the original argument can be replicated with identical conclusions. As can be seen below, (12) and (13) are unacceptable with the stated coindexation, in contrast with the control sentence (11). In contrast, (14) is fully grammatical.

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<sup>39</sup> Additionally, as we will see in Section 5.5.1, movement can obviate ACE.

- (12) \*Kogo<sub>i</sub> budet kontrolirovat' načal'nik ego<sub>i</sub> otdela kege<sub>i</sub>? wh-movement  
 who.ACC will monitor boss.NOM his department.GEN  
 Who<sub>i</sub> will his<sub>i</sub> department's boss monitor?
- (13) \*Načal'nik ego<sub>i</sub> otdela budet kontrolirovat' [každogo novogo sotrudnika]<sub>i</sub>. QR  
 boss.NOM his department.GEN will monitor every new employee.ACC  
 His<sub>i</sub> department's boss will monitor every new employee<sub>i</sub>.
- (14) [Každogo novogo sotrudnika]<sub>i</sub> budet kontrolirovat' načal'nik ego<sub>i</sub> otdela. LPF  
 every new employee.ACC will monitor boss.NOM his department.GEN  
 His<sub>i</sub> departments' boss will monitor every new employee<sub>i</sub>.

The important part here is not the grammaticality of (14): (7)-(8) actually make the same point, since these sentences are grammatical<sup>40</sup>.

The crucial part is the ungrammaticality of (12)-(13), which contrasts with (11): it is the latter contrast that allows us to isolate Weak Crossover's impact on an otherwise *grammatical* sentence – something that examples like (3)-(6) fail to do once the ungrammaticality of (9)-(10) is taken into consideration.

We therefore conclude that once ACE are controlled for, it is possible to demonstrate that Weak Crossover is indeed present in Russian A'-movement (such as wh-movement and quantifier raising). The contrast between WCO effects observed with A'-movement and LPF lends strong support to the earlier conclusions (Lavine and Freidin 2002; Bailyn 2004) that LPF is an instance of A-movement.

To provide LPF with an additional point of reference, it would be desirable to show that garden-variety A-movement does not trigger WCO violations.

The only uncontroversial instance of garden-variety A-movement that supplies an argument between the base position of the fronting constituent and its landing site is passivization, and passivization promotes the argument into a subject position, so that a variable coindexed with it cannot take the form of pronominal, but has to be pronounced as a reflexive (15). However, it is not clear that the form of the coindexed variable should not matter for WCO effects: since binding is possible, (15) can be taken to indicate the absence of WCO effects with A-movement.

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<sup>40</sup> Clearly, this means that LPF not only does not trigger WCO effects, but it also able to obviate ACE. See Section 5.5 for more discussion of the issue.

- (15) Každýj novyj sotrudnik<sub>i</sub> budet kontrolirovat'sja svoim<sub>i</sub> /\*ego<sub>i</sub> načal'nikom  
 every new employee.NOM will be monitored self's /\*his boss.INS  
 Every new employee<sub>i</sub> will be monitored by self's<sub>i</sub>/\*his<sub>i</sub> boss.

### 5.2.2. Parasitic Gaps.

It would be ideal to have a converging result from the third test that is often used for distinguishing A vs. A'-movement: the licensing of parasitic gaps. However, the Russian construction that looks like a parasitic gap (16) is found in contexts where no A'-movement is present (17), which suggests that in Russian the construction that looks like parasitic gaps is licensed in the absence of A'-movement and, thus, cannot be used as an A/A'-movement diagnostic.

- (16) Čto ty sžeg t<sub>i</sub>, ne pročítav Ø?  
 what.ACC you.NOM burnt not having.read  
 What did you burn without reading?
- (17) Ja sžeg tvoë pis'mo, ne pročítav Ø.  
 I burnt your letter not having.read  
 I burnt your letter without reading it.

Ivlieva (2007) argues that Russian does in fact have parasitic gaps, only they are parasitic on covert A'-movement of the gap's antecedent into the TopicP. Under this account, however, parasitic gaps would be expected not to occur in wide-focus sentences, where nothing is marked as GIVEN and, thus, nothing should move to topic position, even covertly. The acceptability of the following example would be unexpected on such an analysis:

- (18) A: What's going on? Why are you so mad at John?  
 B: On vybrasyvaet novye žurnaly, ne čitaja Ø.  
 He throws.away new magazines not reading  
 He throws away new magazines without reading (them).

Importantly, even though Russian doesn't have overt determiners, in this context *novye žurnaly* must be translated as 'new magazines', not 'the new magazines', because it is new information and is part of the focus. Therefore, I conclude, there is not sufficient evidence to claim that Russian has parasitic gaps and, therefore, the test is not applicable to Russian. The precise analysis for the construction in (18) awaits further research, but is beyond the scope of this study.

### 5.2.3. Interim summary.

I have reevaluated the evidence from the three tests which are traditionally used to distinguish between A- and A'-movement. I have concluded that, though the parasitic gap test is inapplicable in Russian, its ability to neutralize WCO effects for variable binding suggests that LPF should indeed be considered an instance of A-movement.

### 5.3. *The syntactic structure of scrambling.*

Here I would like to discuss the syntactic structure of LPF. Two types of analysis have been proposed for scrambling: the Remnant Movement approach and the Constituent Fronting approach. Appendix 1 offers our reasoning for not adopting the former approach.

Here, I adopt a version of the Constituent Fronting approach, but one that has some important differences from the analyses of Lavine and Freidin (2002) and Bailyn (2004). These authors interpret LPF as movement satisfying the EPP feature on T, which leads them to conclude that the landing site of LPF is SpecTP. This analysis is untenable for a number of reasons.

First, SpecTP is the position traditionally associated with subjecthood properties. As we show below, the evidence for subjecthood properties of LPF's landing site is unreliable; while a more thorough analysis of the facts leads to the conclusion that the landing site of LPF is an A position that is distinct from SpecTP and, most likely, is outside of TP.

Analyzing LPF as A-movement to SpecTP, Lavine and Freidin (2002) and Bailyn (2004) seek to support this claim by arguing that LPF allows the fronted constituent to bind anaphors from its landing site. To defend his proposal, Bailyn (2004) uses examples like (19) to demonstrate the subjecthood property of fronted non-subjects:

- (19) <sup>?</sup>Ivana<sub>i</sub> volnujut svoi<sub>i</sub> podčinennye. (from Bailyn 2004, 18)  
Ivan.ACC worry self's subordinates.NOM  
Self's<sub>i</sub> subordinates worry Ivan<sub>i</sub>.

Unfortunately, examples of this sort are unreliable. Psych verbs with object experiencers are well-known cross-linguistically to exhibit anomalous behavior with respect to  $\theta$ -structure and binding (cf. Belletti and Rizzi 1988; Pesetsky 1995). For the purposes of Binding Theory, object experiencers often behave like they are generated above arguments that appear in surface subject



position. As discussed earlier in Chapter 3, Russian experiencers, both Dative and Accusative, are base-generated in a position privileged by Principle A. So the acceptability of (19) might be accounted for by the properties peculiar for this type of arguments (or, rather, to the position where they are generated) and does not necessarily give us any information about the landing site of LPF *per se*.

I therefore suggest that the test should be applied to Accusative objects not privileged in the way object experiencers are. This will take the base position out of the equation and allow us to make a judgment directly about the nature of LPF. While tested with a non-psych verb, the configuration similar to (19) is clearly unacceptable (20) (see also the discussion of the predicate *tošnit'* in Section 4.3.1).

- (20) \*Ivana<sub>i</sub> ubili svoi<sub>i</sub> podčinennye.  
 Ivan.ACC killed self's subordinates.NOM  
 His<sub>i</sub> subordinates killed Ivan<sub>i</sub>.

(21) raises a similar problem for Lavine and Freudin's analysis: if their proposal is correct and fronting in adversity predicates is, in fact, movement to SpecTP, why can't the fronted argument bind a reflexive in (21) without being an experiencer?

- (21) \*Storoža<sub>i</sub> ubilo v svoej<sub>i</sub> kvartire.  
 guard.ACC killed.N.SG in self's apartment  
 A guard died of an accident in his own apartment.

Their answer is that "reflexives in Russian normally require a canonical NOM subject antecedent" (Lavine and Freidin 2002, 270, ft.33). However, this generalization is incorrect. As we have seen previously in section 3.1, a variety of non-Nominative arguments, including Dative and Accusative experiencers and Instrumental demoted agents in Passives<sup>41</sup>, can (and sometimes must) trigger reflexivization.

This suggests that LPF cannot place an argument generated in a "non-privileged" position into a privileged one. In this way, it contrasts sharply with passivization. Compare (20), where the object fronted via LPF cannot bind a reflexive pronoun, with (22):

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<sup>41</sup> For a complete list of eligible binders for Russian reflexives, see Section 3.1.

- (22) Ivan<sub>i</sub> byl ubit svoimi<sub>i</sub> podčinnymi.  
 Ivan.NOM was killed self's subordinates.INS  
 Ivan<sub>i</sub> was killed by his<sub>i</sub> subordinates.

The data from reciprocals points in a similar direction. Bailyn (2004) tested reciprocals with a psych verb (23), which has the same problems as (20).

- (23) %Ivanovyx<sub>i</sub> udivili fotografii drug druga<sub>i</sub>. (adopted from Bailyn 2004, 20)  
 Ivanovs.ACC surprised photographs each other.GEN  
 The Ivanovs<sub>i</sub> were surprised by each other<sub>i</sub>'s photographs.

- (24) No nam<sub>i</sub> nraivilis' pesni drug druga<sub>i</sub>.  
 but we.DAT liked songs.NOM each other.GEN  
 But we likes each other<sub>i</sub>'s songs. (from Makarevič, A. "Vsě očen' prosto")

A reliable test for reciprocal binding would include a non-psych verb and a reciprocal embedded shallowly in a true subject that is undoubtedly generated above any internal argument. And this (hopefully bulletproof) test shows that the landing site of LPF cannot bind a reciprocal:

- (25) \*Etix učěnyx<sub>i</sub> kritikujut stat'ji drug druga<sub>i</sub>.  
 these scientists.ACC criticize articles.NOM each other.GEN  
 Each other<sub>i</sub>'s articles criticize these scientists<sub>i</sub>.

A second argument against the EPP-driven analysis is multiple LPF. On the assumption that the EPP needs to be satisfied only once (and/or the assumption that SpecTP is a unique position), the analyses of Bailyn and Lavine & Freidin predict multiple LPF to be impossible, which means that, in cases where more than one constituent makes it to the left periphery, one of them is expected to exhibit A'-properties. Data discussed in Section Chapter 6 refutes this prediction.

Finally, analyzing LPF as a movement for EPP purposes overlooks its influence on the information structure of the sentence. Adopting the idea that scrambling affects information structure (Kondrashova 1996; Junghanns and Zybatov 1997), Lavine and Freidin (2002) use the possibility of a wide focus interpretation to distinguish word orders derived without scrambling from the scrambled ones: the former, but not the latter should allow a wide focus interpretation.

If Russian did not have an EPP requirement, they argue, in a sentence with a verb and two internal arguments, VOO would be a neutral word order – however this order doesn't allow a wide focus interpretation (26a), and O<sub>ACC</sub>VO<sub>INST</sub> sentences do (26b). They take this contrast to

support their analysis. However, they apply this test only to the cases where fronting targets the highest of the internal arguments (Accusative in (26b)) and, since they assume that Accusative and Instrumental arguments are equidistant from T,  $O_{INST}VO_{ACC}$  is predicted to be an alternative neutral word order for (26). If Lavine and Freidin are correct, we would expect the order  $O_{INST}VO_{ACC}$  to allow wide focus interpretation just like  $O_{ACC}VO_{INST}$  does. This prediction is not borne out: (26c) is incompatible with a wide focus interpretation.

- (26) a. Ranilo soldata pulej. (from Lavine and Freidin 2002)  
wounded soldier.ACC bullet.INST  
WOUNDED the soldier was by a bullet (but killed with a bomb).  
\*Wide Focus: A soldier was wounded by a bullet
- b. Soldata ranilo pulej. (from Lavine and Freidin 2002)  
soldier.ACC wounded bullet.INST  
Wide Focus ok: A soldier was wounded by a bullet
- c. Pulej ranilo soldata.  
bullet.INST wounded soldier.ACC  
It's the soldier that the bullet wounded.  
\*Wide Focus: A soldier was wounded by a bullet

This is part of a more general pattern: when only the most-highly-generated constituent fronts, the sentence allows both wide focus and narrow focus; when a lower constituent fronts over a higher one, we find that the information structure is altered – and altered in a way that is consistent with Kučerová's (2012) proposal, which views LPF as fronting of presupposed material to the left of the G-(ivenness) operator. I, therefore, adopt a syntax-centered version of her proposal, which views LPF as fronting driven by the G-(ivenness) operator, probing for [+GIVEN] features in the downstairs material. On this view, the landing site of LPF is an A-position in a Topic Phrase immediately dominating TP. This explains why LPF behaves as an A-movement, but fails to facilitate anaphor binding.

The G-operator or the givenness probe responsible for LPF triggers repeated movement until all presupposed material is driven to the left periphery. For cases where a non-given argument (e.g., subject) is base-generated higher than two (or more) given arguments, this view predicts multiple LPF.

As we've seen, there are many advantages to adopting this analysis. However, it is not without its challenges. The biggest challenge is how to derive neutral word orders. Assuming

that auxiliaries are located at  $T^0$ , neutral word orders require the highest argument to raise above  $T^0$ , as in (27)-(28):

(27) Podvaly budet zataplivat' livnjamu.  
basements.ACC will flood downpours.INST  
Basement will be flooded with downpours.

(28) Ljudi budut pit' šampanskoe.  
people.NOM will drink champagne.ACC  
People will drink champagne.

This is unexpected on our current view, since nothing in this sentence is marked as given and, therefore, nothing should be moving. We could say that (28) demonstrates a basic order, assuming that the subject is generated lower and then moves to SpecTP, like in English. This, however, does not quite help with (27): the basic order for this derivation should be either AUX DP.ACC V DP.INST or AUX V DP.ACC DP.INST, but definitely not DP.ACC AUX V DP.INST.

Importantly, assuming an EPP-driven movement with T as a probe (as proposed in Lavine and Freidin 2002; Bailyn 2004) would not quite derive the desired outcome: when only the lowest argument is given, the highest argument in the clause stays low (29)-(30). Since T is lower than G-probe, a universal EPP feature on T would trigger raising of the subject to SpecTP independently from a presence of any given material in the clause, deriving OOV and OSV orders for (29) and (30) respectively. Given that, an EPP-driven movement that applies to the structure *after* scrambling might be more promising. Unfortunately, a final solution for this problem is beyond the scope of this thesis.

(29) Pulej ranilo soldata.  
bullet.INST wounded soldier.ACC  
Bullet wounded the SOLDIER.

(30) Šampanskoe budut pit' ljudi.  
champagne.ACC will drink people.NOM  
PEOPLE will drink champagne.

#### ***5.4. The Case for Wholesale Late Merger.***

So far we've been evaluating the evidence pertaining to *the landing site* of LPF, and based on its properties, we identified LPF as an instance of A-movement.

However, there are properties characteristic of its base position, such as reconstruction effects, which are the topic of the current section. Investigating reconstruction effects associated with LPF not only contributes to our understanding of its interaction with binding theory, but also sheds light on a number of theoretical questions.

In particular, I am referring to the theory behind reconstruction. The syntactic literature has traditionally distinguished two types of phrasal movement, A-movement and A'-movement. On this view, the difference in reconstruction properties of A- and A'-movement is taken to correlate with the landing site: any movement whose landing site is classified as an A'-position is predicted to leave a full trace visible at LF and capable of producing principle B/C violations, while any movement with A-type landing site is expected to be able to leave an empty trace, bleeding conditions B/C. This view is summarized in Table 5.

	A-MOVEMENT	A'-MOVEMENT
WCO	-	+
Licensing parasitic gaps	-	+
Reconstruction effects	-	+

Table 5: Traditional A/A' distinction.

In their (2009) paper, Takahashi and Hulsev propose an alternative view of reconstruction, which they call Wholesale Late Merge (or WLM). They argue that the crucial difference between A- and A'-movement's reconstruction properties results from the timing of case assignment and is logically independent from the properties characteristic of the landing site. This view crucially predicts a four-way classification of movement, as shown in Table 6.

		Landing site:		
		A-POSITION	A'-POSITION	
Case available after movement?	YES.	"classic" A-movement	1   2	T&H's cases
	NO.	<b>LPF</b>	3   4	"classic" A'-movement

Correlates with WCO, and parasitic gaps

Table 6: Wholesale Late Merge 4-way distinction.

They propose a radical extension of Late Merge (Bhatt and Pancheva 2004; 2007; see Lebeaux 2009), where a determiner merged into the derivation without the NP can satisfy the

Projection Principle (Chomsky 1981) alone, while the NP can be introduced into the derivation counter-cyclically. They utilize *Trace Conversion* proposed by Fox (1999; 2002) to make such chains interpretable. Finally, the applicability of late merge is constrained by Case filter: if the NP is not merged by the time the DP's case features are checked, its case will not be checked and it will not pass the case filter, which will crash the derivation.

This explains why A'-movement typically leaves a full copy, including an NP: A'-movement lands the moved DP in a position where case cannot be assigned (31), and therefore the only way for the NP to pass the case filter is to merge at the base position and check its case together with the Determiner (32).

(31) Illegal A'-movement:  
 [D NP<sub>-Case</sub>]<sub>A'</sub> ... [~~D~~]<sub>A</sub>; Case assigned

(32) Legal A'-movement:  
 [D NP<sub>+Case</sub>]<sub>A'</sub> ... [~~D~~ NP<sub>+Case</sub>]<sub>A</sub>; Case assigned

This proposal also explains why an element undergoing typical A-movement (which assigns case at the landing site) can leave a reduced trace that does not interact with Principles B and C. Since case is checked *after* A-movement has taken place, the NP can be merged at the landing site, avoiding interaction with Principle B/C (34).

(33) Legal A-movement, full copy  
 [D NP<sub>+Case</sub>]<sub>A</sub>, Case assigned ... [~~D~~ NP<sub>-Case</sub>]

(34) Legal A-movement, "empty" trace:  
 [D NP<sub>+Case</sub>]<sub>A</sub>, Case assigned ... [~~D~~]

These cases represent cells 1 and 4 of Table 6. However, these are the cases where the WLM theory does not differ from the traditional theory of phrasal movement. Cases 2 and 3 are more interesting in this regard: this is where the predictions of the traditional theory differ from WLM, and evidence from these cases would allow us to tease these theories apart.

Takahashi and Hulsey test WLM on cases from group 2. They demonstrate that English A'-movement is able to obviate condition C precisely when case is available to the raised constituent at the landing site, allowing late-merge of the NP containing the R-expression. For example, they observe the contrast in (35a-b), predicted by WLM theory: in (35a), the NP *corner of John's room* cannot be late-merged, since it would not pass the Case Filter, which is why the

sentence is ungrammatical due to a principle C violation; in (35b), the NP *corner of John's room* can be introduced in the derivation counter-cyclically, as a part of the relative clause where it gets case (this is possible under the *raising structure* of the relative clause, proposed in Sauerland (1998; 2003) and motivated by examples like (36a-b)).

- (35) a. \*[Which corner of John<sub>i</sub>'s room] was he<sub>i</sub> sitting in ~~which corner of John's room~~?  
 b. [Which [<sub>CP</sub> corner of John<sub>i</sub>'s room that Mary repainted ~~corner of John's room~~]] was he<sub>i</sub> sitting in ~~which~~? (from Takahashi and Hulsey 2009, 408)
- (36) a. The book on her<sub>i</sub> desk that every professor<sub>i</sub> liked best concerned model theory.  
 (from Sauerland 1998, 63)  
 b. The portrait of himself<sub>i</sub> that John<sub>i</sub> painted is extremely flattering.  
 (from Schachter 1973, 32)

Group 3 – A-movement to a position with no case available at the landing site – is the only type of prediction that Takahashi and Hulsey are unable to test, since English does not provide such a case. Crucially, Russian LPF provides the very test case the original investigation was missing.

As shown in Section 5.2, LPF exhibits behavior generally associated with A-movement: it does not trigger WCO violations. What makes it different from a garden-variety A-movement, like Passive, is the fact that LPF does not involve case assignment at the landing site, but rather targets DPs that have already received case.

While the traditional A/A' distinction predicts that LPF will pattern with case-driven A-movement, the WLM theory predicts that LPF will share its reconstruction properties with classic A'-movement, since late-merge of the NP would be blocked due to the unavailability of case at the landing site of LPF, just like with A'-movement:

(37) Legal LPF:  
 [D NP<sub>+Case</sub>]<sub>A'</sub> ... [~~D~~ NP<sub>+Case</sub>]<sub>A</sub>; Case assigned

(38) Illegal LPF:  
 [D NP<sub>-Case</sub>]<sub>A'</sub> ... [~~D~~]<sub>A</sub>; Case assigned

Below I use evidence from reconstruction effects to argue that WLM makes the correct predictions about LPF.

### 5.4.1. LPF and Principle C.

Consider (39):

- (39) \*Mašinu<sub>i</sub> učitel'nicu ona<sub>i</sub> uvažajt ~~Mašunu učitel'nicu~~<sup>42</sup>  
Masha's teacher.ACC she.NOM respects  
She<sub>i</sub> respects Masha<sub>i</sub>'s teacher.

The DP *Mašunu učitel'nicu* is base-generated below the subject pronominal and is subsequently fronted via LPF. The ungrammaticality of (39) cannot be explained by a principle B violation: (40) proves that a R-expression in SpecDP cannot trigger a Principle B violation with a pronominal outside of its parent DP.

- (40) Mašina<sub>i</sub> učitel'nica poxvalila eë<sub>i</sub>  
Masha's teacher.NOM praised her.ACC  
Masha's teacher praised her.

Therefore, (39) must be bad due to reconstruction effects (namely, a Principle C violation that is triggered by the pronominal c-commanding the full trace left by LPF).

This conclusion is further supported by the fact that (39) improves once the pronominal is prevented from c-commanding the R-expression's base position (41). The improvement holds even in those cases when the scrambled R-expression c-commands the coindexed pronominal from the landing site of LPF (42).

- (41) Mašinu<sub>i</sub> učitel'nicu uvažajut [druz'ja eë<sub>i</sub> otca] ~~Mašunu učitel'nicu~~  
Masha's teacher.ACC respects friends.NOM her father.GEN  
Her<sub>i</sub> dad's friends respect Masha<sub>i</sub>'s teacher.

---

<sup>42</sup> Example (39) may be deemed unreliable, because LPF is generally associated with OVS word orders rather than OSV. In fact, as we discussed previously, a number of theories, including Remnant movement approaches (Slioussar 2007) and Generalized Inversion (Bailyn 2004), expect OSV orders to be uncharacteristic of scrambling properties and contrast in many ways with OVS sentences. Importantly, this is quite different from the predictions of the Givenness approach that I adopt: since the pronouns are often given, we would expect them to front in addition to any other given argument. Moreover, pronominals in Russian gravitate towards the left periphery for prosodic reasons.

Empirically, the issue is easily addressed by showing that the sentences with postverbal pronominal subjects are, if anything, worse than their counterparts with preverbal ones (ii). To prevent any doubts of this sort, I will hereafter give the examples with two alternative positions of the subject.

- (i) \*Mašinu<sub>i</sub> učitel'nicu uvažajt ona<sub>i</sub> ~~Mašunu učitel'nicu~~  
Masha's teacher.ACC respects she.NOM  
She<sub>i</sub> respects Masha<sub>i</sub>'s teacher.



- (42) Mašu<sub>i</sub> uvažajut [druz'ja eë<sub>i</sub> otca] Mašu  
 Masha.ACC respects friends.NOM her father.GEN  
 Her<sub>i</sub> dad's friends respect Masha<sub>i</sub>.

In light of examples (40)-(42), we take (39) to suggest that *scrambling cannot obviate condition C*.

Reconstruction effects observed in (39), where principle C violation is produced by c-commanding pronominals, can be replicated with R-expressions as offending binders: (43) is bad while (44) is good.

- (43) \*Mašinu<sub>i</sub> učitel'nicu poxvalila naša umnica<sub>i</sub> ~~Mašinu učitel'nicu~~  
 Masha's teacher.ACC praised our good girl. NOM  
 Our good girl<sub>i</sub> praised Masha<sub>i</sub>'s teacher.

- (44) Mašina<sub>i</sub> učitel'nica poxvalila našu umnicu<sub>i</sub>.  
 Masha's teacher.NOM praised our good girl.ACC  
 Masha's teacher praised her.

At this point, the main goal of the section is achieved: we have provided evidence that LPF exhibits reconstruction effects. Below, I supply more examples making the same point as above. (45) demonstrates reconstruction effects with a possessor, (46) with a PP complement of a noun, and (47) with a clausal complement.

- (45) \*Vasiny<sub>i</sub> stixi on<sub>i</sub> ispolnit (on<sub>i</sub>) vo vtornik.  
 Vasia's poems he.NOM perform (he.NOM) on Tuesday  
 Vasia's poems, he will read on Tuesday.

- (46) \*Spletnju ob Ivane<sub>i</sub> on<sub>i</sub> oproverg (on<sub>i</sub>) ~~spletnju ob Ivane~~ vo vtornik.  
 rumor.ACC about Ivan he.NOM refuted on Tuesday  
 The rumor about Ivan<sub>i</sub>, he<sub>i</sub> refuted on Tuesday.

- (47) \*Spletnju, čto Ivan<sub>i</sub> uezžacet on<sub>i</sub> oproverg (on<sub>i</sub>) ~~spletnju, čto Ivan...~~ vo vtornik.  
 rumor.ACC that Ivan.NOM is leaving he refuted on Tuesday  
 The rumor that Ivan<sub>i</sub> is leaving he<sub>i</sub> refuted on Tuesday.

To complete the picture, we would like to provide a point of reference for assessing reconstruction effects in Russian. The examples below provide the minimal pairs to compare LPF with A- and A'-movement with respect to reconstruction effects. Examples (48)-(50) are the wh-movement counterparts of (45)-(47) respectively:

- (48) \*Kakie Vasiny<sub>i</sub> stixi on<sub>i</sub> ispolnit (on<sub>i</sub>) ~~kakie Vasiny stixi~~ vo vtornik?  
 Which Vasia's poems he.NOM perform (he.NOM) on Tuesday  
 Which Vasia's poems will he<sub>i</sub> read on Tuesday?
- (49) \*Kakuju spletnju ob Ivane<sub>i</sub> on<sub>i</sub> oproverg (on<sub>i</sub>) ~~spletnju ob Ivane~~ vo vtornik?  
 which rumor.ACC about Ivan he.NOM refuted on Tuesday  
 Which rumor about Ivan<sub>i</sub> did he<sub>i</sub> refute on Tuesday?
- (50) \*Kakuju spletnju, što Ivan<sub>i</sub> uezžacet on<sub>i</sub> oproverg (on<sub>i</sub>) ~~spl., što...~~ vo vtornik?  
 which rumor.ACC that Ivan.NOM is leaving he refuted on Tuesday  
 Which rumor that Ivan<sub>i</sub> is leaving did he<sub>i</sub> refute on Tuesday?

In contrast to LPF and A'-movement, Passive, which is an instance of A-movement that assigns case at the landing site, bleeds condition C<sup>43</sup>:

- (51) Vasiny<sub>i</sub> stixi budut im<sub>i</sub> ispolneny ~~Vasiny stixi~~ vo vtornik.  
 Vasia's poems.NOM will.PL he.INS performed.PL on Tuesday  
 Vasia's<sub>i</sub> poems will be read by him<sub>i</sub> on Tuesday.
- (52) Spletnja ob Ivane<sub>i</sub> byla im<sub>i</sub> oprovergnuta ~~spletnja ob Ivane~~ vo vtornik.  
 rumor.NOM about Ivan was he.INS refuted.PASS on Tuesday  
 The rumor about Ivan<sub>i</sub> was refuted by him<sub>i</sub> on Tuesday.
- (53) Spletnja, što Ivan<sub>i</sub> uezžacet, byla im<sub>i</sub> oprovergnuta ~~s.č.Ivan...~~ vo vtornik.  
 rumor.NOM that Ivan.NOM is.leaving was he.INS refuted.PASS on Tuesday  
 The rumor that Ivan<sub>i</sub> is leaving was refuted by him<sub>i</sub> on Tuesday.

In this section I presented examples demonstrating that sentences with LPF show principle C violations, and that these violations cannot be explained other than as reconstruction effects. In this way, LPF patterns with A'-movement (wh-movement) and contrasts with A-movement (Passive). This patterning presents a problem for the traditional dichotomy of phrasal movement, but is expected under the Wholesale Late Merger approach.

Advocating a Late Merge-based theory for Russian, it would be good to provide evidence that at least classic Late Merge (Lebeaux 2009) is consistent with the data. Fortunately, such evidence is indeed available. The contrast between (47) vs. (54), and (50) vs. (55) demonstrates that both LPF and wh-movement can obviate condition C in cases where the R-expression is

<sup>43</sup> The same possible objection arises with these data as with example (15) in section 5.2.1: assuming that the Instrumental argument is an adjunct that can be introduced in the derivation counter-cyclically, we would not expect it to trigger Principle C violation regardless of the Passive's relation with reconstruction effects. Section 5.4.3 provides an argument against such an objection.

contained in an adjunct (which can be merged counter-cyclically, after the movement has taken place), but not a complement (Late Merge of which would violate the Projection Principle).

(54) Spletnju, kotoruju Ivan<sub>i</sub> podslušal, on<sub>i</sub> oproverg spletnju  
 rumor.ACC which Ivan eavesdropped he.NOM refuted  
 The rumor which Ivan<sub>i</sub> eavesdropped he<sub>i</sub> refuted.

(55) Kakuju spletnju, kotoruju Ivan<sub>i</sub> podslušal, on<sub>i</sub> oproverg spletnju?  
 which rumor.ACC which Ivan eavesdropped he.NOM refuted  
 Which rumor that Ivan<sub>i</sub> eavesdropped did he<sub>i</sub> refute?

### 5.4.2. LPF and Principle B.

Based on evidence from principle C, we've concluded that LPF leaves a full trace. In this section, we discuss a similar range of issues using evidence from principle B.

First of all, using principle B violations to assess the reconstruction effects incurred by LPF faces a difficulty: in previous chapters we argued that Russian pronominals (or indices, according to our theory) *move* covertly, which leads to *Anti-Cataphora Effects*. Consider (56):

(56) \*eë<sub>i</sub> [Eë<sub>i</sub> učitel'nicu] uvažajet Maša<sub>i</sub> eë učitel'nieu  
 her teacher.ACC respects Masha.NOM  
 Masha<sub>i</sub> respects her<sub>i</sub> teacher.

This example is inconclusive with regard to reconstruction effects, since it is unclear whether the reason for its ungrammaticality is principle B (because the subject *Maša<sub>i</sub>* c-commands the pronominal *eë<sub>i</sub>*) or principle C (i.e., the ACE produced by the pronominal *eë<sub>i</sub>* c-commanding the R-expression *Maša<sub>i</sub>* from the landing site of LPF).

In order to test reconstruction effects with principle B, test examples must be designed in a way that would exclude the possibility of ACE interfering with the results. As shown in Chapter 2, ACE in (57) and (58) are neutralized if the pronominal is embedded one DP deeper, as in (59)-(60):

(57) \*Ego<sub>i</sub> spletni navredili Ivanu<sub>i</sub>.  
 his rumors.NOM harmed Ivan.DAT.  
 His<sub>i</sub> rumors harmed Ivan<sub>i</sub>.

- (58) <sup>???</sup>Kniga o nĕm<sub>i</sub> xvalit Ivana<sub>i</sub>.  
 book.NOM about him praises Ivan.ACC  
 The book about him<sub>i</sub> praises Ivan<sub>i</sub>.
- (59) Spletni ego<sub>i</sub> kolleg navredili Ivanu<sub>i</sub>.  
 rumors his colleagues.GEN harmed Ivan.DAT  
 His<sub>i</sub> colleagues' rumors harmed Ivan<sub>i</sub>.
- (60) Kniga o ego<sub>i</sub> issledovanijax xvalit Ivana<sub>i</sub>.  
 book.NOM about his research praises Ivan.ACC  
 The book about his<sub>i</sub> research praises Ivan<sub>i</sub>.

Crucially, however, the pronominal in these “ACE-proof” DPs is still close enough to the subject to encounter principle B effects:

- (61) Ivan<sub>i</sub> oproverg spletnju svoix<sub>i</sub> /\*ego<sub>i</sub> kolleg.  
 Ivan.NOM refuted rumors self's /\*his colleagues.GEN  
 Ivan<sub>i</sub> refuted his<sub>i</sub> colleagues' rumors.
- (62) Ivan<sub>i</sub> uvidel v magazine knigu o svoix<sub>i</sub> /\*ego<sub>i</sub> issledovanijax.  
 Ivan.NOM saw in the store book.ACC about self's /\*his research  
 Ivan<sub>i</sub> saw a book about his<sub>i</sub> research in the store.

Now we are fully equipped to test the reconstruction effects: (63) and (64) are bad, but anti-cataphora effects cannot be the reason for this, since in these DPs the pronominal is too deeply embedded to cause them (59)-(60). In this situation, the only reason for the ungrammaticality of (63) and (64) could be a principle B violation with the base copy of the scrambled constituent, which means LPF obligatorily leaves a full trace.

- (63) \*Spletnju ego<sub>i</sub> kolleg oproverg Ivan<sub>i</sub> ~~spletnju ego kolleg~~  
 rumor.ACC his colleagues.GEN refuted Ivan.NOM  
 Ivan<sub>i</sub> refuted his<sub>i</sub> colleagues' rumors.
- (64) \*Knigu o ego<sub>i</sub> issledovanijax uvidel v magazine Ivan<sub>i</sub> ~~knigu o ego, issledovanijax~~.  
 book.ACC about his research saw in the store Ivan.NOM  
 Ivan<sub>i</sub> saw a book about his<sub>i</sub> research in the store.

Wh-movement exhibits behavior similar to LPF:

- (65) \*Kakuju spletnju ego<sub>i</sub> kolleg oproverg Ivan<sub>i</sub> ~~kakuju spletnju...?~~  
 which rumor his colleagues.GEN refuted Ivan.NOM  
 Which rumor of his<sub>i</sub> colleagues' did Ivan<sub>i</sub> refute?

- (66) \*Kakuju knigu o ego<sub>i</sub> issledovanijax uvidel v magazine Ivan<sub>i</sub> knigu o ego<sub>i</sub> issl?  
 which book.ACC about his research saw in the store Ivan.NOM  
 Which book about his<sub>i</sub> research did Ivan<sub>i</sub> see in the store?

Sentences like (63) and (64) can be improved if the R-expression is prevented from commanding the base position of the fronted DP ((67)-(68)) or if the pronominal is embedded too deeply to encounter principle B violations (69).

- (67) Spletnju ego<sub>i</sub> kolleg oprovergla načal'nica Ivana<sub>i</sub> ~~spletnju ego kolleg~~  
 rumor.ACC his colleagues.GEN refuted boss Ivan.GEN  
 Ivan<sub>i</sub>'s boss refuted his<sub>i</sub> colleagues' rumors.
- (68) Knigu o ego<sub>i</sub> issledovanijax uvidel v magazine drug Ivana<sub>i</sub> ~~kn o ego<sub>i</sub> issl.~~  
 book.ACC about his research saw in the store friend.NOM Ivan.GEN  
 Ivan<sub>i</sub>'s colleague saw a book about his<sub>i</sub> research in the store.
- (69) Spletnju, [BD čto on<sub>i</sub> uežžacet]<sub>j</sub> Ivan<sub>i</sub> oproverg (Ivan) t<sub>j</sub>  
 rumor.ACC that he is leaving Ivan.NOM refuted  
 The rumor that he is leaving, Ivan refuted.

Concluding the section, principle B violations suggest that LPF produces reconstruction effects.

### 5.4.3. Determiners exist.

In sections 5.4.1 and 5.4.2, we have demonstrated that LPF is unable to bleed principle B/C violations, which, combined with its otherwise A-movement-like behavior, provides support for the Wholesale Late Merge theory. In particular, since LPF does not assign case to its targets at the landing site, late-merge of the NP is blocked and the entire argument must be merged at the base position, producing reconstruction effects.

However, there may be a counterargument to this conclusion. On the assumption that Russian lacks determiners, the reconstruction effects exhibited by LPF may be attributed to the general unavailability of late-merge of NPs in Russian. Consider the mechanism of late merge that bleeds reconstruction effects with A-movement:

- (70) A-movement with Late Merge of NP:  
 [D NP+Case]<sub>A</sub>, Case assigned ... [Ď]

The possibility of Late Merge hinges not only on the availability of Case at the landing site of A-movement, but also on the *availability of Determiners*. When a predicate selects an argument, *the Projection Principle* (Chomsky 1981) must be satisfied (71). In (70), the Projection Principle is satisfied by merging a Determiner in the argument position that would otherwise be left unsaturated and cause the derivation to crash.

(71) **The Projection Principle:**

The subcategorization property of lexical items must be satisfied throughout the derivation.

A language that lacks Determiners would be unable to late-merge the NP after the A-movement took place, because doing so in the absence of a determiner would violate the Projection Principle (72a). Therefore, *if Russian lacks determiners, late merge of NPs is expected to be generally impossible*, not just for LPF and A'-movement, but for A-movement as well<sup>44</sup>.

(72) A-movement with no determiners:

a. Illegal derivation: Projection Principle violated!

\*[NP]<sub>A</sub> ... [... V [ ]]

b. Legal derivation:

[NP]<sub>A</sub> ... [... V [NP]]

Russian lacks overt articles (and apparent determiners such as demonstratives are morphologically adjective-like), so the issue of the existence of determiners in Russian is a subject of much debate. Bošković (2005; 2008; 2009, to name a few) advocates the view that languages like Russian actually lack determiners, and Despić (2011) develops these ideas. We'll refer to this hypothesis as the *NP-hypothesis*. On the other hand, Pereltsvaig (2007) argues in favor of universality of determiners – we'll refer to this approach as the *DP-hypothesis*.

These two views make different predictions about the availability of late-merger of NPs with A-movement. Under the NP-hypothesis, we expect A-movement in Russian to be as unable to bleed principle B/C as LPF is. Under the DP-hypothesis, we expect A-movement in Russian to contrast with LPF with regard to reconstruction effects.

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<sup>44</sup> Importantly, lack of Determiners would only block late merge of noun phrases, not late merge in general. For example, late merge of a relative clause would still be possible, since the Projection Principle in that case can be satisfied by merging an NP at the argument position, and then adding an adjunct relative clause after the movement. As shown in Section 5.4.1, Russian indeed allows late merge of relative clauses.

The only instance of A-movement in Russian that has an argument positioned between the head and the tail of the chain is the Passive. The argument in question is the demoted agent that gets lexical Instrumental case. Using Instrumental arguments of the Passive in tests involving binding frequently raises the following concern: if the Instrumental DP is actually an adjunct and can be introduced into the derivation counter-cyclically, then the lack of Principle B/C violations can be attributed to its general inertness for binding, making the data from Passives inconclusive with regard to the properties of the movement we're trying to test.

However, if the Instrumental DP were actually an adjunct, we would expect it to be unable to produce principle B effects, contrary to the facts illustrated below in (73)-(74). Phrasing it in a somewhat theory-neutral way, when a pronominal internal argument in the Passive is coindexed with the Instrumental DP, the sentence is unacceptable due to a Principle B violation. This is unexpected if the Instrumental DP can be merged counter-cyclically due to its status as an adjunct.

(73) Eto pis'mo bylo otpravleno Vanej<sub>i</sub> sebe<sub>i</sub> /\*emu<sub>i</sub>.  
 this letter.NOM was sent Vanja.INST self.DAT /he.DAT  
 This letter was sent by Vanja<sub>i</sub> to himself<sub>i</sub>/\*to him<sub>i</sub>.

(74) Etot dvorec byl vozveděn imperatorom<sub>i</sub> dlja sebja<sub>i</sub> /\*dlja nego<sub>i</sub>.  
 this palace.NOM was erected emperor.INST for self /\*for him  
 This palace was erected by the emperor<sub>i</sub> for himself<sub>i</sub>.

The data suggests, therefore, that the Instrumental DP, when it is present in the derivation, behaves like an argument (and, more precisely, like a subject that doesn't get Case from finite T).

Having proven that the Instrumental DP is an argument, we can now test whether Passivization is subject to reconstruction effects. First of all, a test example cannot be constructed using principle B violations. (75), while grammatical, is likely inconclusive, because, as discussed in 3.1, non-finite subjects only produce principle B effects with coarguments (76).

(75) Stixi ego<sub>i</sub> druzej budut ispolneny Vasej<sub>i</sub> vo vtornik.  
 poems.NOM his friends.GEN will performed.PL Vasia.INS on Tuesday  
 His<sub>i</sub> friends' poems will be performed by Vasia<sub>i</sub> on Tuesday.

(76) Vasej<sub>i</sub> budut ispolneny stixi ego<sub>i</sub> druzej.  
 Vasia.INS will be performed.PL poems.NOM his friends.GEN  
 His<sub>i</sub> friends' poems will be performed by Vasia<sub>i</sub>.

Principle C provides a better testing ground because it only requires c-command. Crucially, the grammaticality of the (b) examples below contrasts with their ungrammatical (a) counterparts, which enables us to conclude that in (77b)-(79b), passivization ameliorates the principle C violation that would otherwise crash the derivation.

- (77) a. \*Im<sub>i</sub> budut ispolneny Vasiny<sub>i</sub> stixi.  
 he.INST will.PL performed.PL Vasia's poems.NOM
- b. Vasiny<sub>i</sub> stixi budut im<sub>i</sub> ispolneny (im<sub>i</sub>) vo vtornik.  
 Vasia's poems.NOM will.PL he.INST performed.PL (him) on Tuesday  
 Vasia<sub>i</sub>'s poems will be read by him<sub>i</sub> on Tuesday.
- (78) a. \*Im<sub>i</sub> byla oprovergnuta spletnja ob Ivane<sub>i</sub>.  
 he.INS was refuted.PASS rumor.NOM about Ivan
- b. Spletnja ob Ivane<sub>i</sub> byla im<sub>i</sub> oprovergnuta.  
 rumor.NOM about Ivan was he.INS refuted.PASS  
 The rumor about Ivan<sub>i</sub> was refuted by him.
- (79) a. \*Im<sub>i</sub> byla oprovergnuta spletnja, čto Ivan<sub>i</sub> uežžæt.  
 he.INS was refuted.PASS rumor.NOM that Ivan.NOM is.leaving
- b. Spletnja, čto Ivan<sub>i</sub> uežžæt byla im<sub>i</sub> oprovergnuta.  
 rumor.NOM that Ivan.NOM is.leaving was he.INS refuted.PASS  
 The rumor that Ivan<sub>i</sub> is leaving was refuted by him.

I conclude from this data that passivization contrasts with LPF with respect to reconstruction effects, which is only expected if Russian possesses a syntactic category X that can act as a placeholder for an argument positions (thus satisfying the Projection Principle), and that can also produce interpretable chains at LF (e.g., by employing Fox's *Trace Conversion* mechanism, which Takahashi and Hulsey adopt). While at this point our evidence may not prove conclusively that category X should be equated with Determiners, it exhibits a surprising similarity to Determiners, and the simplest hypothesis would be to equate the two. I thus conclude by siding with Pereltsvaig (2007) and endorsing the DP-hypothesis.

#### 5.4.4. Summary.

First, let's summarize the facts. Table 7 presents the three movements whose properties we've been evaluating. Each of the movements is accompanied by its results on all the tests we've considered in this chapter. The tests are divided into two groups: the first group includes



the tests pertaining to the landing site of the movement, while the second is indicative of reconstruction effects (i.e., whether the base position must contain a full trace). The last group assesses whether, based on the results, the movement in question can be uncontroversially identified as A- or A'-movement according to the traditional dichotomy.

	Landing site	Base positions		Identify as		Mvnt
	WCO	Bleed Pr.C	Bleed Pr.B	A	A'	Type:
wh-movement	✓	✗	✗	✗	✓	A'
LPF	✗	✗	✗	✓	✓	☯
Passive	✗	✓	n/a	✓	✗	A

Table 7

As we see, based on these properties, wh-movement and Passive fit neatly in the traditional two categories of A' movement and A movement, respectively. In contrast, LPF exhibits mixed behavior: based on different tests, it can be classified as either A- or A'-movement. This is a problem for the traditional typology of phrasal movement. On the other hand, this is precisely the pattern that the WLM theory predicts for an A-movement that does not involve case-assignment at the landing site, which is what LPF is.

### 5.5. Remaining issues and remarks.

This section discusses several residual issues concerning the interaction of LPF with binding.

#### 5.5.1. LPF obviates ACE.

Sentences where the DP containing the pronominal overtly c-commands an R-expression coindexed with that pronominal, produce ACE:

(80) \*Eĕ<sub>i</sub> učitel'nica poxvalila Mašu<sub>i</sub>.  
 her teacher.NOM praised Maša.ACC  
 Her<sub>i</sub> teacher praised Maša<sub>i</sub>.

(81) ???Kniga o nej<sub>i</sub> upala na Mašu<sub>i</sub>.  
 book.NOM about her fell on Maša.  
 A book about her<sub>i</sub> fell on Maša.

- (82) \*Ego<sub>i</sub> drug udaril Vanju<sub>i</sub>.  
 his friend.NOM hit Vanja.ACC  
 His<sub>i</sub> friend hit Vanja<sub>i</sub>.

Moreover, as we have seen in Section 5.4, LPF exhibits reconstruction effects: e.g., principle C violation encountered by an R-expression at its base position cannot be obviated by scrambling it out of the reach of the offending binder:

- (83) \*Mašinu<sub>i</sub> učitel'nicu ona<sub>i</sub> uvažacet ~~Mašunu učitel'nicu~~  
 Masha's teacher.ACC she.NOM respects  
 She<sub>i</sub> respects Masha<sub>i</sub>'s teacher.

- (84) \*Knigu o Maše<sub>i</sub> ona<sub>i</sub> videla ~~knigu o Maše<sub>i</sub>~~  
 book.ACC about Maša she.NOM saw  
 She<sub>i</sub> saw a book about Maša<sub>i</sub>.

- (85) \*Vaninogo<sub>i</sub> druga on<sub>i</sub> udaril ~~Vaninogo<sub>i</sub> druga~~.  
 Vanja's friend.ACC he.NOM hit  
 His<sub>i</sub> friend hit Vanja<sub>i</sub>.

Now consider (86)-(88):

- (86) Mašu<sub>i</sub> poxvalila eë [eë<sub>i</sub> učitel'nica] Mašu<sub>i</sub>  
 Maša.ACC praised her teacher.NOM  
 Her<sub>i</sub> teacher praised Maša<sub>i</sub>.

- (87) Na Mašu<sub>i</sub> upala nej<sub>i</sub> [kniga o nej<sub>i</sub>] ~~na Mašu<sub>i</sub>~~  
 on Maša fell book.NOM about her  
 A book about her<sub>i</sub> fell on Maša.

- (88) Vanju<sub>i</sub> udaril ego<sub>i</sub> [ego<sub>i</sub> drug] ~~Vanju<sub>i</sub>~~  
 Vania.ACC hit his friend.NOM  
 His<sub>i</sub> friend hit Vania<sub>i</sub>.

Earlier on we established that LPF cannot obviate a principle B/C violation encountered by the base copy of the fronting constituent. In (88), we would expect the index *i* to move out of the subject DP and trigger a principle C violation with the tail copy of *Vanju*. Yet, the sentence is good.

Crucially, this problem is not an artifact of the views on ACE and scrambling advocated here. Any theory attempting to derive all four of the examples (89)-(92) would recognize this problem.

- (89) \*[Ego<sub>i</sub> drug]     ego<sub>i</sub>     udaril Vanju<sub>i</sub>.  
          his friend.NOM     hit     Vanja.ACC  
          His<sub>i</sub> friend hit Vanja<sub>i</sub>.
- (90) [Vanin<sub>i</sub> drug]     udaril ego<sub>i</sub>.  
          Vanja's friend. NOM hit     he. ACC  
          Vanja<sub>i</sub>'s friend hit him<sub>i</sub>.
- (91) \*Vaninogo<sub>i</sub> druga on<sub>i</sub>     udaril ~~Vaninogo<sub>i</sub> druga~~  
          Vanja's friend.ACC he.NOM hit  
          His<sub>i</sub> friend hit Vanja<sub>i</sub>.
- (92) Vanju<sub>i</sub>     udaril ego<sub>i</sub> [ego<sub>i</sub> drug]     ~~Vanju<sub>i</sub>~~  
          Vanja.ACC hit                             his friend.NOM  
          His<sub>i</sub> friend hit Vanja<sub>i</sub>.

Here is our explanation for the difference between (89), (91) vs. (92).

In (91), after both the index and the DP *Vaninogo druga* is merged (and we have shown earlier that the NP must be merged in the base position of the determiner), a principle C violation arises, since at this point the index c-commands the R-expression. In (89), after the DP is fronted, since the index is not at a reflexivization site, it has to move out of the DP, at which point it c-commands the R-expression, producing a Principle C violation.

In contrast, in (92) it is not required for the index to move out of the DP *ego druga* before *Vanju* has been scrambled<sup>45</sup>. So, derivationally, (92) would proceed as follows: at stage 1, *ego* does not c-command *Vanju*; at stage 2, *Vanju* raises to TopP, which is above TP within which the DP *ego druga* is located. Finally, at stage 3 the index raises out of the DP *ego druga*. However, at this point, *Vanju* is already outside of TP and, thus, is not c-commanded by the raised index. Consequently, a Principle C violation is not produced.

- (93) 1.             [TP udaril     [ego druga] Vanju]  
       2. Vanju [TP udaril     [ego druga] ~~Vanju~~]  
       3. Vanju [TP udaril ego [ego druga] ~~Vanju~~]

### 5.5.2. Index Raising and binding.

In Chapter 4 we pointed out that Index Raising happens solely for the purposes of determining the phonological shape of the index. It does not have to be interpretable and, in fact,

<sup>45</sup> I would like to thank Norvin Richards (p.c.) for pointing this out.

has no consequences for the interpretation. In particular, it is enough for a QNP to c-command the base copy of the index in order to be able to bind it.

Recall examples demonstrating WCO effects with Quantifier Raising (94)-(95). As we've seen in Section 5.2, when a quantifier phrase crosses a coindexed variable via covert quantifier raising, the result is ungrammatical independently from the level of embedding of pronominal:

(94) \*Ego<sub>i</sub> načal'nik budet kontrolirovat' [každogo novogo sotrudnika]<sub>i</sub>.  
 his boss.NOM will monitor every new employee.ACC  
 His<sub>i</sub> boss will monitor every new employee<sub>i</sub>.

(95) \*Načal'nik ego<sub>i</sub> otdela budet kontrolirovat' [každogo novogo sotrudnika]<sub>i</sub>.  
 boss.NOM his department.GEN will monitor every new employee.ACC  
 His<sub>i</sub> department's boss will monitor every new employee<sub>i</sub>.

The same applies to double-object constructions: as shown in examples (96)-(97), regardless of the respective order of the Dative and the Accusative arguments, if surface position of the quantifier phrase is lower than the position of the DP containing a coindexed variable, the sentence is bad.

(96) \*Ja predstavila načal'nika ego<sub>i</sub> otdela každomu novomu sotrudniku<sub>i</sub>.  
 I.NOM introduced boss.ACC his department.GEN every new employee.DAT  
 I introduced his<sub>i</sub> department's boss of to every new employee<sub>i</sub>.

(97) \*Ja predstavila načal'niku ego<sub>i</sub> otdela každogo novogo sotrudnika<sub>i</sub>.  
 I.NOM introduced boss.DAT his department.GEN every new employee.ACC  
 I introduced every new employee<sub>i</sub> to his<sub>i</sub> department's boss.

However, both sentences are grammatical if the QNP occupies a position c-commanding the DP containing the variable (96')-(97')<sup>46</sup>.

(96') Ja predstavila každomu novomu sotrudniku<sub>i</sub> ego<sub>i</sub> načal'nika.  
 I.NOM introduced every new employee.DAT his boss.ACC  
 I introduced his<sub>i</sub> boss to every new employee<sub>i</sub>.

---

<sup>46</sup> You may notice that (96')-(97') aren't precisely minimal pairs to (96)-(97). This is a deliberate decision: in (96)-(97) we wanted to make sure the pronominal is embedded deep enough to exclude the possibility that the sentences are bad due to a Principle C violation; in (96')-(97'), we wanted to make sure the pronominal is embedded shallowly enough to be compelled to move.

- (97') Ja predstavila každogo novogo sotrudnika<sub>i</sub> ego<sub>i</sub> načal'niku.  
 I.NOM introduced every new employee.ACC his boss.DAT  
 I introduced every new employee<sub>i</sub> to his<sub>i</sub> boss.

Unfortunately, the basic order in Russian double-object constructions is a question of much debate (for high-Dative analyses see Franks 1995; Pereltsvaig 2008 among others; for high-Accusative analysis see Bailyn 2010 and references therein). While the ultimate resolution of this argument is beyond the scope of this work, the argument I present below holds symmetrically and should satisfy both camps. In both (96') and (97'), the QNP's surface position is below v; under any movement-based approach to anti-subject orientation, the pronominal in both of these sentences moves to either v or T, i.e., above the surface position of the QNP. Figure 33 gives a generalized representation of these sentences (or at least, of the one with basic argument order), which shows that QNP must cross the covert instance of the pronominal when undergoing QR. Generally, this would produce WCO effects, but (96') and (97') are grammatical. We conclude from that that c-commanding the base copy of the index is enough for binding.

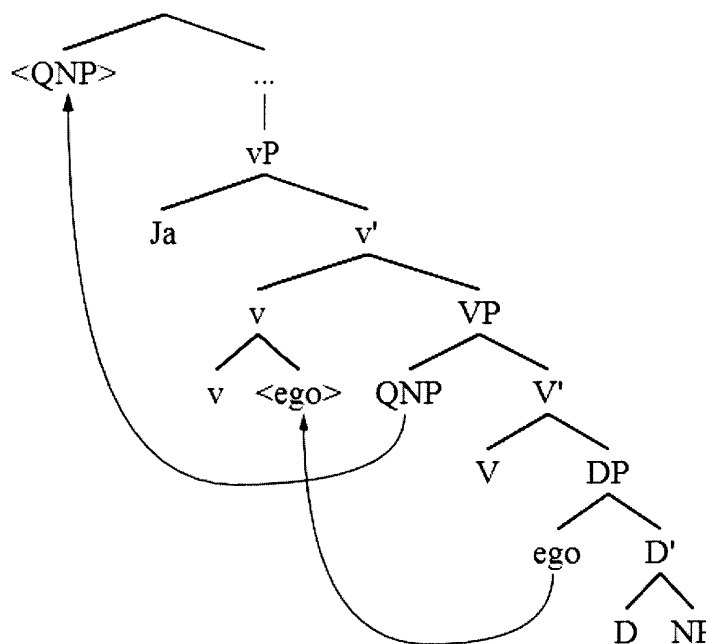


Figure 33

### 5.5.3. Index Raising after scrambling.

Scrambled constituent produces principle C violation from the landing site:

(98) \*Eë<sub>i</sub> udaril Mašin<sub>i</sub> brat eë.  
 she.ACC hit Maša's brother.NOM  
 Maša<sub>i</sub>'s brother hit her<sub>i</sub>.

(99) Mašin<sub>i</sub> brat udaril eë<sub>i</sub>.  
 Maša's brother.NOM hit she.ACC  
 Maša<sub>i</sub>'s brother hit her<sub>i</sub>.

Moreover, when a scrambled constituent contains a pronominal, the latter produces anti-cataphora effects that cannot be accounted for by reconstruction (cf. (100) vs. (101)):

(100) \*Eë<sub>i</sub> druga udaril Mašin<sub>i</sub> brat eë druga.  
 her friend.ACC hit Maša's brother.NOM  
 Maša<sub>i</sub>'s brother hit her<sub>i</sub> friend.

(101) Mašin<sub>i</sub> brat udaril eë<sub>i</sub> druga.  
 Maša's brother.NOM hit her friend.ACC  
 Maša<sub>i</sub>'s brother hit her<sub>i</sub> friend.

Importantly, sentences involving LPF show that the index evaluation happens when the subject receives case and later movement (such as LPF) does not change the outcome of the derivation (102)-(105). What is more surprising about these derivations is that unlike pronominals, reflexives are unable to trigger a Principle C violation. In Russian corpus, the majority of examples with fronted reflexives have a preverbal subject (104)-(107), however, postverbal subject are also present (108).

Lack of principle C violations in (102)-(103) may be attributed to the fact that the index's form has been determined prior to scrambling, which means there is no further need for the index to undergo Index Raising. However, in (105)-(107) the reflexive c-commands the R-expression from its surface position, so this argument is inapplicable. I leave this issue to future research.

(102) Svoego<sub>i</sub> druga udarila Maša<sub>i</sub> svoego druga.  
 self's friend.ACC hit Maša.NOM  
 Maša<sub>i</sub> hit her<sub>i</sub> friend.

(103) Svoix<sub>i</sub> druzej priglasila Maša<sub>i</sub>.  
 self's friends.ACC invited Maša.NOM  
 It was Maša<sub>i</sub> who invited one's own friends.

(104) Svoix<sub>i</sub> žertv on<sub>i</sub> izbival taburetkoj...  
 self's victims he beat stool.INST  
 He<sub>i</sub> beat his<sub>i</sub> victims with a stool...

- (105) Za sebja<sub>i</sub> golosovala Maša<sub>i</sub>.  
 for self voted Maša.NOM  
 It was Maša<sub>i</sub> who voted for oneself.
- (106) Sebja<sub>i</sub> ja<sub>i</sub> ljublju bol'se.  
 self.ACC I.NOM love more  
 I love myself more.
- (107) Sebja<sub>i</sub> Margarita<sub>i</sub> videt' ne mogla...  
 self.ACC Margarita.NOM see not could  
 Margarita<sub>i</sub> could not see herself<sub>i</sub>...
- (108) Svoimi<sub>i</sub> vzgljadami s korrespondentom "Žurnala" podelilsja Evgenij Jasin<sub>i</sub>.  
 self's views.INST with correspondent magazine.GEN shared Evgenij Jasin.NOM  
 Evgenij Jasin<sub>i</sub> shared his<sub>i</sub> views with "The Magazine"'s correspondent.

## APPENDIX 1. MULTIPLE LPF.

In Chapter 5, I have been operating under the assumption that LPF should be analyzed as *constituent fronting*, implicitly siding with Lavine and Freidin (2002) and Bailyn (2004). However, this is not the only possible analysis: there are approaches of an alternative type, namely, the Remnant Movement family, represented by Slioussar (2005; Slioussar 2006; Slioussar 2007) for Russian and Wiland (2009) for Polish. In this section, I provide the motivation for rejecting the Remnant Movement approach (our version of the Constituent Fronting approach is presented in Section 5.3).

Here is the roadmap of the argument. In Section 6.1 I present novel observations regarding scrambled sentences with multiple fronting. I demonstrate that the received view of these sentences as impossible is wrong, as it fails to account for the prosodic properties of Russian sentences.

In Section 6.2 I proceed to demonstrate that these novel facts are difficult to account for under the Remnant Movement hypothesis. Additionally, I reexamine evidence from Weak Crossover yet again, offering an explanation for attenuation of WCO effects with D-linked wh-phrases.

### 6.1. *Multiple LPF: still A-movement.*

A number of approaches to Russian scrambling predicts sentences with multiple arguments at the left periphery to differ from those with a single one. This view is usually defended using OSV sentences like (1), whose ungrammaticality is taken to arise from WCO violation triggered by A'-movement of the quantifier object over the subject, containing a coindexed variable:

- (1)  $\bar{O} \ \underline{S} \ V$   
???Každogo novogo sotrudnika<sub>i</sub> načal'nik ego<sub>i</sub> otdela budet kontrolirovat'.  
every new employee.ACC boss.NOM his department.GEN will monitor  
His<sub>i</sub> departments' boss will monitor every new employee<sub>i</sub>.

However, this example is unacceptable with neutral intonation even without a pronominal embedded in the subject. This suggests that judgments of unacceptability for (1) arise for prosodic reasons rather than because of any WCO violation: the end of the sentence is generally



focused and marked with H\*L prosody. Verbs tend to avoid this tone, which is why non-verb-final word orders are generally favored.

- (2) <sup>???</sup> Každogo novogo sotrudnika Vasilij Ivanovič budet kontrolirovat'  
 every new employee.ACC Vasilij Ivanovič.NOM will monitor  
 Vasilij Ivanovich will monitor every new employee.

When some other element separates the verb from the right edge of the sentences, so that the verb is not clause-final, (1) improve greatly.

- (3) **Ō Š V PP**  
 Každogo novogo sotrudnika<sub>i</sub> ego<sub>i</sub> načal'nik<sup>47</sup>  
 every new employee.ACC his boss.NOM  
 budet kontrolirovat' v tečenie mesjaca  
 will monitor for a month  
 His<sub>i</sub> boss will monitor every new employee<sub>i</sub> for 1 month.

This and similar examples (4)-(8) demonstrate that multiple LPF exhibits the same A-movement properties (neutralizing WCO effects; creating binders for variables) as single LPF.

Examples (4) and (5) show the fronting of two internal arguments via LPF, with the Dative argument raising over a coindexed pronominal in the subject. As can be seen from the sentences, regardless of whether the Dative argument lands higher or lower than the Accusative one, Weak Crossover does not arise and binding interpretation is possible.

- (4) **Ō<sub>Dat</sub> O<sub>Acc</sub> V Š**  
 Každomu novomu sotrudniku<sub>i</sub> vse neobxodimye dokumenty  
 every new employee.DAT all necessary documents.ACC  
 vydast ego<sub>i</sub> načal'nik  
 will.give his boss.NOM  
 His<sub>i</sub> boss will give all necessary documents to every new employee<sub>i</sub>.

---

<sup>47</sup> The grammatical examples in this section use the “single-layer” DP *ego načal'nik* rather than the safer choice, *načal'nik ego ot dela*. As noted in Section 5.2.1, ACE in the base position could undermine our evidence that sentences with wh-movement and QR demonstrate WCO. This argument, however, does not pertain to the grammatical sentences: if the sentence is good, it definitely does not have WCO. So we settle for shorter phrases that are easier to process.

- (5)  $O_{Acc} \bar{O}_{Dat} V \underline{S}$   
 Vse neobxodimye dokumenty každomu novomu sotrudniku;  
 all necessary documents.ACC every new employee.DAT  
 vydast ego<sub>i</sub> načal'nik.  
 will.give his boss.NOM  
 His<sub>i</sub> boss will give all necessary documents to every new employee<sub>i</sub>.

Similarly, when both the subject and the Dative argument front, and the Dative argument lands higher than the subject, Weak Crossover is not registered either:

- (6)  $\bar{O}_{Dat} \underline{S} V O_{Acc}$   
 Každomu novomu sotrudniku<sub>i</sub> ego<sub>i</sub> načal'nik  
 every new employee.DAT his boss.NOM  
 vydast vse neobxodimye dokumenty.  
 will.give all necessary documents.ACC  
 His<sub>i</sub> boss will give all necessary documents to every new employee<sub>i</sub>.

Finally, I'd like to show that fronting one of the internal arguments over the other in addition to the subject does not produce WCO effects either. For that, obviously, one would need to know which of the internal arguments – Dative or Accusative – is base-generated higher than the other. As mentioned in Section 5.5.1, there is no universally accepted resolution of this question, which is why examples (7) and (8) are aimed to satisfy both camps. Those who believe that Dative argument starts higher should be convinced by the acceptability of (7), while those who believe that the Accusative argument is generated higher should be satisfied with example (8).

- (7)  $\bar{O}_{Acc} S V \underline{O}_{Dat}$   
 Každogo novogo sotrudnika<sub>i</sub> Marija Petrovna  
 every new employee.ACC Maria Petrovna.NOM  
 predstavit ego<sub>i</sub> kollegam  
 will.introduce his colleagues.DAT  
 Maria Petrovna will introduce every new employee to his colleagues.

- (8)  $O_{Dat} S V \underline{O}_{Acc}$   
 Každomu novomu načal'niku<sub>i</sub> Marija Petrovna  
 every new boss.DAT Maria Petrovna.NOM  
 predstavit ego<sub>i</sub> podčinennyx  
 will.introduce his subordinates.ACC  
 Maria Petrovna will introduce his<sub>i</sub> subordinates to every new boss.

Summarizing the section, I have shown that multiple LPF behaves identically to single LPF with respect to traditional A-movement diagnostics, WCO effects<sup>48</sup>. The examples that have been advanced in the literature to support the opposite conclusion are unreliable because they are bad for independent reasons.

While double-object verbs have not been previously subjected to the tests shown above, independent support for our conclusions is provided by Slioussar (2005; Slioussar 2007), who argues that OSV sentences in Russian behave for binding purposes very similarly to OVS sentences<sup>49</sup>.

## 6.2. *The Remnant Movement approach.*

As mentioned above, the Remnant Movement analysis of scrambling was proposed in Slioussar (2007) for Russian and in Wiland (2009) for Polish. Although Slioussar (2007) offers important observations regarding multiple scrambling in general and OSV sentences in particular, that work does not explicitly address the question of how sentences with more than one fronted argument should be derived. It provides derivations involving fronting of an argument and an adverb, but not two arguments. The discussion offered here is my extrapolation of the Remnant Movement approach to the sentences under consideration.

Under such approaches, (4) (repeated below as (9)) would be derived as shown in Figure 34. SVOO is generated, then S moves to SpecIP, vP is fronted, then both complements are scrambled out of the fronted vP.

- (9)  $\bar{O}_{\text{Dat}}$   $O_{\text{Acc}}$   $V$   $\underline{S}$   
 Každyu novomu sotrudniku<sub>i</sub> vse neobxodimye dokumenty  
 every new employee.DAT all necessary documents.ACC  
 vydast ego<sub>i</sub> načal'nik  
 will.give his boss.NOM  
 His<sub>i</sub> boss will give all necessary documents to every new employee<sub>i</sub>.

<sup>48</sup> The Parasitic Gaps test is not applicable in Russian, as argued in Section 5.2.2.

<sup>49</sup> Slioussar does identify certain differences between binding in OSV and OVS sentences. While the present study is unable to provide a solution for this issue, I would like to identify a direction for future research: OSV sentences are ambiguous between the scrambling interpretation (O and S are given) and an interpretation with a contrastive focus/contrastive topic. The latter interpretation probably corresponds to the object being at a higher, A'-type, position, which is quite different in its binding potential from A positions where scrambled constituents are located.

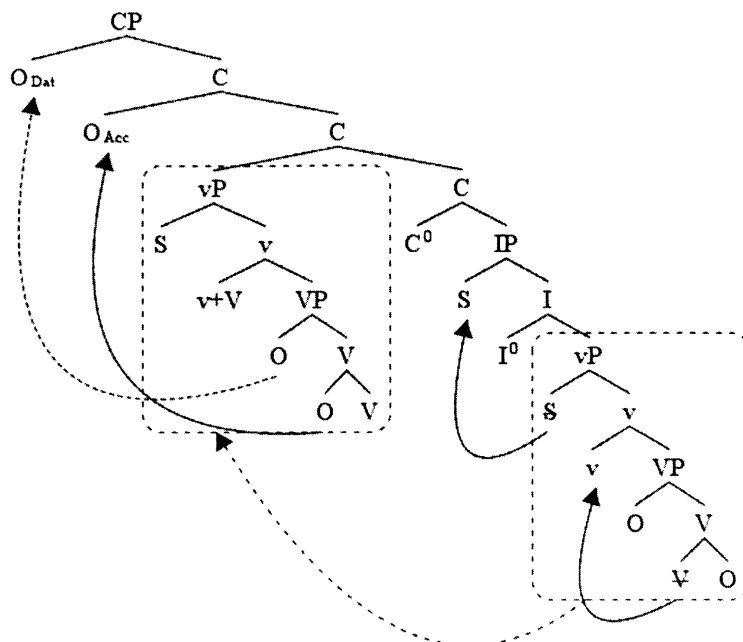


Figure 34

This approach maintains that LPF is an instance of A'-movement, and its inability to trigger WCO violations is explained with the Remnant Movement machinery. However, this analysis is problematic for cases with multiple LPF, introduced in Section Chapter 6. It's not clear how the Remnant Movement approach would handle examples (3), (6)-(8).

First of all, consider (3), repeated here as (10):

- (10)  **$\bar{O}$  S V PP**  
 Každogo novogo sotrudnika<sub>i</sub> ego<sub>i</sub> načal'nik  
 every new employee.ACC his boss.NOM

budet kontrolirovat' v tečenie mesjaca  
 will monitor for a month  
 His<sub>i</sub> boss will monitor every new employee<sub>i</sub> for 1 month.

For the Remnant Movement approach, the subject being to the left of the verb and the Aux *budet* means that the subject is in SpecIP and vP has not risen above the subject – however, if one accepts that, it would mean that in (10), for example, the object has scrambled over the subject without any help from remnant movement, and yet, a Weak Crossover violation is not to be found:

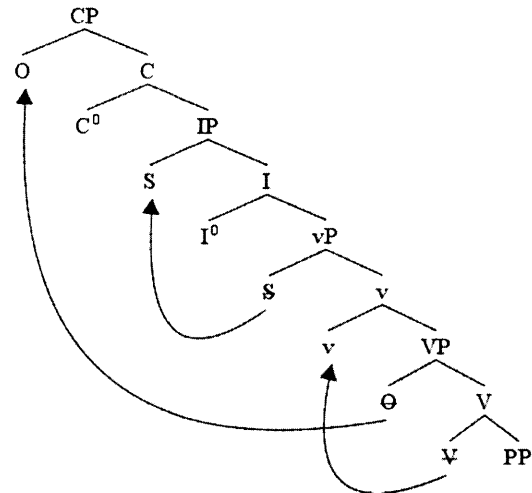


Figure 35: Derivation for (10).

Lack of WCO violation in (10) would crucially undermine the primary motivation for the Remnant Movement analysis: if there is a case where scrambling demonstrably does not involve Remnant Movement and still does not produce WCO effects, it logical to conclude that scrambling would not produce WCO in other cases as well, even if no Remnant Movement is assumed for those derivations.

Another alternative would be to say that a larger piece of structure is moving in this case, as shown in Figure 36. First, the PP scrambles out of the IP, then IP raises, and finally, the object scrambles out of the IP.

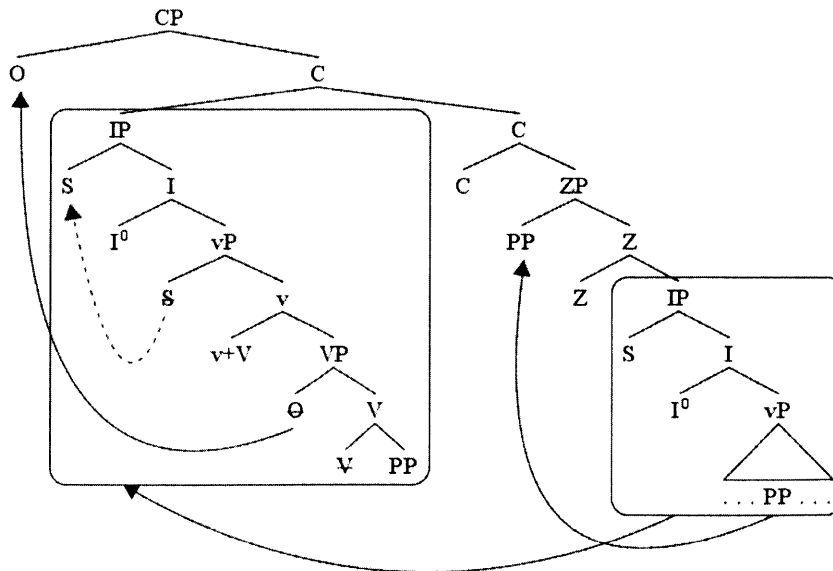


Figure 36: Alternative derivation for (10).

Under this alternative, it would still be necessary to explain why a bigger constituent is raised in this case and why the PP scrambles out to begin with.

More importantly, though, once the IP is at the left periphery, the object will still need to undergo some sort of extra movement to end up to the left of the subject – and if that’s scrambling (i.e., A'-movement according to RM proposal), one would expect, again, that it would trigger WCO effects – because this is the property of scrambling which ultimately motivated the RM theory.

The other three examples raise exactly the same issue as (10).

Clearly, to handle the cases of multiple LPF, the Remnant Movement approach needs significant and not always well motivated enhancements, which is why the discovery of such cases calls for a different approach that would be able to handle multiple LPF as well as single LPF.

### 6.3. *D-linked wh-phrases.*

Another argument in favor of the Remnant movement approach comes from D-linked wh-phrases. For example, to motivate his Remnant movement analysis for Polish, Wiland (2009) observes a lack of WCO effects in some cases of wh-movement:

- (11) a. [Którego sąsiada]<sub>i</sub> otruła jego<sub>i</sub> żona? (O<sub>wh</sub>VS)  
           which neighbor.ACC poisoned his  
           wife.NOM
- b. ??[Którego sąsiada]<sub>i</sub> jego<sub>i</sub> żona otruła? (O<sub>wh</sub>SV)  
       which neighbor.ACC his wife.NOM poisoned  
       Which neighbor did his wife poison?

The contrast is taken to support the Remnant movement analysis, since the Remnant-movement-derivable OVS orders bleed WCO effects (11a) and the Remnant-movement-non-derivable OSV sentences don’t ((11b).

However, this conclusion is not consistent with the data from other works. Witkoś (2008) reports no significant difference between WCO effects with OSV (12a) sentences compared to OVS ones (12b). Moreover, Szczegielniak (2001) reports such sentences as completely grammatical (13).

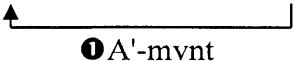
- (12) a. <sup>?</sup>Kogo<sub>i</sub> [jego<sub>i</sub> matka] zawałała kogo<sub>i</sub>? OSV  
 who.ACC his mother.ACC called  
 b. Kogo<sub>i</sub> zawałała [jego<sub>i</sub> matka] kogo<sub>i</sub>? OVS  
 who.ACC called his mother.ACC  
 Who<sub>i</sub> did his<sub>i</sub> mother call? (from Witkoś 2008, 317)
- (13) Kogo<sub>i</sub> jego<sub>i</sub> przyjaciele podziwiają kogo<sub>i</sub>? OSV  
 who.ACC his friends.ACC admire  
 Who<sub>i</sub> did his<sub>i</sub> friends admire? (from Szczegielniak 2001, 5)

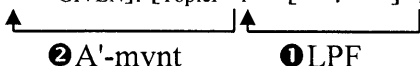
So perhaps, Polish does not register WCO violations with wh-movement at all. That would make it genuinely different from Russian, which, as we confirmed in Section 5.2.1, does exhibit WCO effects (18). Consequently, the Remnant Movement approach would make incorrect predictions for Russian.

Interestingly, even in Russian, wh-movement with D-linked wh-phrases (in the sense of Pesetsky 1987) shows attenuated WCO effects, at least for a subset of speakers:

- (14) Kakogo sotrudnika<sub>i</sub> budet kontrolirovat' ego<sub>i</sub> načal'nik?  
 which employee.ACC will monitor his boss.NOM  
 Which employee will his boss monitor?
- (15) Kakuju knigu<sub>i</sub> tebe podaril eë<sub>i</sub> avtor?  
 Which book.ACC you.DAT gave its author  
 Which book did its author give to you?

One might use the acceptability of (14)-(15) to argue that perhaps in Russian, WCO is generally not detected with D-linked phrases, independently from the type of movement in question. I propose an alternative explanation for the observed pattern. Below I argue that WCO is neutralized precisely in those cases of A'-movement where LPF can precede the A'-step (17), smuggling the wh-phrase over the coindexed variable. Being an instance of A-movement, LPF can do so without inducing a WCO violation (cf. Mahajan 1990; Mahajan 1994 for Hindi). The contrast between WCO effects with D-linked and non-D-linked wh-phrases is then accounted for by the difference in their ability to undergo LPF: while D-linked wh-phrases are able to undergo LPF prior the wh-movement (17), non-D-linked wh-phrases are incompatible with LPF and, therefore, can only front via A'-movement (16).

(16) [CP [DP WH]<sub>i</sub> [ ... V [*his*<sub>i</sub> NP] t<sub>i</sub>]  


(17) [CP [DP WH NP<sub>GIVEN</sub>]<sub>i</sub> [TopicP t<sub>i</sub> V [*his*<sub>i</sub> NP] t<sub>i</sub>]  


I adopt a syntax-centered version of Kučerová’s (2012) proposal (Section 5.3 supplies the full details of motivation behind this decision): in my view, LPF is fronting driven by the G-(ivenness) operator, probing for [+GIVEN] features in the downstairs material. When a phrase does not contain a [+GIVEN] feature, it can’t be found by the G-operator and, therefore, cannot undergo LPF. Consequently, we expect to find a contrast between phrases that contain a [+GIVEN] feature and those that don’t.

Going back to wh-movement, non-D-linked wh-phrases are the focus of the question and are not a part of the presupposed material. Under the view advocated here, they should not be able to undergo LPF and, therefore, should always trigger WCO effect, which is confirmed by (18).

(18) \*Kogo<sub>i</sub> budet kontrolirovat’ načal’nik ego<sub>i</sub> otdela kege<sub>i</sub>? wh-movement  
 who.ACC will monitor boss.NOM his department.GEN  
 Who<sub>i</sub> will his<sub>i</sub> department’s boss monitor?

In contrast with that, D-linked wh-phrases contain an NP that is a part of the presupposition. While the NP part does not have to be previously mentioned in the discourse (Pesetsky 2000 observes that the NP part can felicitously refer to a set salient culturally or contextually), the property of the D-linked wh-phrases that is relevant for the present discussion is their inability to be part of the wide focus (19), which suggests that the NP part bears a [+GIVEN] feature.

(19) A: John bought something expensive yesterday.  
 B: What did he buy?  
 B': #Which car did he buy? (from Boeckx and Grohmann 2004)

The [+GIVEN] feature in the NP part of a D-linked wh-phrase makes it possible for the G-operator to find it and front it via LPF (the derivation in (17)). The important part of this derivation is that the wh-phrase crosses the coindexed variable via LPF, an instance of A-



movement, which naturally does not produce a WCO violation. Only after this does the wh-phrase undergo A'-movement, which at this point has no effect on WCO. This explains the lack of WCO violations in (14)-(15).

A similar conclusion was reached by Boeckx and Grohmann (2004). They demonstrate that the fronting of D-linked wh-phrases in English<sup>50</sup> patterns similarly to long-distance scrambling in languages like Japanese and differs from A'-movement that non-D-linked phrases undergo. Their solution includes arguing that English D-linked wh-phrases occupy positions that scrambled constituents do in other languages (i.e., TopicPhrase rather than SpecCP, assumed traditionally). While the properties they discuss differ quite radically from Russian LPF (thus, suggesting there may be more than one type of scrambling), their research provides independent evidence for the fact that D-linked wh-phrases share certain properties with constituents undergoing scrambling and may at some stage of derivation occupy a similar position.

Unlike a D-linked wh-phrase, a non-D-linked one, containing no GIVEN feature, may not undergo LPF. And, since a derivation like (17) is impossible, the derivation must proceed as in (16), and so in this case, the wh-phrase must cross the variable via A'-movement, thus, producing a WCO violation, as the sentences below confirm.

(20) \*Kogo<sub>i</sub> budet kontrolirovat' načal'nik ego<sub>i</sub> otdela kogo<sub>i</sub>? wh-movement  
 who.ACC will monitor boss.NOM his department.GEN  
 Who<sub>i</sub> will his<sub>i</sub> department's boss monitor?

(21) \*Čto<sub>i</sub> tebe podaril prijatel' ego<sub>i</sub> avtora čto<sub>i</sub>?  
 What.ACC you.DAT gave friend.NOM its author.GEN  
 What<sub>i</sub> did its<sub>i</sub> author's friend give to you?

The solution proposed here ultimately relies on the ability of LPF to front a constituent that contains two different information structure marks: GIVEN and FOCUS. And this, I believe, is the key to explaining the variability of speakers' judgments for examples (14)-(15).

If a speaker only allows a DP to front via LPF if it is marked as GIVEN as a whole, then he would reject (14)-(15). If, however, a speaker allows a DP which is only partially marked as GIVEN to undergo LPF, then he will find examples (14)-(15) grammatical.

There are two predictions that our theory makes.

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<sup>50</sup> Pesetsky (1987) observes that D-linked wh-phrases in English exhibit attenuated WCO effect.

**First prediction:** when only the wh-part of the D-linked wh-phrase undergoes wh-movement, it is expected to yield WCO as much as a non-D-linked wh-phrase does, since the moving constituent does not contain a [+GIVEN] feature.

A test case for this prediction can be taken from Left-Branch Extraction, or LBE, which is generally grammatical in Russian (22a). Now, again, when the ACE are controlled for and the entire wh-phrase undergoes movement, the sentence is acceptable for a subset of speakers (22b). However, when the two phenomena are combined, the resulting sentence is ungrammatical (22c), as our hypothesis predicts.<sup>51</sup>:

- (22) a. Kakuju<sub>i</sub> Vanja poxvalil ~~kakuju<sub>i</sub>~~ devočku? LBE  
 which Vania.NOM praised girl.ACC  
 Which girl did Vania praise?
- b. %Kakuju<sub>i</sub> devočku poxvalila ~~kakuju<sub>i</sub>~~ ~~devočku~~ sestra eë<sub>i</sub> uč'itel'nicy? DIWh  
 which girl.ACC praised sister.NOM her teacher.GEN  
 Which girl did her<sub>i</sub> teacher's sister praise?
- c. \*Kakuju<sub>i</sub> sestra eë<sub>i</sub> uč'itel'nicy poxvalila ~~kakuju<sub>i</sub>~~ devočku? LBE+DIWh  
 which sister.NOM her teacher.GEN praised  
 girl.ACC  
 Which girl did her<sub>i</sub> teacher's sister praise?

**Second prediction:** when the entire constituent that undergoes wh-movement can be interpreted as part of the presupposition, WCO should be attenuated. Such would be the case of relative clauses, which are acceptable even for the speakers who reject (14)-(15)<sup>52</sup>:

- (23) Ja videl devočku, kotoruju<sub>i</sub> poxvalila sestra eë<sub>i</sub> učitel'nicy.  
 I saw girl.ACC that.ACC praised sister.NOM her teacher.GEN  
 I saw the girl<sub>i</sub> who<sub>i</sub> her<sub>i</sub> teacher's sister praised.

<sup>51</sup> For those objecting to (22c) on the grounds that the subject in this sentence is to the left of the verb, I supply (22c'), with the subject on the right. As we see, the word order variation does not change the judgments:

- (22) c'. \*Kakujui poxvalila (~~kakujui~~ devočku) sestra eëi uč'itel'nicy (~~kakujui~~ devočku)?  
 which praised (which girl.ACC) sister.NOM her teacher.GEN (which girl.ACC)  
 Which girl<sub>i</sub> did her<sub>i</sub> teacher's sister praise?

<sup>52</sup> David Pesetsky (p.c.) points out that relative clauses are not always presuppositional. Although it is correct, for our argument it is enough that a relative clause *allows* the presuppositional interpretation.

In conclusion, in this section we reviewed the contexts where WCO effects are attenuated and demonstrated that analyzing LPF as A-movement targeting given material is able to provide a straightforward explanation that ties the presence of WCO effects to the information structure of the sentence.

Our final observation is inspired by Mahajan's (1990) examples. In Russian, just like in Hindi, scrambling is an overt movement, so we can tell whether it applied by the surface position of the constituent in question. When the D-linked wh-phrase is left in situ (which is possible in echo-questions), WCO effects are observed despite D-linking (24)-(25), in contrast with cases involving overt fronting (14)-(15). A similar point holds for QR (see (26) vs. (27)).

- (24) \*Načal'nik ego<sub>i</sub> otdela budet kontrolirovat' kakogo sotrudnika<sub>i</sub>?  
 boss.NOM his department.GEN will monitor which employee.ACC  
 His<sub>i</sub> boss will monitor WHICH EMPLOYEE<sub>i</sub>? (echo-question)
- (25) \*Drug eë<sub>i</sub> avtora tebe podaril kakuju knigu<sub>i</sub>?  
 friend.NOM its author.GEN you.DAT gave which book.ACC  
 Its<sub>i</sub> author's friend gave you WHICH BOOK<sub>i</sub>? (echo-question)
- (26) \*Načal'nik ego<sub>i</sub> otdela budet kontrolirovat' [každogo novogo sotrudnika]<sub>i</sub>. QR  
 boss.NOM his department.GEN will monitor every new employee.ACC  
 His<sub>i</sub> department's boss will monitor every new employee<sub>i</sub>.
- (27) [Každogo novogo sotrudnika]<sub>i</sub> budet kontrolirovat' načal'nik ego<sub>i</sub> otdela. LPF  
 every new employee.ACC will monitor boss.NOM his department.GEN  
 His<sub>i</sub> boss assistant will monitor every new employee<sub>i</sub>.

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## APPENDIX 2. THE SURVEY.

This section discusses a survey of judgments on anaphora in infinitival clauses. Russian is notorious for variation in judgments, and judgments on binding in infinitival clauses are particularly prone to that effect. This survey's goal was to put some numbers behind the claims. This is a pilot study, not a formally designed experiment, so the results should be taken with a grain of salt.

In the survey, the participants were given the six items listed below:

- (28) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' emu etot fail.  
professor asked assistant to send him this file.  
The professor asked the assistant to send him this file.
- (29) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' sebe etot fail.  
professor asked assistant to send self.DAT this file.  
The professor asked the assistant to send himself this file.
- (30) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' ego kollege etot fail.  
professor asked assistant to send his colleague.DAT this file.  
The professor asked the assistant to send his colleague this file.
- (31) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' svoemu kollege etot fail.  
professor asked assistant to send his colleague.DAT this file.  
The professor asked the assistant to send self's colleague this file.
- (32) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' Marii Ivanovne ego otčët.  
professor asked assistant to send Maria Ivanovna.DAT his report.  
The professor asked the assistant to send Maria Ivanovna his report.
- (33) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' Marii Ivanovne svoi otčët.  
professor asked assistant to send Maria Ivanovna.DAT self's report.  
The professor asked the assistant to send Maria Ivanovna self's report.

For each item, the participants were invited to assess the two relevant interpretations of the anaphoric element contained in the infinitival clause as coindexed with the local subject (the assistant) and as coindexed with the matrix subject (the professor).

The participants were explicitly warned that some of these sentences may have more than one reading and were requested to assess each reading independently of other interpretations. In particular, if both readings were possible, but one of them much more likely/easier to get/comes

to mind faster than the other, both should be marked as grammatical. The assessment was represented by a binary choice (acceptable vs. unacceptable). Table 8 summarizes the results for each item.

ITEM	CONTEXT	MATRIX SUBJECT	LOCAL SUBJECT
(28)	PRN	18	0
(29)	RFL	6	17
(30)	[ <sub>DP</sub> PRN N]	18	7
(31)	[ <sub>DP</sub> RFL N]	11	15
(32)	DP <sub>1</sub> ... [ <sub>DP</sub> PRN N]	16	5
(33)	DP <sub>1</sub> ... [ <sub>DP</sub> RFL N]	12	14

Table 8

One of the questions the survey was designed to answer is whether presence of an intervening argument affects binding possibilities. In items (30)-(31), the pronoun is embedded in the highest internal argument of the infinitival clause, while in items (32)-(33), the Dative argument intervenes between the DP containing the anaphoric element and the potential binders. As you can see, intervening argument does not make any difference: numbers for item (30) are within 2 points from the numbers for item (32), same for (31)-(33). There is no point, therefore, to distinguish between the two conditions (with intervening DP vs. without one), but since the items were designed that way, we will give this redundant information in the later tables for the sake of complete representation of results.

In order to assess the proposed theory, it is useful to regroup the item-interpretation items by index (j vs. i), and then assess what are possible pronunciations of the corresponding index.

The items (1)-(6) below involve judgments about index j:

- (1) Professor<sub>i</sub> poprosil assistant<sub>j</sub> PRO<sub>j</sub> poslat' *sebe<sub>j</sub>* etot fail.  
 professor asked assistant to send self.DAT this file.  
 The professor asked the assistant to send himself this file.
- (2) Professor<sub>i</sub> poprosil assistant<sub>j</sub> PRO<sub>j</sub> poslat' *emu<sub>j</sub>* etot fail.  
 professor asked assistant to send him this file.  
 The professor asked the assistant to send him this file.
- (3) Professor<sub>i</sub> poprosil assistant<sub>j</sub> PRO<sub>j</sub> poslat' *svoemu<sub>j</sub>* kollege etot fail.  
 professor asked assistant to send his colleague.DAT this file.  
 The professor asked the assistant to send self's colleague this file.

- (4) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' *ego<sub>j</sub>* kollege etot fail.  
 professor asked assistant to send his colleague.DAT this file.  
 The professor asked the assistant to send his colleague this file.
- (5) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' Marii Ivanovne *svoj<sub>j</sub>* otčēt.  
 professor asked assistant to send Maria Ivanovna.DAT self's report.  
 The professor asked the assistant to send Maria Ivanovna self's report.
- (6) Professor<sub>i</sub> poprosil assistenta<sub>j</sub> PRO<sub>j</sub> poslat' Marii Ivanovne *ego<sub>j</sub>* otčēt.  
 professor asked assistant to send Maria Ivanovna.DAT his report.  
 The professor asked the assistant to send Maria Ivanovna his report.

The results are summarized in the table below:

Level of Embedding	j = RFL		j = PRN	
	Item	Score	Item	Score
i	(1)	17	(2)	0
[DP i ...]	(3)	15	(4)	7
[DP i ...]	(5)	14	(6)	5

Table 9

Consider lines 2 and 3 of Table 9 (representing the same condition with and without an intervener). While the vast majority of speakers prefer to pronounce the index as a reflexive (15 and 14 respectively), there exists a subset of speakers (30% approximately) who allow the index *j* to not be marked as reflexive despite being coindexed with the PRO<sub>*j*</sub>. However, not a single participant allowed a similar possibility for an unembedded index (line 1). This is exactly the pattern expected under the Indices Theory: when *j* is a coargument of PRO, LI is obligatory, so *j*'s reflexive form accepted and its pronominal form is rejected. Once the coargumentality is removed, as in lines 2 and 3, the pronominal form from completely unacceptable transitions into dispreferred: while the speakers generally favor a more economical derivation (where *j* is marked as reflexive as soon as possible, with no need for additional movement or exo-syntactic  $\phi$ -feature retrieval), a less economical derivation is also possible.

Now, let's discuss the behavior of the index *i*. Items (7)-(12) were used to collect judgments:

- (7) Professor<sub>i</sub> poprosil assistenta<sub>i</sub> PRO<sub>i</sub> poslat' *emu<sub>i</sub>* etot fail.  
 professor asked assistant to send him this file.  
 The professor asked the assistant to send him this file.

- (8) Professor<sub>i</sub> poprosil assistenta<sub>i</sub> PRO<sub>i</sub> poslat' *sebe*<sub>i</sub> etot fail.  
 professor asked assistant to send self.DAT this file.  
 The professor asked the assistant to send himself this file.
- (9) Professor<sub>i</sub> poprosil assistenta<sub>i</sub> PRO<sub>i</sub> poslat' *ego*<sub>i</sub> kollege etot fail.  
 professor asked assistant to send his colleague.DAT this file.  
 The professor asked the assistant to send his colleague this file.
- (10) Professor<sub>i</sub> poprosil assistenta<sub>i</sub> PRO<sub>i</sub> poslat' *svoemu*<sub>i</sub> kollege etot fail.  
 professor asked assistant to send his colleague.DAT this file.  
 The professor asked the assistant to send self's colleague this file.
- (11) Professor<sub>i</sub> poprosil assistenta<sub>i</sub> PRO<sub>i</sub> poslat' Marii Ivanovne *ego*<sub>i</sub> otčët.  
 professor asked assistant to send Maria Ivanovna.DAT his report.  
 The professor asked the assistant to send Maria Ivanovna his report.
- (12) Professor<sub>i</sub> poprosil assistenta<sub>i</sub> PRO<sub>i</sub> poslat' Marii Ivanovne *svoj*<sub>i</sub> otčët.  
 professor asked assistant to send Maria Ivanovna.DAT self's report.  
 The professor asked the assistant to send Maria Ivanovna self's report.

The results are summarized in Table 10:

Level of Embedding	i = PRN		i = RFL	
	Item	Score	Item	Score
i	(7)	18	(8)	6
[DP i ...]	(9)	18	(10)	11
[DP i ...]	(11)	16	(12)	12

Table 10

The Indices Theory predicts that both pronunciations should be available for index *i*, since there is nothing to *force* LI at the embedded vP. The only difference in numbers we expect to see would be triggered by preference for more economical derivation.

As can be seen from the table, our predictions are borne out: there are no cases that are overwhelmingly rejected. Moreover, when we consider the cases of non-coarguments (lines 2 and 3), the two forms of *i* are closer to each other (18 and 16 for Prn vs. 11 and 12 for Rfl) than the corresponding results for *j* (Table 9, lines 2-3). The reason for that is probably because in case of *j* both “cost” factors (movement; costly  $\phi$ -features retrieval) stirred the preference in the same direction, while here the costs of different factors are working against each other: the index *i* can stop in lower *v* (cheaper), but then it will have to do the direct  $\phi$ -features retrieval (costlier), or the index can move (costlier), but then LI will be cheaper.

There is, however, one unexpected difference. Consider line 1. While the numbers here reflect the same general tendency as lines 2-3, the difference between the reflexive and pronominal form is much larger. Coargument factor can't be the reason for the discrepancy: it requires reflexivization in cases on coindexation with a coargument, but does not require pronominalization in cases of contra-indexation.

### APPENDIX 3. BINDING AND LOCALITY.

Manzini and Wexler (1987) observe that some anaphors can be bound by anything locally and by subject only distantly, as shown for Icelandic *sig* in (34)-(37) and for Italian *sè* in (38)-(39).

- (34) Jón<sub>i</sub> elskar sig<sub>i</sub>.  
Jon loves self  
Jon loves himself.
- (35) Ég sendi Jóni<sub>i</sub> föt a sig<sub>i</sub>.  
I sent Jon clothes for self  
I sent Jon clothes for himself.
- (36) Jón<sub>i</sub> segir að María elski sig<sub>i</sub>.  
Jon says that Maria loves.SUBJ self  
Jon says that Maria loves him.
- (37) \*Ég sagði Jóni<sub>i</sub> að María hefði boðið sèr<sub>i</sub>.  
I told Jon that Maria had.SUBJ invited refl  
Expected: I told Jon that Maria had invited him.
- (38) Mario<sub>i</sub> chiese ad Alice<sub>j</sub> un ritratto di sè<sub>i/j</sub>.  
Mario asked of Alice a portrait of self  
Mario asked Alice for a portrait of him/her.
- (39) Mario<sub>i</sub> chiese ad Alice<sub>j</sub> un mio ritratto di sè<sub>i/\*j</sub>.  
Mario asked of Alice a my portrait of self  
Mario asked Alice for my portrait of him/\*her.

Chomsky (1986, 175) points out that English reciprocals, when bound long-distantly, exhibit subject orientation:

- (40) They<sub>i</sub> told us<sub>j</sub> that pictures of each other<sub>i/\*j</sub> would be on sale.

The same applies to anaphors:

- (41) John<sub>i</sub> said that pictures of himself<sub>i</sub> would be on sale.  
(42) John<sub>i</sub> told Mary<sub>j</sub> that pictures of himself<sub>i</sub> /\*herself<sub>j</sub> would be on sale.

There is a contrast in these cases between experiencers (which are better binders) and themes:

- (43) a. It surprised Mary<sub>i</sub> that pictures of herself<sub>i</sub> would be on sale  
 b. It seems to Mary that pictures of herself<sub>i</sub> would be on sale.  
 c. \*It was told to Mary<sub>i</sub> that pictures of herself<sub>i</sub> would be on sale.  
 d. Mary<sub>i</sub> was told that pictures of herself<sub>i</sub> would be on sale.

This effect is fairly general in languages: whenever an anaphor is bound non-locally, it starts to exhibit subject orientation.

Finally, Russian reciprocals are traditionally considered non-subject oriented, which is generally true:

- (44) Ja predstavila ix<sub>i</sub> drug drugu<sub>i</sub>.  
 I.NOM introduced they.ACC each other.DAT  
 I introduced them to each other.

However, Russian reciprocals are also known to be extremely local: their binding domain is defined by the closest subject

- (45) a. Oni<sub>i</sub> polučili žaloby drug na druga<sub>i</sub>.  
 they.NOM received complaints about each other  
 They<sub>i</sub> received complaints about each other<sub>i</sub>.  
 b. \*Oni<sub>i</sub> polučili moi žaloby drug na druga<sub>i</sub>.  
 they.NOM received my complaints about each other  
 They<sub>i</sub> received my complaints about each other<sub>i</sub>.

While a reciprocal's binding domain cannot be extended past a c-commanding subject (45b), it can be extended in case the specifier position is not filled. Animate nouns seem to constitute a binding domain for reciprocals: while a reciprocal embedded in a noun phrase with an animate head noun can be bound by a subject (46), but the sentences where it is bound by a non-subject are considerably degraded for the speakers I consulted. This effect is attenuated to varying degrees with inanimate head nouns (47a-b). This effect is considerably attenuated with inanimate head nouns (48a-b).

- (46) Deti<sub>i</sub> pokazali mne učitelej drug druga<sub>i</sub>.  
 children.NOM showed I.DAT teachers each other.GEN  
 Children<sub>i</sub> showed each other<sub>i</sub>'s teachers to me.

- (47) a. <sup>???</sup>Ja pokazala detjam<sub>i</sub> učitelej drug druga<sub>i</sub>.  
 I.NOM showed children.DAT teachers.ACC each other.GEN  
 I showed children<sub>i</sub> each other<sub>i</sub>'s teachers.



- b. <sup>???</sup>Ja pokazala detej<sub>i</sub> učiteljam drug druga<sub>i</sub>.  
 I.NOM showed children.ACC teachers.DAT each other.GEN  
 I showed children<sub>i</sub> to each other<sub>i</sub>'s teachers.
- (48) a. <sup>?</sup>Ja pokazala detjam<sub>i</sub> rjukzaki drug druga<sub>i</sub>.  
 I.NOM showed children.DAT backpacks.ACC each other.GEN  
 I showed children<sub>i</sub> each other<sub>i</sub>'s backpacks.
- b. <sup>?</sup>Ja pokazala detjam<sub>i</sub> risunki drug druga<sub>i</sub>.  
 I.NOM showed children.DAT drawings.ACC each other.GEN  
 I showed children<sub>i</sub> each other<sub>i</sub>'s drawings.