Information Structure of Argument Order Alternations

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Declaration

I, Elena Titov, confirm that the work presented in this thesis is my own, and that where information has been obtained from other sources, this has been indicated in the thesis.

Abstract

This thesis is concerned with NP/DP argument reordering and the question of what licenses it formally and interpretatively. Its primary focus is on the syntax of Russian. It is argued that two types of reordering exist, with each type linked to a distinct interpretative effect and involving a distinct syntactic process. More specifically, neutral reordering is licensed by the encoding of relative interpretative argument prominence, which requires linear precedence of an interpretatively prominent argument with respect to a non-prominent argument. The relative interpretative prominence of arguments is argued to be established on the basis of a variety of cognitive interpretations, with languages varying as to how many of these interpretations are required to license neutral reordering of arguments. In Russian, this type of reordering is claimed to exhibit properties of A-scrambling and to favour an analysis that refers to a variation in the base-component. It is argued that the availability of neutral reordering of arguments cross-linguistically is reliant on the type of prominence, thematic or information-structural, that a language encodes via syntactic structure. When thematic and information-structural prominence relations do not coincide, only one of them can be structurally/linearly represented. The relation that is not structurally/linearly encoded must be made visible at the PF interface either via prosody or morphology.

The second type of argument reordering is argued to be licensed by a restriction of the set of syntactic constituents included in the scope of pragmatic quantification. This type of reordering is shown to exhibit properties of A'-scrambling. Various categories that involve different types of pragmatic quantification are considered. It is demonstrated that an A-scrambled structure licensed by the relative argument prominence encoding can serve as input for an A'-scrambled structure as long as one of the arguments involves quantification over a pragmatic set of alternatives.

The proposals advanced in this thesis resolve a number of long-standing controversies concerning the properties of Russian A- and A'-scrambling.

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“ 'Tis a misfortune to be at such a pass, that the best test of truth is the multitude of believers…”

Michel Eyquem de Montaigne

1. Introduction

This thesis is concerned with argument order alternations in Russian. Russian has received considerable attention in the linguistic literature due to its relatively free word order. Thus, in monotransitive Russian constructions, each of the six orders given in (1) is possible, given an appropriate context.

1. a. SVO
   b. OVS
   c. SOV
   d. OSV
   e. VSO
   f. VOS

The present manuscript deals with the question of what licenses argument reordering interpretatively and formally. I explore two linked hypotheses. First, I argue that argument reordering requires a formal licence. That is to say, it can be argued that argument order alternations of the kind found in Russian are permitted only in case the grammatical functions of the arguments can be established by means other than their surface structural position. For instance, it has been widely observed that morphological case marking on Russian NPs allows the assignment of grammatical functions such as Subject, Direct Object and Indirect Object without reference to a specific syntactic position. The second hypothesis defended below is that whenever the thematic interpretations carried by arguments are recoverable without reference to syntactic structure, the latter is used to encode information-structural interpretations. As a consequence, for a given sentence, the interpretations associated with all the six orders in (1) can potentially all be truth-conditionally identical, with their interpretive differences restricted to truth-conditionally neutral aspects of information structure.

By hypothesis, syntactic structure is used in Russian to determine the information-structural prominence of arguments whenever thematic prominence is determined either through morphology or context (see below). Consequently, any order that deviates from the unmarked SVO order in Russian is used not randomly by speakers but rather to achieve an information-structural interpretation that the canonical order fails to convey.

I will therefore argue that the argument order in Russian is only superficially free, while in reality it is at least doubly restricted. As demonstrated below, non-canonical orders are illicit in the absence of an interpretative license. Moreover, a failure of formal identification of the grammatical function of arguments also results in rigid orders.

A further restriction on argument order alternations in Russian has to do with the type of reordering that takes place, or, in other words, the type of scrambling (Ross 1967). It is reasonable to distinguish at least two different types of scrambling in Russian: neutral scrambling and A'-scrambling. Neutral scrambling is often referred to as A-scrambling. However, distinguishing between A- and A'-scrambling in Russian sentences has proved rather difficult, with scrambled constructions with identical properties taken by different authors to involve movement to either an A or an A'-position (and hence to involve distinct types of scrambling). This disagreement results from the fact that, in Russian, the positions targeted by scrambling often seem to have mixed properties as regards the A vs. A'-position diagnostics (see Jacobs 1997, Haider and Rosengren 1998, Mahajan 1990, Neeleman 1994, Neeleman and Van de Koot 2008, Vanden Wyngaerd 1989 and Zwart 1993 for discussion of these diagnostics). It is for this reason that I adopt the following distinction that is based on interpretative as well as syntactic properties of the two types of scrambling. A'-scrambling involves A'-fronting that can apply non-locally. It creates a structure of quantification (cf. Kiss 1998) and hence affects categories that are construed as involving a particular type of quantification over a set of alternatives, such as for instance *contrastive* categories, as in (2). (Throughout, letters in bold capitals represent the vowel that bears the main sentential stress, while '\' stands for a falling and '/' for a rising intonational contour. The sign '#' is put in front of examples that are grammatical but either inappropriate in the given context or appropriate only if additional context is assumed/accomodated.

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2. a. [Kn**I**gi]$_{FOC1}$, ja xoču, čtoby Anja čitala t_1 (a ne žurnaly)
   books.ACC I want that Anna read (not magazines)
   'I want Anna to read books (not magazines).'

/ \

b. [Knigi]$_{TOP1}$, ja xoču, čtoby Anja [podarila K**A**te]$_{FOC}$
books.ACC I want that Anna gave Catherine.DAT

(a žurnaly pust' ostavit sebe)
(and magazines she can keep for herself)
'As for books, I want Anna to give them to Catherine (and magazines she can keep for herself).'

By contrast, neutral scrambling is always local and takes place in order to reflect the relative interpretative prominence of arguments, with the outcome that a prominent argument linearly precedes a non-prominent argument. Of course, this proposal requires that I formulate hypotheses about what determines relative interpretative prominence, and a substantial part of chapter 2 will be concerned with developing this matter. To illustrate the approach, I take example (3a) below to be a typical example of a neutrally scrambled construction. I analyse the object in this example as discourse prominent as a consequence of it being mentioned in the immediately preceding context: it is discourse-linked (henceforth D-linked). The subject, on the other hand, is *not* D-linked and therefore interpreted as non-prominent at the time the relevant sentence is produced. As a result of this interpretative difference, the object is allowed to linearly precede the subject. As argued below, the relative prominence of arguments can be established on the basis of a number of interpretations, with the presence/absence of a D-link being but one of them.

3. [Kto ty xočeš', čtoby poceloval Anju?]$_{CONTEXT}$
Who do you want to kiss Anna?

\

a. Ja xoču, čtoby Anju pocelovala [K**A**tja]$_{FOC}$
I want that Anna.ACC kissed Catherine
'I want Catherine to kiss Anna.'

\

b. #Anju$_1$, ja xoču, čtoby [K**A**tja]$_{FOC}$ pocelovala t_1
Anna.ACC I want that Catherine kissed

\

c.	#Anju$_1$,	ja	xoču,	čtoby	t_1	pocelovala	[K**A**tja]$_{FOC}$
	Anna.ACC	I	want	that		kissed	Catherine

In (3b) and (3c), long-distance movement of the discourse-prominent object is illicit regardless of the position of the discourse-new subject with respect to the verb, unless the fronted object is interpreted as a *contrastive* topic and Anna.ACC is construed as contrasted to another individual, possibly not yet present in the discourse, who I want to be kissed by someone possibly other than Catherine.[1] Therefore, the data in (2) and (3) support the hypothesis that long-distance A'-scrambling is interpretatively restricted to quantificational (e.g. *contrastive*) elements.

The term *contrastive topic* is used here as in Büring 1999 and 2003. That is, it refers to a linguistic category manifested by linguistic means: in English, a (fall)-rise pitch accent; in Russian, a rising intonational contour. It must therefore be distinguished from such notions as (aboutness) topic (Reinhart 1981), theme (Steedman 2000) or address (Vallduví 1990), which may, but do not have to be, prosodically realized (McNally 1998). The interpretation that sentences containing contrastive topics convey will be discussed in detail in Part II of this thesis. For the time-being, it suffices to say that sentences hosting a contrastive topic have the interpretation of incompleteness and of a set of sets of propositions/questions (Büring 2003).

For instance, as already mentioned, the sentence in (3c) is well-formed only if the moved constituent is construed as a contrastive topic, as in (4). In this case, the A'-moved object is obligatorily marked with a rise on the stressed vowel, and the sentence can no longer be construed as offering a full answer to the question in the context. Instead, it leaves the impression that more needs to be said (as suggested by the continuations in the brackets). One way of describing the interpretation of (4) is to say that the reply implies that the *question under discussion* (henceforth QUD) is broader than the one present in the immediately preceding context (e.g. the QUD in (4) can be 'Who do you want to kiss whom?), and that the context contains merely a

[1] The trace of the object is left in a position preceding the verb and the subject in (3c) because a scrambled OV[S]$_{FOC}$ structure is taken to serve as input to A'-scrambling of the object here (see chapter 3 section 3.1 for discussion).

[2] An exception to this constitute constructions where neutral scrambling is licensed by considerations other than relative argument prominence (see chapter 3, section 3.2.2 for discussion).

subquestion to the QUD, with other subquestions, such as, for instance, 'Who do you want to kiss Lena?', relevant for the discussion at hand, though not overtly present. Consequently, the reply is construed as but one proposition out of a set of propositions relevant for the discourse at hand.

4. [Kto ty xočeš', čtoby poceloval Anju?]$_{\text{CONTEXT}}$
   Who do you want to kiss Anna?

/					\
Anju$_1$,	ja	xoču,	čtoby	t_1 pocelovala	[K**A**tja]$_{\text{FOC}}$ ...
Anna.ACC	I	want	that	kissed	Catherine

   (a Lenu, ja xoču, čtoby pocelovala Sveta)
   (and/but Lenu.ACC I want that kissed Sveta)
   'As for Anna, I want her to be kissed by Catherine (and as for Lena, I want her to be kissed by Sveta).'

A further type of contrastive category that undergoes A'-scrambling in Russian is the so-called *contrastive focus*, as in (5). The two types of contrastive category are traditionally analysed as referring to distinct information-structural notions due to them carrying distinct intonational contours and being associated with distinct interpretations. Thus, contrastive foci are marked with falling intonation in both English and Russian, and an utterance containing a contrastive focus does not convey an interpretation of incompleteness, but rather that of opposition or counter-assertion to the proposition in the context:

5. [Boris el boby]$_{\text{CONTEXT}}$
   Boris ate the beans

		\			
(Net,)	Boris	[s**U**p]$_{\text{CF1}}$	el	t_1	(a ne boby)
no	Boris	soup	ate		(and not beans)

   (No,) Boris ate the soup (not the beans).

The falling intonational contour assigned to contrastive foci in Russian has been referred to in the Russian linguistic literature as IK2, whereas contrastive topics are

decribed as marked with IK3 – a rise in tone on the stressed vowel followed by an immediate fall (Bryzgunova 1981). These contours are carried by contrastive categories in Russian regardless of whether they undergo long-distance or local movement or stay in situ.

In English, contrastive categories are also marked with prominent intonational markers: a contrastive focus carries a falling contour, also known as the A-accent (Jackendoff 1972), whereas a contrastive topic is marked with a (fall)-rise contour, also known as the B-accent. Interestingly, while English does not allow for neutral reordering of arguments, it does permit A'-fronting of contrastive categories. Although such displacement is more restricted than in Russian, the fact that this type of scrambling but not the other is present in the language further supports the hypothesis that A'-scrambling of contrastive constituents should be analysed as a phenomenon that is independent of neutral scrambling.

Moreover, while (A'-scrambled) contrastive categories *must* be prosodically realized in both Russian and English, neutrally scrambled constituents can easily be left stressless and unaccented in Russian, as in (3a).

It is also worth noting that the intonational contours assigned to contrastive categories often coincide with the main sentential stress in both English and Russian (see (2a) and (5) for Russian examples). Neutrally scrambled arguments, as a rule, cannot carry the main sentential stress, as in the corresponding constructions the nuclear stress represented by IK1 – a falling intonational contour similar to IK2 but lower-pitched and less intense (Bryzgunova 1981) – is consistently placed on the focus exponent (Krylova and Khavronina 1984), which corresponds to the most embedded argument in the clause. Given the head-initial and descending nature of the Russian VP (Bailyn 1995, Dyakonova 2007), the most embedded argument occurs in a clause-final position. Since a neutrally scrambled argument does not occupy this position (see the position of the neutrally scrambled object in (3a)), it cannot bear the main sentential stress.[2]

The hypothesis that fronting of contrastive categories and neutral reordering of constituents are two separate phenomena is further supported by the observation that the two types of scrambling have distinct properties with regard to reconstruction. A'-

[2] An exception to this constitute constructions where neutral scrambling is licensed by considerations other than relative argument prominence (see chapter 3, section 3.2.2 for discussion).

scrambling reconstructs syntactically and interpretatively[3] to the foot of an A'-chain. That is, an A'-fronted contrastive category cannot enter into a binding relationship in its surface position and behaves syntactically as if it has not moved at all (compare (6a) with (6b)). Furthermore, an A'-scrambled contrastive category reconstructs interpretatively to the position of its trace, taking scope below other quantifiers (see (7)).

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6. a. * [Každuju dEvočku]$_1$, eë$_1$ mama xočet,
every girl.ACC her mum wants

čtoby Ivan poceloval t_1 (a ne každogo mal'čika)
that Ivan kissed (and not every boy)

b. * Eë$_1$ mama xočet, čtoby Ivan
her mum wants that Ivan

\

poceloval každuju dEvočku$_1$
kissed every girl.ACC

\

7. [Každuju otkrYtku]$_1$, ja xoču, čtoby
every postcard.ACC I want that

dva studenta podpisali t_1 (a ne každuju knigu)
two students signed (and not every book)
'I want two students to sign every postcard (not every book).'

∃>∀; *∀> ∃

[3] A'-scrambled contrastive categories reconstruct for quantifier scope. However, A'-scrambling might have an interpretative effect that is related to the landing site. For instance, Neeleman and van de Koot (forthcoming) argue that A'-scrambling marks a domain of contrast, which is manifested by the fact that quantifier raising is impossible out of the constituent that is a sister to the landing site of an A'-scrambled contrastive category.

As discussed in Part II Chapter 7, Russian A'-scrambling also has an interpretative effect in that it restricts the set of contexts the sentence is compatible with.

The distributive interpretation for (7), according to which for every postcard there were two different students who signed it, is unavailable, suggesting that the universal quantifier cannot take scope in its surface position c-commanding the indefinite.

Neutrally scrambled NPs, in contrast, bind from their surface position (see (8)) and outscope quantifiers across which they scramble (see (9)), suggesting that no syntactic or scope reconstruction takes place.[4]

8. [Kto ljubit každuju devočku?]CONTEXT
Who loves every girl?

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[Každuju	devočku]$_1$	ljubit	eë$_1$	m**A**ma
every	girl.ACC	loves	her	mum

'Every girl is loved by her mum.'

9. a. [Kto podpisal každuju otkrytku?]CONTEXT
Who signed every postcard?

\

Každuju	otkrytku	podpisali	dva	stud**E**nta
every	postcard.ACC	signed	two	students

'Every postcard was signed by two students.'

∀> ∃; ?∃>∀

b. [Kto podpisal dve otkrytki?]CONTEXT
Who signed two postcards?

\

Dve	otkrytki	podpisal	každyj	stud**E**nt
two	postcards.ACC	signed	every	student

'Two postcards were signed by every student.'

∃>∀; *∀> ∃

[4] In (9a), a question mark is put in front of the wide scope reading of the existential quantifier. This is due to the availability of specific interpretation of the indefinite, which results in apparent wide scope.

The distinct syntactic and interpretative properties of the two types of scrambling strongly suggest that the syntactic processes involved in creating A'-scrambled and neutrally scrambled structures are distinct.

A further argument supporting this conclusion can be based on the available orders in scrambled monotransitive structures of the neutral and contrastive variety, respectively. In a neutrally scrambled monotransitive construction, the subject consistently appears in postverbal position, resulting in OVS order (see (8) and (9)). Whatever syntactic operations are involved in creating this structure, it cannot be achieved solely by fronting the discourse-prominent object, unlike what is generally assumed to be the case with an A'-scrambled contrastively focused object (see (7)). In fact, the O$_1$SV*t*$_1$ and the SO$_1$V*t*$_1$ orders that would result from such fronting are illicit in the kind of context that licenses (8) and (9), provided the sentences preserve the neutral stress pattern, with the main sentential stress falling on the most embedded constituent:[5]

10. [Kto podpisal dve otkrytki?]CONTEXT
Who signed two postcards?

a. # [Dve otkrytki]$_1$ každyj student podpis**A**l *t*$_1$ OSV
two postcards.ACC every student signed

b. # Každyj student [dve otkrytki]$_1$ podpis**A**l *t*$_1$ SOV
every student.ACC two postcards signed

The significant interpretative and syntactic differences between neutral scrambling and A'-scrambling suggests that they should be analysed separately. Hence, the present manuscript is divided into two parts: one dedicated to neutral scrambling and one to A'-scrambling. However, as will become evident, the two types of scrambling interact with each other. It will be demonstrated that a neutrally scrambled structure licensed by the need for a prominent argument to linearly precede a non-prominent

[5] Placing IK2 on the focus exponent and destressing the rest of the sentence would result in acceptability of (10a) and (10b) in the given context, provided the subjects are construed as emphatic foci. Emphatic focus is analysed as contrastive in the present manuscript (see Part II chapter 5 section 5.2 for the relevant discussion) and is therefore expected to undergo optional A'-scrambling.

argument can serve as input to subsequent A'-scrambling, as long as one of these arguments is assigned a contrastive reading. The resulting structures can exhibit mixed properties, which is particularly evident if such sentences contain contrastive topics.

The present analysis concentrates on the reordering of NP/DP arguments. An investigation of constructions involving adjuncts or arguments headed by a category other than a noun are left for further research. Although the main focus of the manuscript is on Russian, other scrambling languages will also be briefly considered. Non-scrambling languages, such as English, will occasionally be mentioned in the manuscript in order to demonstrate the differences and similarities between languages with distinct argument order flexibility.

The thesis is organized as follows: Part I is dedicated to neutral scrambling and consists of three chapters. Chapter 2 discusses the formal and interpretative restrictions on neutral scrambling; Chapter 3 investigates the syntax of neutral scrambling; and, Chapter 4 evaluates the implications of the proposal for the analysis of other languages and compares it to other theories of scrambling. Part II is devoted to A'-scrambling and is divided into three chapters. Chapter 5 looks in detail at the distribution of contrastive categories with the aim to provide a coherent definition of contrast that captures the differences in the syntactic behaviour of contrastive and non-contrastive constituents in Russian. Chapter 6 compares the properties of contrastive foci and contrastive topics. Chapter 7 formalizes the interpretation conveyed by constructions containing different types of contrastive categories and discusses the reasons for incompatibility of some of these interpretations with the type of quantification that is forced by focus sensitive operators. Chapter 8 concludes the manuscript.

I. Neutral scrambling

2. Formal and interpretative restrictions on word order variations

2.1 Non-emotive speech and pragmatic presupposition

In Russian, sentences that are affected by neutral scrambling are often analysed as belonging to the so-called non-emotive speech (Yokoyama 1986), along with sentences that exhibit canonical word order. Non-emotive sentences are characterized by neutral intonation with the main sentential stress falling on the most embedded argument in the clause.[6] The sentential stress in non-emotive sentences is represented by IK1 – a pitch accent that falls from neutral speech-level to a much lower pitch-level (Bryzgunova 1981) and is always assigned to the focus exponent (Krylova and Khavronina 1984). Since Russian is a head-initial language with a right-branching structure, the most embedded constituent in the clause occupies the right-most position. Consequently, the surface position of focus in Russian non-emotive sentences is clause-final (see (11)).

11. a. [Kogo pocelovala Katja?]CONTEXT
Who did Catherine kiss?

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Katja	pocelovala	[**A**nju]FOC	SV[O]F
Carherine	kissed	Anna.ACC	

'Catherine kissed Anna.'

b. [Kto poceloval Katju?]CONTEXT
'Who kissed Catherine?'

[6] Sentences with sentence-final adjuncts bearing the main sentential stress are not discussed in the present manuscript as they fall outside of the scope of the analysis of argument reorderings.

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Katju	pocelovala	[**A**nja]$_{FOC}$	OV[S]$_{F}$
Catherine.ACC	kissed	Anna	

'Anna kissed Catherine.'

c. [Komu Anja dala knigu?]$_{CONTEXT}$
'Whom did Anna give a book to?'

\

Anja	dala	knigu	[K**A**te]$_{FOC}$	SVO[IO]$_{F}$
Anna	gave	book.ACC	Catherine.DAT	

d. [Čto Anja dala Kate?]$_{CONTEXT}$
'What did Anna give to Catherine?'

\

Anja	dala	Kate	[kn**I**gu]$_{FOC}$	SVIO[O]$_{F}$
Anna	gave	Catherine.DAT	book.ACC	

'Anna gave a book to Catherine.'

e. [Kto dal Kate knigu?]$_{CONTEXT}$
'Who gave Catherine a book?'

\

Kate	knigu	dala	[**A**nja]$_{FOC}$
Catherine.DAT	book.ACC	gave	Anna

Each sentence in (11) contains a simple focus that is not enriched to yield a contrastive interpretation. It is discussed in great detail in Part II of this thesis what it means exactly for a constituent to be construed as contrastive. For the time being it suffices to say that a non-contrastive focus, which is also known as a *New Information Focus* (henceforth NIF), either contains no link to the previous discourse or, when used in a question-answer context, is linked to a wh-phrase in the preceding question (see (11)).

The term focus is used in the present manuscript to refer to material that transforms an old Common Ground into a new, more specific one (Büring 1997). In other words, focus is the element that updates the Common Ground. In that sense,

focus often represents discourse-new information in the sentence, as opposed to background, which contains material that is already active in the discourse (see (11), where the material not included in the focused phrase belongs to the background: it is present in the immediate context provided by the preceding question). However, a focus may very well contain material present in the immediately preceding discourse. In fact, the entire focused phrase can be discourse-anaphoric, as long as the hearer does not previously know or take it for granted that the focus fulfils the background. This is exemplified in (12), where the focused phrase 'Ivan' is mentioned in the preceding question and in the first part of the reply.

12. a. [Who kissed Ivan's wife?]CONTEXT

[Ivan]FOC kissed Ivan's wife

b. [Kto poceloval ženu Ivana?]CONTEXT Russian
Who kissed Ivan's wife?

\

Ženu Ivana	poceloval	Iv**A**n	OV[S]NIF
Ivan's wife.ACC	kissed	Ivan	

'Ivan kissed Ivan's wife.'

In (12), the subject 'Ivan' in the reply must be analysed as D-linked. At the same time, 'Ivan' provides a value for x in the proposition 'x kissed Ivan's wife' introduced by the preceding question. It can therefore be argued that prior to the reply being uttered, it is not known or taken for granted that the predicate 'x kissed Ivan's wife' can be applied to Ivan to yield a true proposition. In other words, it is presupposed by the question in the context that Ivan's wife was kissed by somebody but it is not known who that somebody is. The reply contains the pragmatically non-presupposed part that fulfils the background and turns it into a true proposition (Büring 1997).

Notably, the requirement for the D-linked focus to follow the background licenses a neutrally scrambled OVS order in (12b), strongly suggesting that the notions background and focus are independent from that of discourse-anaphoricity. Put differently, the data in (12b) can be accounted for if it is assumed that neutral

scrambling can be licensed by a difference in the interpretation of arguments that makes reference to pragmatic presupposition rather than to mere D-linking.

It must be noted that the term presupposition has traditionally been used in two different fields of linguistics to describe two separate phenomena: in semantics, it is used to refer to a condition that has to be fulfilled for a sentence to be either true or false; in works on Information Structure, it denotes the background of a sentence (see Lambrecht's 1994 *pragmatic presupposition*).

As pointed out by Kratzer (2004), the two phenomena cannot be collapsed. While there do not seem to be any purely linguistic constraints on the relationship between a string of backgrounded material and a possible antecedent for it, there is more to semantic presupposition projection than simply finding some matching antecedent somewhere in what was said earlier in a conversation. The different behaviour of semantic and pragmatic presuppositions emerges quite dramatically in the contrast in (13) (Kratzer's 2004:3).

13. a. # Sue doubts that Ed attended the meeting, but/and we all agree that Jill attended the meeting too.

    b. Sue doubts that Ed attended the meeting, but we all agree that [Jill]$_{FOC}$ {attended the meeting/did}.

The example in (13a) illustrates that the presupposition triggered by 'too' cannot access an antecedent that is trapped in the scope of doubt. Backgrounded material in (13b), in contrast, has no problems with a match sitting in exactly the same kind of environment. Pragmatically presupposed material, then, behaves quite differently from semantic presuppositions. If we think of semantic and pragmatic presuppositions as both having to find matching antecedents, then we can say that while for pragmatic presupposition it is sufficient to merely scan a body of text in the preceding discourse for a possible match without paying any attention to the syntactic or semantic properties of the material that separates the match from the item it is a match for, for semantic presuppositions, antecedents have to be accessible in a more constrained sense, which will not be discussed here.

In the present manuscript, I use the term presupposition strictly to refer to pragmatic presupposition or background. Hence, the focus of a sentence is always pragmatically non-presupposed whereas the background is presupposed.[7]

In each of the examples in (11), the background also consists of pragmatically presupposed material, while the focus offers non-presupposed information. For instance, in (11a), the question in the context presupposes that Catherine kissed someone but it is not known exactly who, whereas the answer contains the non-presupposed part 'Anna.ACC' that fulfils the background and turns it into a true proposition (Büring 1997). In other words, the focused constituent in (11a) provides a value for *x* in 'Catherine kissed *x*'.

The interpretative difference between background and focus will be henceforth represented with a binary interpretative feature <±presupposed>. Like all the other interpretative features introduced in this manuscript to characterize information-structural categories, <±presupposed> is not intended as syntactic, but merely specifies interpretative properties of the categories that are associated with a value for this feature. Importantly, this is not to say that the interpretative features discussed here do not have any impact on the syntactic distribution of the categories that are associated with them. However, I will argue that these distributive effects come about as a result of mapping principles that relate syntactic structures to information-structural representations.

Assuming, as before, that focus is the non-presupposed part of a sentence that turns a background into a true proposition, it follows that the pragmatic requirement for the communication to be informative prohibits focusless sentences, with the size of the constituent associated with the non-presupposed interpretation being dependent on how much material is necessarily included in the utterance for it to be informative. Thus, the entire sentence can be focused whenever the relevant sentence occurs with no reference to a context or in a context that requests new information about the entire event such as 'What happened?' or 'What's new?':

[7] Rochemont and Culicover 1990 reject the term 'presupposed' on the basis of its ambiguity and replace it with 'c(ontext)-construable'. However, the latter notion fails to distinguish pragmatic presupposition from discourse-anaphoricity, as is necessary for the analysis of examples of the type given in (12).

14. [Čto slučilos'?]CONTEXT
What happened?

\

[Devočka pocelovala m**A**l'čika]FOC
girl kissed boy.ACC
'The/a girl kissed the/a boy.'

IP-wide focus is often analysed as achieved via so-called focus projection. That is, focus is allowed to project in a bottom-up fashion onto larger constituents dominating the element carrying the main sentential stress until it reaches the node containing material that belongs to the background. As expected, whenever no pragmatically presupposed material is present in an IP, as in (14), the entire clause is focused. Such IPs are traditionally referred to as all-focus (also wide-focus) sentences.

The sentences in (11), on the other hand, are examples of focus-background structures where focus is assigned to a smaller constituent than the IP, i.e. here it is marked on an NP argument. It should be noted that material belonging to the background is only optionally present in focus-background sentences and is often omitted in colloquial Russian. When it is present, however, it consistently precedes constituents bearing NIF, as in (11).

What can be said about Russian then is that it allows deviations from the canonical SVO word order in focus-background sentences, with clause-final focus encoding overriding the unmarked order of constituents. The next section puts the claim that SVO is the unmarked order in Russian under examination and investigates the formal requirements for neutral reordering of arguments in this language.

2.2 Formal restrictions on neutral scrambling

As already mentioned, the freedom in argument order typical of languages like Russian is not unrestricted. To begin with, it can be argued that marked structures require a formal licence. If this hypothesis is correct, then a neutrally scrambled structure should be only possible if the grammatical function of arguments can be identified by means other than their structural position. Whenever such identification

fails, neutral scrambling is blocked because structural encoding of the role that an argument plays in a sentence becomes the only method available. The identification of an argument's grammatical function is most commonly accomplished through a morphological marker it carries.

The hypothesis that such marking is required as a license for neutral scrambling correctly predicts that languages that lack such markers, such as English, also lack neutral scrambling of arguments. Moreover, the flexibility in the neutral reordering of arguments in a given language is directly linked to the diversity of its morphological system. Thus, German is traditionally taken to allow for neutral reordering of objects of ditransitive verbs but not A-scrambling across a subject.[8] By hypothesis, the restriction results from the fact that while German objects are typically distinguished by different morphological markers for the dative indirect object and the accusative direct object,[9] nominative and accusative forms of subjects and direct objects, respectively, often coincide. As a result, the grammatical functions of German objects can be established on the basis of their morphological forms, allowing for neutral scrambling, whereas subjects can often be distinguished from objects only on the basis of their respective structural positions. Similarly, Dutch – a language with a rather deficient morphological case system – allows for neutral reordering of objects only if one of the objects is a PP. This may plausibly be attributed to the fact that Dutch DPs are not morphologically distinct.

It can therefore be hypothesized that neutral scrambling is cross-linguistically unavailable where morphological marking is insufficient to identify grammatical functions unambiguously. This hypothesis finds support even in a language with a very rich morphological system, such as Russian. Despite the morphological richness, with some Russian nouns, the same morphological marker is used for both nominative and accusative cases and can therefore be interpreted as marking either the subject or the direct object of the sentence.[10] In such cases, neutral scrambling is disallowed:

[8] Although German scrambling across a subject feeds variable binding, it fails to feed anaphoric binding. It is therefore unclear what type of reordering it is.

[9] A rare exception constitute German ditransitive verbs that assign inherent accusative to their indirect object, such as *lehren* 'to teach'. Incidentally, object-across-object neutral scrambling is disallowed with such verbs.

[10] Unlike in German, in Russian, such cases are quite rare.

15. Mat' ljubit d**O**č' SVO/*OVS
mother.NOM/ACC loves daughter.NOM/ACC
'Mother loves (her) daughter.'
**'Daughter loves (her) mother.'*

(Jakobson 1971)

In (15), the morphological forms of the nominative and the accusative cases are indistinguishable. As a result, the sentence can only be interpreted as SVO unless additional means of identification are present (see below).

The impossibility of interpreting a sentence with unidentified arguments as OVS strongly suggests that SVO is indeed the unmarked order in Russian. This view is further supported by data that involve arguments with identical cases. In Russian infinitival constructions, the non-finite I° fails to assign nominative case to the subject, so that the latter receives the default Dative case. When verbs like 'pomoč' *to help*, which lexically select a Dative object, appear in such infinitives, it is the SVO order that encodes grammatical functions (16a). A similar situation arises in infinitival double-object constructions (16b), where the relation between the dative subject and the indirect object is encoded by the S-IO order.

16. a. Maše ne pomoč' Iv**A**nu SVO/*OVS
Masha.DAT not help.INF Ivan.DAT
'Masha can't help Ivan.'
**'Ivan can't help Masha.'*

b. Maše nikak ne vernut' SVIOO/*IOVSO
Masha.DAT by no means not return.INF

Ivanu kn**I**gu
Ivan.DAT book.ACC
'There is no way for Masha to return the book to Ivan.'
**'There is no way for Ivan to return the book to Masha.'*

The data in (15) and (16a) demonstrate that neutral reordering is disallowed for unidentified arguments of monotransitive verbs; only the unmarked SVO order is possible. At the same time, identification of just one such argument suffices to make scrambling available. Moreover, this can be any of the two arguments, as shown by the examples in (17).

17. a. Mamu ljubit d**O**č' OVS
mum.ACC loves daughter.NOM/ACC
'Daughter loves (her) mother.'

b. Mat' ljubit d**O**čka OVS
mother.NOM/ACC loves daughter.NOM
'Daughter loves (her) mother.'

Admittedly, the sentence in (17a), where the linearly first argument is identified, is easier to parse than (17b), where the first argument retains its external status during processing until the linearly last argument overrides this. Nonetheless, both sentences in (17) are possible in appropriate contexts and the only available interpretation for them is OVS.

The formal licence for neutral scrambling in Russian can therefore be formulated as in (18):

18. *Formal License for Neutral Scrambling (first version, to be revised)*
Neutral reordering of two arguments is available iff the grammatical function of at least one of these arguments is identified by a distinct morphological marker it carries.

The rule in (18) restricts the formal identification to suffixation. However, morphological identification is not the only mechanism available for identifying the grammatical function of an argument. The relation between the arguments in a sentence can also be signalled by embedding a possessive determiner in one of the arguments:

19. Mat'$_1$ ljubit eë$_1$ d**O**č' OVS
mother.NOM/ACC loves her daughter.NOM/ACC
'Mother is loved by her daughter.'

The availability of identification through possessive embedding results from a peculiarity in the distribution of Russian possessive determiners: Russian reflexives are subject-oriented, whereas a pronoun embedded in an argument can never refer back to the subject of its clause. As a result, a sentence with an embedded pronoun, as in (19), can only be interpreted as having an OVS structure under the co-referential reading.

As expected, embedding a reflexive in the postverbal argument results in the SVO interpretation, see (20).

20. Mat' ljubit svoju d**O**č' SVO
mother.NOM/ACC loves self's.ACC daughter.NOM/ACC
'Mother loves her daughter.'

Apart from morphological identification and identification through possessive embedding, Russian speakers may also rely on formal properties of the linguistic context. Thus, arguments that cannot be distinguished through their own morphology may be identifiable through the morphology of a wh-phrase in the preceding question:

21. a. [Kto ljubit mat'?]$_{\text{CONTEXT}}$
who.NOM loves mother
'Who loves mother?'

Mat' ljubit [d**O**č']$_{\text{FOCUS}}$ OV[S]$_{\text{FOC}}$
mother.NOM/ACC loves daughter.NOM/ACC
'Daughter loves mother.'

b. [Kogo ljubit mat']$_{\text{CONTEXT}}$
who.ACC loves mother
'Who does mother love?'

Mat’	ljubit	[d**O**č’]FOCUS	SV[O]FOC
mother.NOM/ACC	loves	daughter.NOM/ACC	

‘Mother loves daughter.’

In (21), the focused argument is identified by referring back to a wh-phrase whose morphology unambiguously corresponds either to the nominative case, as in (21a), or the accusative case, as in (21b), with the focused argument being interpreted either as a subject or an object, respectively. As can be seen from (21a), whenever the focused argument refers back to a nominative wh-phrase, a scrambled OVS structure results, confirming that the formal licence for neutral scrambling can be provided by formal properties of the linguistic context.

Contextual identification of the type shown in (21) is only available for arguments that receive distinct cases but fail to be distinguished through morphology. Unsurprisingly, structures with identical cases assigned to the arguments, as in (16), cannot benefit from morphological disambiguation, as the wh-phrases in the questions that could precede them would have the same morphological forms for the subject and for the object. However, this does not mean that contextual identification is not available for such structures altogether. As already suggested, whenever morphological identification fails, Russian resorts to structural encoding. This strategy can contribute to identification via the linguistic context as well.

In (22), depending on the structural position of Masha.DAT in the preceding question, that is, preverbal or postverbal, this argument is interpreted as the subject or the object, respectively. Whenever the argument in the preceding question is preverbal and interpreted as the subject, the wh-phrase can only be conceived of as an object. In this case, the focused argument in the reply must also be an object, as in (22b). Whenever the argument in the preceding question is a postverbal object, the wh-phrase and the focused argument in the reply are subjects, resulting in a scrambled OVS structure, as in (22a). The formal licence in (22a) is once again provided by the linguistic context but this time not through morphological but through structural identification.

22. a. [Komu ne pomoč' Maše?]CONTEXT
who.DAT not help.INF Masha.DAT
'Who cannot help Masha?'

Maše ne pomoč' [Iv**A**nu]FOCUS OVS
Masha.DAT not help.INF Ivan.DAT
'Ivan can't help Masha.'

b. [Komu Maše ne pomoč'?]CONTEXT
who.DAT Masha.DAT not help.INF
'Who can Masha not help?'

Maše ne pomoč' [Iv**A**nu]FOCUS SVO
Masha.DAT not help.INF Ivan.DAT
'Masha can't help Ivan.'

Finally, a formal licence can be provided by agreement. Russian inflected verbs consistently agree with the subject of the clause, whereas objects do not enter into agreement with the verb. When arguments cannot be distinguished by their morphology but carry distinct gender or number features, the grammatical function of an argument can be established on the basis of agreement features carried by the inflected verb, as in (23) and (24).

23. a. Roman videl m**A**t' SVO
Roman.MASC saw.MASC mother.NOM/ACC
'Roman saw the/a mother.'

b. Roman videla m**A**t' OVS
novel.NOM/ACC saw.FEM mother.FEM.NOM/ACC
'The/a mother saw a/the novel.'

In Russian the word 'Roman' can either be a proper name, as in (23a), or it can mean *novel*, as in (23b). Because the nominative and the accusative forms of singular inanimate masculine nouns coincide in Russian, the uninflected form of 'Roman' can

correspond either to a nominative proper name or the nominative/accusative noun *novel*. The presence of either masculine or feminine agreement on the verb not only disambiguates the meaning of the word 'Roman' but also the grammatical functions that the arguments carry in the sentence. Thus, whenever the verb has a masculine form, 'Roman' must be the subject of the sentence. In this case, it is still semantically ambiguous but since the verb *to see* selects an animate external argument, a noun with the interpretation *novel* is an unlikely candidate for the subject in (23a). When the verb has feminine features, the feminine argument *mother* is interpreted as the nominative subject of the clause, leaving the accusative inanimate interpretation as the only available for the other argument. In this way, agreement with the postverbal argument provides the formal licence for neutral scrambling, which results in a marked OVS structure in (23b).

A second example can be provided using plural inanimate nouns, whose nominative and accusative forms also coincide in Russian. A sentence containing a singular masculine inanimate argument and a plural inanimate argument can be interpreted either as SVO (see (24a)) or as OVS (see (24b)), but the latter interpretation requires that the verbal agreement identifies the postverbal argument as the subject.

24.	a.	Stakan	pereveshivaet	tar**E**lki	SVO
		glass.SG.NOM/ACC	outweighs.SG	plates.PL.NOM/ACC	
		'The/a glass outweighs (the) plates.'			
	b.	Stakan	pereveshivajut	tar**E**lki	OVS
		glass.SG.NOM/ACC	outweigh.PL	plates.PL.NOM/ACC	
		'The/a glass is outweighed by (the) plates.'			

In summary, the formal licence for neutral scrambling in Russian is not restricted to one particular type of encoding or to the identification of only one particular argument in the scrambled structure. A revised version of the formal licence reflecting these additional options is given in (25).

25. *Formal License for Neutral Scrambling (final version)*

Neutral reordering of two arguments is available iff the grammatical function of at least one of these arguments is identified by linguistic means other than its structural position.

The table below summarizes the findings of this section:

26. *Formal identification of arguments in mono-transitive constructions*

IDENTIFICATION TYPE:	MORPHOLOGICAL IDENTIFICATION	IDENTIFICATION THROUGH POSSESSIVE EMBEDDING	CONTEXTUAL IDENTIFICATION	IDENTIFICATION THROUGH AGREEMENT
IDENTIFIED ARGUMENT:	S/O	S	S	S

The table in (26) shows for each type of identification, which argument provides the formal licence for scrambling. In three out of four cases, the identified argument is the one that surfaces in an unexpectedly low position. This is because (i) in mono-transitive constructions, possessive pronouns can only be embedded in a subject NP in order to be bound by an object NP (in ditransitive constructions, they can be embedded in the other object); (ii) contextual identification applies to a focused argument, which in a scrambled mono-transitive construction is the subject; and (iii), agreement in Russian is with the subject, restricting this type of identification to subjects as well.

So far this section has only been concerned with mono-transitive constructions. However, as is evident from (11c) and (11d), objects of ditransitive verbs are also subject to focus encoding. That is, depending on the information structure of the sentence, either the SVOIO or SVIOO order surfaces. The unmarked order of objects of a ditransitive verb, however, cannot be established on the basis of identical cases or morphological/phonological forms. There are two reasons for this. First, Russian lacks constructions where both objects are assigned identical (accusative) case. Second, Dative object NPs in Russian always carry distinct morphological case markers.

Since the formal license is always available for object-across-object scrambling, other tools must be used in order to determine the unmarked order of Russian objects.

By hypothesis, apart from a formal license, neutrally scrambled structures require an interpretative license. If so, a way to test the unmarked order of objects is to remove the interpretative license, that is, to place the objects into a construction where no information-structural encoding takes place. The next section spells out the nature of the interpretative license for Russian neutral scrambling and investigates ditransitive constructions in contexts with no information-structural encoding, with the outcome that SVOIO is the unmarked order in Russian (see also Bailyn 1995 for an analysis of the SVOIO structure as reflecting the unmarked order of Russian objects).

2.3 Interpretative restrictions on neutral scrambling

2.3.1 The information-structural level

Since Russian scrambled sentences can be truth-conditionally identical to those exhibiting unmarked orders, it is reasonable to hypothesize that the former convey an additional non-truth-conditional interpretation that is unavailable for the latter.[11] Such an approach fits well with a model of grammar that incorporates principles of economy. After all, scrambled structures may be characterized as 'costly' in comparison to unmarked ones, either because they are derived through additional syntactic operations (cf. the idea of movement as a Last Resort in Chomsky's version of Minimalism, Chomsky 1995) or because their representations have additional content (see Chapter 3). By economy, the simpler canonical structure is expected to consistently block the more complex scrambled construction, unless the latter

[11] An exception form scrambled sentences that encode quantifier scope relations, which are not truth-conditionally identical to sentences exhibiting unmarked orders and are not necessarily conveying an additional non-truth-conditional interpretation. That is, Russian neutral scrambling can be licensed solely by quantifier scope considerations rather than by any information-structural needs. This, however, is only possible in sentences with a wide focus, as information-structural encoding of focus and background interferes with quantifier scope encoding and overrides it in Russian. Since quantifier raising is impossible in Russian (although see footnote 42), other tools, such as morphology, are applied in order to encode a particular scopal reading in Russian narrow-focus sentences. For instance, a distributive preposition '-po' taking an indefinite as its complement can be used to achieve the distributive interpretation that is otherwise encoded by the universal c-commanding the indefinite.

achieves an interpretation that the former fails to convey. As argued below, in many cases, the relevant interpretation is linked to the relative *information-structural* prominence of arguments.

In previous sections, we have briefly looked at two information-structural interpretations that have an effect on the order of Russian arguments – D-linking and pragmatic presupposition, with the former distinguishing discourse-anaphoric material from discourse-new constituents, and the latter discriminating pragmatically presupposed constituents from non-presupposed categories. The hypothesis put forward here is that a syntactic constituent can be associated with such an information-structural interpretation as a result of mapping principles that relate syntactic structures to information-structural representations. To be precise, the theory presented here does not countenance the view that syntactic representations contain features such as [Focus], [Contrast] or [Background], of which some can trigger syntactic movement. On the contrary, information-structural interpretations are taken here to be encoded at the postgrammatical level of discourse. Although the present analysis could in principle be adjusted to have the above features in syntax, I believe that there are no convincing theoretical or empirical reasons for doing so.

From the minimalist perspective, having information-structural features in syntax requires that one either stipulates that the information-structural interpretations are stored in the mental lexicon or that the relevant features are added to constituents in the course of the derivation. Few linguists would seriously consider the first of these options, given that being a focus, background or topic is not a lexical property. That is, words and phrases can be categorized as such only when used in a specific context. The second option, that of adding information-structural features in the course of the derivation, demands a weakening of the Inclusiveness of Chomsky 1995, according to which only those features can figure in syntactic computations that represent properties of lexical items (see Fanselow and Lenertová 2011, Szendrői 2001, Szendrői 2004, Neeleman and Szendrői 2004 and den Dikken 2006 for relevant discussion).

Furthermore, the assumption that information-structural features are syntactic makes incorrect predictions about the nature of the syntactic processes licensed by the relevant interpretations. To give an example, analysing A'-scrambling of contrastive categories as triggered by a syntactic feature such as, for instance, [CONTRAST] (cf. Molnár 2002) implies that in a given language and in a given context, contrastive

categories should consistently undergo A'-movement. Yet, it is well known that in many languages, including Russian, this type of A'-movement is optional. That is, contrastive categories can either move or remain in situ in exactly the same context. Since the hypothetical syntactic feature that triggers movement of such categories cannot be strong and weak at the same time, the framework that assumes information-structural features in syntax seems ill-equipped to deal with such data.

It is for the above reasons that I propose that the relative information-structural prominence of arguments is not encoded in narrow syntax but is inferred at the postgrammatical level of discourse from the linear order of arguments and from the placement of the nuclear stress in PF (see Reinhart 2006 for related ideas). At the core of this hypothesis lies the intuition that grammar is capable of generating marked representations along with unmarked ones, where the notion 'marked' refers either to syntactic markedness of scrambled structures, or to prosodic markedness of representations involving a stress-shift operation. The notion 'unmarked representation' is used here to capture the general observation that syntax has the tendency to structurally represent thematic prominence via overt c-command, whereas PF has an inclination to place nuclear stress on the syntactically most embedded constituent in the clause (see Cinque's 1993 Nuclear Stress Rule). When these tendencies are respected, syntactically and prosodically unmarked structures result. On the other hand, there are additional, at times contradictory, requirements to align nuclear stress with the focus of the sentence (or in our terms with the <-presupposed> interpretation), as captured by (27), as well as to linearly represent information-structural prominence, as illustrated in (28), where '>>' stands for linear precedence. Whenever the requirement to linearly represent information-structural prominence overrides the thematic prominence encoding via overt c-command, a syntactically marked representation is created. Whenever the need to align nuclear stress with the focus of the sentence overrides nuclear stress placement on the most embedded constituent in the clause, a prosodically marked structure is created. It can therefore be postulated that linear order of arguments along with sentence stress placement is what dictates which prominence relations are available at the discourse level.

27. *The focus set*: The *focus set* of a derivation D includes all and only the constituents that contain the main stress of D.

Reinhart (2006 : 158)

28. *Information Structural Well-Formedness Constraint*

ARGUMENT		ARGUMENT
[+IS-prominent]	>>	[-IS-prominent]

I will assume that the requirement to align nuclear stress with the focus of the sentence is inviolable in all languages that mark focus prosodically, whereas the requirement to linearly represent information-structural prominence is universal but can be violated in a given language, in particular, if an alternative structure that obeys it fails to be generated in syntax. The constraint in (28) can be seen as a discourse filter that applies at the postgrammatical level of discourse and, along with (27), filters out illicit representations, i.e. those that do not fit the given context.

The mechanism of the application of this filter will be discussed extensively in the course of this manuscript. The core intuition behind it is that the relative information-structural prominence of arguments can be inferred solely on the basis of the representation that is output to PF. Previously, we have hypothesized that a syntactic constituent can be associated with a particular information-structural interpretation as a result of mapping principles that relate syntactic structures to information-structural representations. However, the present analysis does not adopt the view that a syntactic structure is *directly* mapped onto an information-structural representation that obeys (28). That is, the mapping from syntax to information-structure is taken here to be *indirect*. Assuming that PF makes reference to syntactic structure, it is plausible that PF can detect the marked/unmarked nature of the syntactic representation that is input to PF. In fact, it will be argued in chapter 3 that PF detects the marked order of assignment of theta-roles in the marked syntactic representation and makes it visible through inflectional morphology. One way of putting it is to say that PF *inherits* the markedness of the marked syntactic representation that is mapped onto PF and makes it visible in its representation. Consequently, the representation that is output to PF represents not only the marked/unmarked prosody, indicated by the stress placement, but also the

marked/unmarked nature of the syntactic representation that is input to PF. The latter is arguably represented in the PF representation in form of morphological case (henceforth m-case) markers. Hereafter, whenever the analysis refers to mapping from syntactic representations onto information-structural representations, the above-described indirect mapping through PF must be understood.

The idea of direct mapping from syntax to discourse is rejected here for several reasons. First, the rule in (27) is inviolable in all languages that use stress to encode focus, whereas the requirement for transparent mapping onto a discourse template that respects (28) can be disregarded in all languages known to me. It seems then that the inference of the relative information-structural prominence (or of the focus set) on the basis of the stress placement takes priority cross-linguistically and can therefore not be overlooked in a theory of information structure. Moreover, even in Russian – a language that strongly favours transparent mapping onto (28) –, the focus rule in (27) overrides information-structural encoding on the basis of word order. That is, the information structure of a sentence can be encoded on the basis of the order of arguments iff the sentence has an unmarked prosodic structure with nuclear stress on the most deeply embedded argument. As soon as the prosodic structure is marked, i.e. involves a stress shift to an argument, the order of arguments becomes irrelevant for the information-structural encoding. (An example that demonstrates this is given in (35) below). Crucially, encoding on the basis of word order is operative only when there is default prosodic encoding, i.e. PF contains a default operation of Nuclear Stress Rule. If so, encoding on the basis of prosody is not only necessary but even more important than encoding on the basis of word order, as the former overrides the latter. As a result, an analysis that assumes direct mapping of syntactic representations onto information-structural representations can only account for data with unmarked prosodic structures. On the other hand, it is plausible to assume that the PF representation inherits the marked character of the syntactic representation that is input to PF and represents it along with the marked/unmarked prosodic pattern. The relative information-structural prominence of arguments can therefore be detected solely on the basis of the PF representation.

Given the globally economical character of grammar, it is not expected to generate a vast number of PF representations with each of them fitting one specific context. Instead, it arguably generates just two PF representations for a numeration containing a monotransitive verb, a marked and an unmarked one, each of which is

capable of fitting a number of contexts.[12,13] A PF representation can be marked or unmarked either depending on the nature of the syntatic representation (i.e. marked or unmarked) that is input to PF, or depending on the stress pattern. Importantly, a PF representation cannot be marked on the basis of both prosody and the syntactic structure in its input. That is, a prosodically marked PF representation only takes syntactic representations as its input that do not have an alternative (marked) representation. By analogy, whenever syntax generates a pair of representations <marked; unmarked>, PF must assign a default stress pattern, as determined by the Nuclear Stress Rule, to both. Consequently, a PF representation is either unmarked, or, when marked, it is either marked by inheritance from syntax or it is prosodically marked.

By economy, the simplest unmarked PF representation fits the majority of contexts, whereas the marked PF representation is used only when the unmarked one fails to fit a given context. Together, the marked and the unmarked PF representations are sufficient to capture all the imaginable information-structural prominence relations of arguments.

The idea that, at least in non-scrambling languages such as English, the focus set is inferred from the placement of the nuclear stress in PF has been argued for quite extensively in the linguistic literature (see Arregi 2003, Elordieta 2001, Ishihara 2000, Neeleman & Reinhart 1998, Reinhart 1995, Samek-Lodovici 2005, Selkirk 1995, 2006, Szendrői 2001, Zubizarreta 1998 and Zubizarreta & Vergnaud 2000). On the other hand, since scrambling languages use word order variation rather than just stress to encode information-structural prominence, it has been proposed that syntactic scrambling itself takes place in order for the focused constituent to end up in the position of nuclear stress (Samek-Lodovici 2005, Szendrői 2003, Zubizarreta 1994 and 1998). In other words, syntactic scrambling is prosodically conditioned under this approach. The current analysis does not adopt the latter idea. Instead, I would like to argue that the option of inferring the focus set (or the information-structural prominence) on the basis of linear ordering of constituents is independent from the nuclear stress placement.

[12] For a ditransitive verb, it must be assumed that grammar generates more marked representations.

[13] Representations involving A'-movement and contrastive interpretation are not discussed here. They will be considered in Part II of this manuscript.

The reason for not adopting the stress-driven approach to scrambling will become apparent in section 2.3.2, when the interpretations licensing neutral scrambling will be discussed. It will be shown that scrambling can be licensed by an interpretation not related to focus encoding and the <±presupposed> feature. In this case, stress does not have to be assigned to the argument surfacing in an unexpectedly low position and can instead be carried by a non-argument. Moreover, it will be demonstrated in section 3 that neutral scrambling can be licensed by syntactic considerations, such as binding. In this case, narrow focus on the scrambled object is indicated via stress-shift. These data can be understood only if neutral scrambling is divorced from nuclear stress assignment. Furthermore, data involving contrastive focus, which will be discussed in Part II, offer additional evidence against the stress-driven approach to scrambling. There, it will be shown that the focus of a Russian sentence can be interpreted in a position that does not receive the main stress of the sentence, strongly suggesting that syntactic focus encoding is independent from nuclear stress assignment (see also Neeleman and Titov 2009 for the relevant discussion).

The inference of the focus set, or more precisely, the relative information-structural argument prominence, on the basis of the linear order of arguments will be argued here to be largely analogical to the postgrammatical inference of the focus set on the basis of the nuclear stress placement as developed in Reinhart 1995 and Reinhart 2006. The core idea of Reinhart's analysis is that any element containing the nuclear stress might be interpreted as focus, and hence, a single nuclear stress placement might mark different focus-structures. This idea implies as a natural consequence the notion of focus projection. According to this view, if nuclear stress falls on the most deeply embedded element, this stress placement will be able to convey many different focus-structures (i.e. all the constituents containing the nuclear stress up to the whole sentence). The main consequence that follows from this interrelation between phonology (via the nuclear stress), syntax (the properties of clausal architecture), and information structure (the focus of a sentence) is that a sentence does not have an 'actual focus' per se but rather 'a set of possible foci', that is, the set of nodes that an actual nuclear stress placement can mark as focused (Reinhart 2006).

In the unmarked case, the Nuclear Stress Rule assigns nuclear stress to the most embedded position and therefore the object. In an SVO sentence of a language like English, the nuclear stress on the object may mark as focused either the direct object itself, or the VP, or the whole clause. According to Reinhart (2006), 'focus projection' is automatic, with the discourse deciding what the actual focus is from among the elements in the focus set.

Translated into our terminology, an English SVO sentence with nuclear stress on the object allows for two out of three argument prominence relations given in (29), where the relative argument prominence is encoded on the basis of the <±presupposed> interpretation.

29.	i.		$S_{[+presupposed]}$ V $\mathbf{O}_{[-presupposed]}$	=		$S[VO]_F$/ $SV[O]_F$
	ii.		$S_{[-presupposed]}$ V $\mathbf{O}_{[-presupposed]}$	=		$[SVO]_F$
	iii.	*	$S_{[-presupposed]}$ V $\mathbf{O}_{[+presupposed]}$	=	*	$[S]_F$VO/*[$S]_F[V]_F$O

As observed by Reinhart (1995, 2006), the above-described strategy will not serve to mark narrow focus on the subject since the latter does not contain the nuclear stressed element. In other words, an unmarked representation cannot capture the interpretation where the subject is <-presupposed> and the object <+presupposed>, as in (29iii), and a prosodically marked representation must be used instead.

According to Reinhart (1995, 2006), in order to mark focus on a phrase that cannot be focused by the default focus projection of the object (i.e., a phrase which is not in the original focus set), some marked strategies must be employed. For instance, in English-like languages — where focus does not affect word order —, a deaccentuation rule will deaccent the object and a marked stress rule will assign nuclear stress to whichever element has to be interpreted as focused. Having the nuclear stress on the subject, a new focus set is created and the elements in this set (in particular the subject) can be interpreted as focus. However, since nothing in the system stops the relevant set to contain a TP and a CP constituent, the latter options must be ruled out by the principles of economy. That is, since the sentence-wide focus interpretation could have been obtained via the regular projection algorithm from the nuclear stress on the object and without having to incur into marked operations (see (29ii)), it is anti-economical to use the marked structure for this interpretation. To put

it differently, the marked structure with the stress-shift is used only for the interpretation that the unmarked structure fails to capture, namely the one in (29iii), where the subject is <-presupposed> and the object <+presupposed>.

Let us now see how the above ideas can be applied to the *syntactic* encoding of the relative information-structural prominence of arguments in scrambling languages. We have hypothesized that, as long as the PF representation has unmarked prosody, the relative argument prominence can be inferred at the discourse level not only from the placement of the nuclear stress in PF but also from the linear order of arguments, which is typically encoded in PF in the form of m-case markers. We have also assumed that a syntactically unmarked representation is the one where thematic prominence is aligned with overt c-command (just like a prosodically unmarked representation is the one that has nuclear stress on the object). After a syntactically unmarked structure is linearized (at Spell-Out), the rightmost constituent is the object, and it is the constituent that by default receives the nuclear stress at PF. The unmarked SV**O** PF representation encodes two out of three interpretations in (29) in both scrambling an non-scrambling languages, such as Russian and English, respectively. Putting it in Reinhart's terms, it can be used in a context that either requires focus on the object, or the VP, or the whole clause. That is, up to this point, Russian and English behave identically. However, the interpretation that the unmarked PF fails to represent, i.e. where the subject is <-presupposed> and the object <+presupposed>, as in (29iii), is typically encoded in Russian not via marked prosody but a marked syntactic structure. Previously, we have argued that the unmarked prosodic operation represented by the Nuclear Stress Rule competes with the marked prosodic operation involving stress-shift in English. The output of both operations obeys (27) but the prosodically marked PF representation is interpretatively restricted by economy. Similarly, the unmarked alignment of thematic prominence with overt c-command competes with the marked misalignment of thematic and structural prominence that does not maximally reduce the content of the projecting predicate (see chapter 3). The output of both operations obeys (28) but the inherently marked PF representation is interpretatively restricted by economy. That is, in both English and Russian a prosodically and inherently unmarked PF representation fails to fit a context requiring the interpretation in (29iii), and a marked representation must be used. In English, the relevant PF representation is prosodically marked (but inherently unmarked), whereas

in Russian, it is typically marked by inheritance from syntax (but prosodically unmarked).

The nature of the operation that creates marked syntactic structures in Russian will be discussed in detail in chapter 3. For the time being, it can be said that the outcome of this marked syntactic operation is a misalignment between thematic prominence and overt c-command. That is, in a syntactically marked structure, the thematically prominent argument (e.g. Agent) no longer c-commands the thematically non-prominent argument (e.g. Theme); the c-command relations become reversed. After a syntactically marked monotransitive representation is linearized (at Spell-Out), the rightmost constituent is no longer the object but the subject. Moreover, being now the most deeply embedded constituent in the syntactic structure, the subject receives the nuclear stress from the default Nuclear Stress Rule. In other words, the resulting PF representation is prosodically unmarked but its input is syntactically marked, i.e. the PF representation is marked by inheritance.

The inherently marked OV**S** construction is used in Russian for the interpretation in (29iii), just like the prosodically (but not inherently) marked PF representation with a stress shift to the subject is used for the same interpretation in English. To put it differently, in Russian, the required interpretation can be inferred on the basis of the linear order of arguments and the default stress, with no additional prosodic operations needed. In Reinhart's terms, the focus-set for the marked OV**S** representation will include either the subject alone or the constituent containing the subject and the verb. By economy, the sentence-wide focus interpretation must be unavailable for the marked OV**S** representation despite the IP-constituent containing the nuclear stress and therefore being in the focus-set, as this interpretation is already captured by the unmarked SV**O** representation. In the majority of cases, this is indeed true.

However, as will become apparent in the course of this thesis, languages that generate alternative (e.g. marked) representations in syntax are capable to linearly represent the relative interpretative prominence of arguments on the basis of a variety of interpretations. When the relative prominence of arguments is encoded on the basis of an interpretation other than <±presupposed>, an OV**S** structure can be used in an all-focus context, as long as the encoding of this additional interpretation obeys (28). In this case, interpreting a marked OV**S** structure as having IP-wide focus is not anti-

economical, as it does indeed capture an interpretation that is unavailable for the unmarked SV**O** construction, only this time, the relevant interpretation is independent from focus encoding and the feature <±presupposed>.

A marked PF representation is argued here to be used at the discourse level iff it obeys (27) (and if it is marked by inheritance, maps transparently onto a discourse template that respects (28)), whereas the corresponding unmarked representation fails to do that. Above we have hypothesized that (27) applies in all languages that mark focus prosodically, and that (28) is universal. Moreover, I would like to propose that both constraints are inviolable. The last point might seem controversial at first, as not all languages seem to consistently linearly represent the relative information-structural prominence of arguments. However, I would like to argue that all languages aim at respecting (28). That is, the discourse principle of disposing of information that is already prominent in the discourse before as yet non-prominent material is constant across languages. Even non-scrambling languages, such as English, make use of all available syntactic structures to obey (28). Thus, syntactically marked constructions involving relative clause extraposition and heavy NP shift can be chosen over unmarked structures in English whenever the extraposed material is <-presupposed>, while the rest of the sentence is <+presupposed> (Williams 2003). Similarly, English passive constructions are chosen over active sentences whenever the former but not the latter map transparently onto a template that respects (28) (see chapter 3). At the same time, the syntax of a given language may fail to make available a syntactic structure that maps transparently onto a representation that obeys (28). Logically, in the absence of such a syntactic representation, twisted mapping onto a template that obeys (28) is the only option. What is violated in that case, however, is not (28) – the discourse principle holds -, but the transparent mapping onto a discourse template that obeys (28). Importantly, the violation of the transparent mapping onto a template that respects (28) must be made visible at PF via stress-shift – a marked operation that is available as a consequence of (27). Another way to put it is to say that whenever syntax does not generate a pair of representations <marked; unmarked> but instead produces only one representation (which must be analysed as unmarked as it does not have a competing alternative that is less costly), PF cannot inherit markedness from syntax and must create a pair <marked; unmarked> in prosody in order for both PF representations, marked and unmarked, to be available at the discourse level.

Consequently, one way of capturing the observation that some syntactic structures linearly represent the relative information-structural prominence of arguments, while others do not is to say that a syntactic representation either has a transparent mapping onto an information-structural representation that obeys (28) or not. (As before, the mapping from syntax to discourse is assumed to be indirect).

It must be noted that the idea of information-structural representations is used here merely for the ease of presentation. It should not be understood as implying that discourse generates representations in the same way as syntax does. Such an assumption would be incompatible with the idea adopted here that the discourse level is postgrammatical and therefore lacks creative power. (Recall, that there are strong empirical and theoretical reasons not to assume that discourse interpretations are encoded in grammar.) What discourse does is simply choose the appropriate representation created by grammar for a given context. Since this choice is partially conditioned by (28), I will assume an abstract discourse template that obeys (28), onto which representations created in grammar are mapped (or through which they must be filtered).

The tendency for a transparent mapping onto an information-structural representation that obeys (28) can be represented in the form of a correspondence rule that mediates the interface between grammar and discourse. Here, I am adopting the rule proposed in Jackendoff 1997:

30. *General form of Syntactic Structure – Conceptual Structure correspondence rules*
    Syntactic structure X
    {must/may/preferably does}
    correspond to conceptual structure Y.

    Jackendoff 1997:17

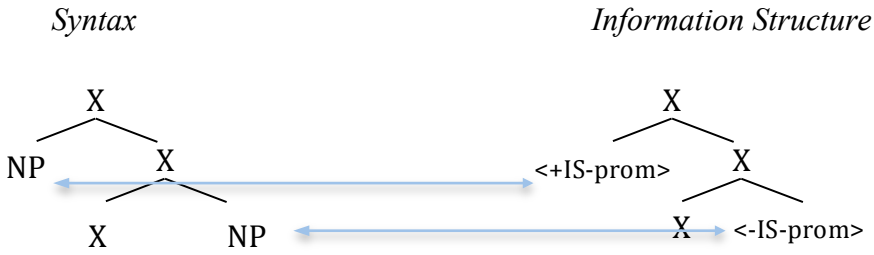
The rule in (30) is used by Jackendoff (1997) as a a broad-spectrum correspondence rule mediating the interface between syntactic structure and conceptual structure, rather than between syntax and discourse alone. I will adopt this idea and treat the mapping between syntax and discourse as a special case of (30), as captured by (31).

31. *Interpretative License for Neutral Scrambling in Russian (to be revised)*
Interpret a neutrally scrambled structure as reflecting the relative prominence of two arguments, where the argument in a scrambled position is construed as <+prominent> and the argument in the position across which scrambling takes place as <-prominent>.

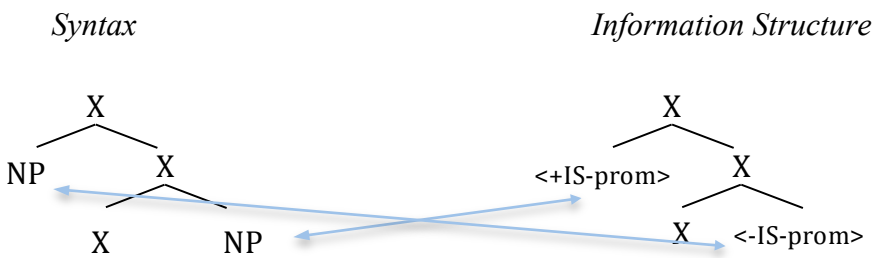
The main idea behind (30) (and (31)) is that it *favours* transparent mapping of representations created in grammar onto discourse representations that obey (28). However, as transparent mapping onto well-formed information-strcutural representations requires that alternative (e.g. marked) representations are created in syntax (and not at PF), it cannot always be sustained. That is, whenever syntax fails to make available a representation for a given numeration and a given truth-conditional interpretation that matches (28), and it is PF that must create an alternative prosodic representation, transparent mapping can no longer be maintained. This is why the rule in (30) only favours transparent mapping and does not demand it. In other words, whenever syntax creates two minimally distinct structures for a given numeration and a given truth-conditional interpretation, one of which can be mapped transparently onto the information-structural template and one of which cannot, the former is chosen over the latter, as it is that structure that passes the information-structural filter. However, whenever a syntactic structure that maximally reflects information-structural prominence cannot be created, twisted mapping from syntactic structure to information-structure becomes the only option available.

Transparent and twisted mapping from syntax onto information structure are illustrated in (32a) and (32b), respectively. (For presentational convenience, the mapping is structurally represented in (32a) and (32b). It must, however, be understood as matching two linear representations. That is, the representation created in syntax is linearized before it is mapped onto a structurally flat information-structural representation.)

32. a. Transparent Mapping ☺



b. Twisted Mapping ☹



The proposed analysis has several consequences. First, it is expected that in a language that consistently fails to make available syntactic structures that optimally reflect information-structural prominence (for reasons to be discussed in Chapter 3), the rule in (30) is regularly disobeyed. English is an example of such a language. The unavailability of OVS constructions in English, results in twisted mapping from syntax to information-structure, whenever the object is information-structurally prominent while the subject is not:

33. [Who kissed Mary?]$_{\text{CONTEXT}}$

\

a. J**O**hn$_{\text{<-prominent>}}$ kissed Mary$_{\text{<+prominent>}}$ SVO

\

b. # Mary$_{\text{<+prominent>}}$ kissed J**O**hn$_{\text{<-prominent>}}$ *OVS

In (33), the relative argument prominence is established on the basis of the <±presupposed> feature, with the object being <+presupposed> and the subject <–presupposed>. Transparent mapping onto an information-structural representation that obeys (28) would result in the <+presupposed> argument preceding the <–presupposed> argument. However, a syntactic structure that maximally reflects this

information structure cannot be created in English. This is because (33b) cannot be interpreted as OVS, despite sufficient contextual identification of the grammatical function of the arguments in (33). Consequently, the rule in (30) must be disobeyed for the structure in (33a) to surface. A violation of (30) is allowed iff PF creates a marked prosodic representation for (33a) (the one that involves stress-shift).

The second consequence of the proposed analysis is that, since a marked PF representation that correctly captures the relative information-structural prominence of arguments can be either marked by inheritance from syntax or via a prosodic operation of stress shift, there could exist languages with a rich enough morphological system that have a free choice between the two strategies. German can be analysed as one such language. That is, for German object-across-object scrambling, either strategy seems to be freely available, as the same context allows either for structures involving a neutral stress pattern and a scrambled order of objects that map transparently onto (28), or for constructions that involve unmarked orders and a stress-shift operation (Lenerz 2002).

And finally, there could exist languages in which syntactic encoding of information-structural prominence dominates over the prosodic encoding. I would like to argue that Russian is a representative of such a language. For Russian, twisted mapping of the type illustrated in (32b) and (33a) can be seen as a last resort operation. It is allowed iff a syntactic structure allowing transparent mapping cannot be created for a given numeration and a given truth-conditional interpretation. What can be said about Russian then is that its flexible surface order allows for fewer violations of (30). However, even for Russian, it would be incorrect to assume that no structure ever disobeys (30). Even in this language, syntax imposes further constraints on syntactic structures that occasionally prevent transparent mapping onto information-structural representations. In such cases, a violation of (30) is the only option available. As expected, the violation must be made visible at PF via stress-shift.

The examples of violations of (30) in Russian are discussed in detail in Chapter 3. All of them result from the fact that, for a given numeration and a given truth-conditional interpretation, syntax produces only one representation (or, in case of ditransitive constructions, not enough alternative representations). That is, an alternative representation fails to be created in syntax either because it cannot capture

the required truth-conditional interpretation, or because it violates a syntactic well-fromedness constraint. Moreover, the alternative syntactic representation that fails to be created does not have to be a scrambled representation, it can be the one that represents the canonical argument order. In other words, the syntax of Russian might produce only a scrambled structure for a given numeration and a given truth-conditional interpretation. This structure, however, cannot be analysed as marked. This is because the proposal just outlined treats a neutrally scrambled structure as marked only when its canonical counterpart is unmarked. If this is correct, then the scrambled structure ceases to be marked if the canonical structure is unavailable. It is therefore predicted that a neutrally scrambled structure may fail to trigger transparent mapping to information structure if its canonical counterpart cannot be generated in syntax. In this case, it is PF that has to produce a marked prosodic representation that fits a context that requires twisted mapping.

One example of such a scrambled structure has already been discussed in section 2.2; it is given in (19), repeated in (34). As already mentioned, in Russian, the local binder of a pronoun embedded in an argument of a monotransitive verb can only be interpreted as an object, resulting in an OVS interpretation for (34). Whenever this object is the narrow focus of the sentence, a marked prosodic representation is used to encode this discourse interpretation (see (35a)). This is because an $SV[O]_F$ structure cannot be generated for the interpretation where the pronoun is coreferential with *mat'* 'mother' (see (35b)), as in such a structure the pronoun is not c-commanded by its antecedent and can therefore not be bound by it. (For reasons of why the pronoun cannot be linked to *mat'* 'mother' via coreference in (35b) see chapter 3).

34.	Mat'$_1$	ljubit	eë$_1$	d**O**č'	OVS
	mother.NOM/ACC	loves	her	daughter.NOM/ACC	
	'Mother is loved by her daughter.'				

35. ['Kogo ljubit eë doč'?]$_{CONTEXT}$
Who is loved by her daughter?

\

a. M**A**t'$_1$ ljubit eë$_1$ doč' [O]$_F$VS
mother.NOM/ACC loves her daughter.NOM/ACC
'Mother is loved by her daughter.'

\

b. * Eë$_1$ doč' ljubit m**A**t'$_1$ SV[O]$_F$
her daughter.NOM/ACC loves mother.NOM/ACC

The examples in (34) and (35a) suggest that neutral scrambling can be licensed in Russian by syntactic considerations such as binding rather than the need for the transparent mapping onto an information-structural template that obeys (28). It is therefore unsurprising that Russian neutral scrambling may also be input to a mapping rule that is unrelated to information structure. For example, the mapping rule in (30) might map a scrambled syntactic representation to a full representation of scope at LF. In such a case, neutral scrambling is licensed not by (31) but by a special case of (30) that relates to quantifier scope.

Notably, the interpretative license for Russian neutral scrambling can be provided by quantifier scope considerations only if such a mapping does not result in twisted mapping onto an information-structural representation that obeys (28). That is, we have already seen that Russian unmarked and neutrally scrambled structures consistently exhibit surface scope. In a context where no information-structural encoding takes place (i.e. in an all-focus context), a scrambled structure can be used if it captures a quantifier scope relation that the corresponding unmarked structure fails to represent. However, whenever there is a clash between the information-structural prominence and the required quantifier scope reading, the representation used at the discourse level must reflect the former rather than the latter. That is, whenever Q_1 is <+prominent> and Q_2 is <-prominent>, the former must precede and outscope the latter. In such a context, an inverse quantifier scope relation can only be encoded via morphology (see also footnote 11).

The above observations demand a modification of (31) in order to include the intuition that a neutrally scrambled structure is used at the discourse level iff (i) the corresponding unmarked syntactic structure is not made available, or (ii) the scrambled structure maps transparently onto a full representation of scope and/or onto

an information-structural representation that obeys (28), whereas the corresponding unmarked structure requires twisted mapping.

The revised version of the interpretative license for Russian neutral scrambling is given in (36):

36. *Interpretative License for Neutral Scrambling in Russian (to be revised)*
Provided that no syntactic restrictions prevent the generation of an unmarked structure with a given truth-conditional interpretation, interpret a neutrally scrambled structure with this interpretation as reflecting the surface quantifier scope relation and/or the relative prominence of two arguments, where the argument in a scrambled position is construed as <+prominent> and the argument in the position across which scrambling takes place as <-prominent>.

The rule in (36) refers solely to scrambled structures for two reasons. First, unmarked structures are not expected to require an interpretative licence. They are already the most economical structures and are therefore expected to block generation of more complex scrambled structures unless the latter achieve an interpretation that the former fail to express. Second, there is empirical support for the view that only marked structures require an interpretative license. Although any structure in Russian aims to reflect the information-structural prominence of arguments, it is the unmarked structure that is consistently used in the absence of encoding of interpretative prominence, that is, when arguments have identical information-structural interpretations (see 37ii and 37iii).[14] In such a case, the unmarked structure vacuously satisfies the requirement for a prominent argument to precede a non-prominent argument, and so it does not strictly speaking disobey (30). The important observation, however, is that a neutrally scrambled structure cannot be used in the same context. In other words, a neutrally scrambled structure is more restricted in its availability in that it can only be chosen over an unmarked structure when the latter fails to transparently map onto an information-structural representation that obeys

[14] As already discussed, marked constructions that represent a quantifier scope relation that the unmarked structure fails to capture constitute an exception to this generalization. That is, these marked structures can be used in a context where arguments have identical discourse status. (Scrambled structures that do not have an unmarked counterpart are analysed as unmarked here.)

(28), as in (37iv). Therefore, what can be said about Russian neutral scrambling is that it forms a structure that is input to transparent mapping onto a well-formed information-structural representation, as in (38), if the corresponding unmarked structure requires twisted mapping, as in (37iv).

37. i. S[+prominent] V **O**[-prominent]
ii. S [-prominent] V **O**[-prominent]
iii. S[+prominent] V **O**[+prominent]
iv. * S [-prominent] V **O**[+prominent]

38. O[+prominent] V **S** [-prominent]

As shown in (37), Russian unmarked SVO structure can be transparently mapped onto information structures that obey (28) in all the cases except the last one, with the second and the third configurations giving rise to information-structural representations that vacuously satisfy (28). Since the SVO structure fails to transparently map onto a well-formed information-structural representation whenever the object is interpreted as [+prominent] and the subject as [-prominent], a marked structure must be constructed (see (38)). Importantly, the scrambled structure in (38) is used only to convey this particular interpretation and no other, as all the other interpretations are already captured by the simpler canonical construction.

The interpretative license in (36) implies that a structure of neutral scrambling contributes to a simplification of the mapping between syntax and information structure. In particular, it must allow an information-structural partitioning that satisfies the constraint in (28). For instance, when the relative prominence of arguments of a monotransitive verb is established on the basis of the <±presupposed> feature, only the following configuration is permitted for a scrambled construction: O<+presupposed>V S<-presupposed>. By contrast, an unmarked structure suffices if both arguments carry an identical value with respect to the <±presupposed> feature (see (37ii) and (37iii)), so that the generation of a more costly scrambled construction is blocked.

Consequently, neutral scrambling should be disallowed in all-focus sentences, as the interpretation of all arguments that occur in such sentences is <-presupposed>. In fact, this is the generally accepted position in the linguistic literature, with many

authors using all-focus contexts, as in (39), to determine the unmarked order of arguments in a language.

39. [Čto slučilos'?]CONTEXT
What happened?

a. [Devočka pocelovala m**A**l'čika]FOC SVO
girl kissed boy.ACC
'The/a girl kissed the/a boy.'

b. # [Ma'čika pocelovala d**E**vočka]FOC OVS
boy.ACC kissed girl
'The/a boy was kissed by the/a girl.'

However, a closer look at Russian reveals data that are inconsistent with the claim that all-focus sentences consistently correspond to the unmarked SVO order:

40. [Čto slučilos'?]CONTEXT
What happened?

a. [Mašu ukusila os**A**]FOC OVS
Mary.ACC stung wasp
'Mary was stung by a wasp.'

b. # [Osa ukusila M**A**šu]FOC SVO
wasp stung Mary.ACC

In (40), a scrambled structure is more felicitous in an all-focus context than the unmarked one. Yet, to say that marked structures can be chosen over syntactically well-formed unmarked constructions without an interpretative license would be a self-defeating and in fact unnecessary move. Instead, I would like to argue that the scrambled sentence in (40a) does indeed convey an interpretation that is unavailable for an unmarked structure, but this interpretation is not linked to focus-background encoding or discourse-anaphoricity and must therefore involve an interpretative

feature other than <±presupposed> or <±D-linked>. The hypothesis that I would like to put forward is that these effects can be captured if the information-structural well-formedness constraint in (28) regulates the formation of information-structural representations on the basis of a variety of interpretations, rather than just on the basis of focus-background encoding. The nature of these interpretations is the topic of the next subsection.

2.3.2 The Argument Prominence Hierarchy

2.3.2.1 Referentiality

Despite occurring in an all-focus context, the scrambled sentence in (40a) is interpretatively quite different from the unmarked sentence in (39a). While in (39) both arguments allow either a specific/definite or a non-specific indefinite interpretation, in (40) the object can only be interpreted as definite and the subject only as a non-specific indefinite. This is because 'Mary.ACC' cannot refer to an unspecified individual that goes by the name Mary but instead denotes a specific individual assumed to be known to the hearer, whereas 'wasp', by contrast, cannot refer to a specific wasp known to both interlocutors. One could therefore explore the possibility that the scrambled structure in (40a) is licensed on the basis of the difference between the arguments as regards the *referential* reading, which is available for NPs that have a specific referent, such as proper names[15], definite expressions and specific indefinites, but not for non-specific indefinites.

Russian NPs lack articles of the type found in languages like Dutch, English and German. As a result, they also lack morphological specification for definiteness/ indefiniteness, unless they are selected by deictic or possessive determiners or are accompanied by different indefinite pronouns used as determiners specifying different interpretations of noun phrases (cf. Dahl 1970, Ioup 1977). An example of the latter

[15] A rare exception to this constitute very specific contexts in which proper names are used as non-specific indefinites, e.g. 'A John would do it' meaning 'Any person that goes by the name John would do it' (Hans van de Koot p.c.).

are many pronominal series consisting of a wh-pronoun combined with some affix (cf. Haspelmath 1997), as demonstrated in (41).

41. Igor' xočet ženit'sja na *koe-kakoj/ kakoj-to/ kakoj-nibud'* studentke
Igor wants marry at koe-wh/ wh-to/ wh-nibud' student
'Igor wants to marry a student.'

Geist 2008:3

The pronominal determiners in (41) disambiguate different readings with respect to the identifiability of the referent by the speaker and scope (Geist 2008). All the wh-pronouns in (41) force an indefinite interpretation of the NP 'student' but have a different effect on the interpretation of the indefinite NP with respect to specificity.[16]

A Russian bare noun phrase, in contrast, has an open interpretation with respect to definiteness/ indefiniteness. It has been hypothesized that, due to the unavailability of morphological encoding of the referential reading on bare NPs, Russian resorts to structural encoding (cf. Brun 2001).[17] One way of accounting for this observation is to argue that referentiality is one of the interpretations operating at the information-structural level when representations obeying (28) are created. By hypothesis, the structural encoding of referentiality is a universal preference but it is not realizable in a language that lacks neutral scrambling of one argument across another. Whenever a language consistently fails to make available syntactic structures that transparently map onto a well-formed information-structural representation that encodes the relative argument prominence on the basis of the <±referential> feature, other tools must be used to encode the referential interpretation. Plausibly, the morphological identification of the interpretation with respect to definiteness/ indefiniteness is precisely the tool a language resorts to in the absence of structural encoding.

Therefore, we can argue that (40a) receives the interpretative license in (36), as the relative prominence of arguments in (40) is established on the basis of the <±referential> feature, with the <+referential> object construed as more prominent

[16] Geist (2008) does not only discuss specific vs. non-specific interpretation of indefinites but also considers different types of specificity (i.e. epistemic and scopal).

[17] Lenerz (1977) argues that German also has a so-called Definiteness condition, which accounts for the tendency for definite arguments to precede indefinite.

than the <-referential> subject.[18] Hence, the scrambled structure in (40a) is mapped transparently onto a well-formed information-structural representation, where a <+referential> argument precedes a <-referential> argument, whereas the unmarked structure requires twisted mapping. The fact that the structure in (40a), unlike the one in (40b), obeys (30) favours the former over the latter.

Now that our theory has three interpretative features that can potentially regulate the order of arguments in Russian sentences, <±D-linked>, <±presupposed> and <±referential>, one might wonder how these features interact with each other. So far we have seen that the <±referential> feature can regulate the order of two Russian arguments as long as both arguments carry identical values with respect to the <±presupposed> and <±D-linked> features. To be exact, both arguments in (40) are <-presupposed> and <-D-linked>, suggesting that the encoding of the <±presupposed> and the <±D-linked> features is not operative in the sentence, that is, it is vacuously satisfied without affecting the argument order.

Similarly, in (42) the <±presupposed> feature regulates the order of two arguments that carry identical values with respect to the <±referential> feature (here, both arguments are unspecified with respect to the referential interpretation and hence admit both readings).

42. [Kto poceloval ma'čika?]CONTEXT
Who kissed the/a boy?

a. Ma'čika pocelovala [d**E**vočka]FOC OVS
boy.ACC kissed girl
'The/a boy was kissed by the/a girl.'

[18] It has been known at least since Farkas (1995) that specificity has a fine-grained structure and cannot as such be described with a binary feature (Geist 2008, von Heusinger 2007). This is because different types of specificity, such as epistemic (Fodor and Sag (1982)) and scopal specificity, must be distinguished. The present analysis, however, is concerned only with epistemic specificity. Thus, whenever a speaker has an intended referent in mind, an argument that denotes that referent is said to be associated with the <+referential> reading, whenever a speaker has no particular referent in mind, an argument linked to this interpretation is <-referential>.

b. # [Devočka]FOC pocelovala m**A**l'čika SVO
girl kissed boy.ACC
'The/a girl kissed the/a boy.'

While it is unsurprising that two distinct interpretations cannot simultaneously determine the relative prominence of arguments in the same sentence, we still need to establish whether it is the <±presupposed> feature or the <±referential> feature that regulates the argument order in Russian sentences where both interpretations are operative. That is, in order to establish which feature overrides the other, we need a sentence where arguments have distinct values as regards both features. In other words, each argument must have a positive value with respect to one of the features and a negative as regards the other:

43. [Kogo ukusila osa?]CONTEXT
Who got stung by a wasp?

a. Osa ukusila [M**A**šu]FOC SVO
wasp stung Mary.ACC

b. # [Mašu]FOC ukusila os**A** OVS
Mary.ACC stung wasp
'Mary was stung by a wasp.'

In (43), a scrambled structure is disallowed despite the object being <+referential> and the subject <-referential> because the context forces the <+referential> object to be construed as <-presupposed> and the <-referential> subject as <+presupposed>. This suggests that the relative prominence of arguments in (43) is established on the basis of the <±presupposed> feature, which must therefore override the structural encoding of the <±referential> feature, rendering the scrambled structure impossible.

Moreover, as is evident from (44) and (45), the <±presupposed> feature can override the <±referential> feature and license a scrambled structure in accordance with (36).

44. [Čto slučilos'?]CONTEXT
What happened?

a. [Maša ubila m**U**xu]FOC SVO
Mary killed fly.ACC
'Mary killed a fly.'

b. # [Muxu ubila M**A**ša]FOC OVS
fly.ACC killed Mary

45. [Kto ubil muxu?]CONTEXT
Who killed a/the fly?

a. Muxu ubila [M**A**ša]FOC OVS
fly.ACC killed Masha
'Mary killed a/the fly.'

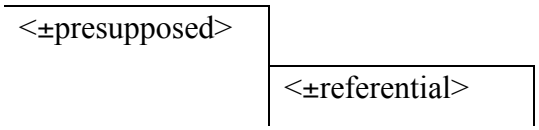
b. # [Maša]FOC ubila m**U**xu SVO
Masha killed fly.ACC

In (44) and (45), the subject is construed as <+referential> while the object is <-referential>. In an all-focus context, as in (44), where the <±presupposed> feature is vacuously satisfied, the <±referential> feature determines that the subject is construed as more prominent than the object. Such an interpretation can be captured by the unmarked order (see (37i)) and a scrambled structure is therefore disallowed. In (45), conversely, a scrambled structure is licensed by the difference between the arguments with respect to the <±presupposed> feature, despite the fact that the status of the arguments as regards the <±referential> feature remains unchanged.

The above findings suggest that the <±presupposed> feature overrides the <±referential> feature, with the latter determining the relative prominence of arguments only when the former is not operative (i.e. vacuously satisfied). This implies that the information-structural well-formedness constraint in (28) must make

reference to the Argument Prominence Hierarchy in (46), on which the feature <±presupposed> is ranked higher than the feature <±referential>.[19]

46. *Argument Prominence Hierarchy* *(to be revised)*



So far we have only looked at the effects the two interpretative features have on the order of a subject with respect to an object. However, the relevant features are expected to determine the respective order of any two arguments, including objects in ditransitive constructions. This prediction is borne out:

47. [Čto slučilos'?]CONTEXT
What happened?

a. [Maša predstavila studenta dek**A**nu]FOC SVOIO
Masha introduced student.ACC dean.DAT
'Masha introduced a/the student to a/the dean.'

b. # [Maša predstavila dekanu stud**E**nta]FOC SVIOO
Masha introduced dean.DAT student.ACC
*'Masha introduced **a** student to **the** dean.'*

In (47a) the objects have identical values as regards the <±referential> feature and can therefore be interpreted either as specific/definite or as non-specific indefinites. In (47b), conversely, the indirect object only allows a specific/definite construal, whereas the direct object must be interpreted as a non-specific indefinite. The order in (47b) is therefore only possible in the given context if additional pragmatic assumptions are made, for example, both interlocutors know exactly which dean they are talking about

[19] The position of the <±D-linked> feature on the Argument Prominence Hierarchy will be discussed in section 2.3.2.4.

but they don't know who the student is (that is, for them it's just some student or other).

Note that the most neutral order of the objects given in (47a) is O-IO. That is, in an all-focus context, the IO-O order is only possible when the relative argument prominence is established on the basis of the <±referential> feature (see the translation in (47b)), whereas the order in which a direct object precedes an indirect object is the one that allows for both objects to be construed either as <-referential> or as <+referential>. Since such an interpretation is vacuously satisfied by an unmarked structure (see (37ii) and (37iii)), the O-IO must correspond to the unmarked order of objects. This outcome will be further confirmed by data involving other ditransitive verbs as well as other interpretations later on in this section.

As expected, given (46), whenever focus encoding is operative in a ditransitive structure, it overrides not only the unmarked order of objects but also referentiality encoding. Thus, in (48a), the interpretation of the objects with respect to the <±referential> feature is free. That is, any combination of values is possible, including one where the scrambled indirect object carries a negative value as regards this feature, while the direct object is <+referential>. This is because <±presupposed> is ranked higher than <±referential>. Consequently, whenever the former is operative, the latter has no effect on the encoding of the relative prominence of arguments. Accordingly, the sentence in (48b) is disallowed in the given context regardless of the interpretation of the objects with respect to the <±referential> feature, as the unmarked structure fails to encode the relative prominence of the objects based on the highest-ranked <±presupposed> feature.

48. [Kogo Maša predstavila dekanu?]CONTEXT
Who did Masha introduce to the/a dean?

a.	Maša	predstavila	dekanu	[stud**E**nta]FOC	SVIOO
	Masha	introduced	dean.DAT	student.ACC	
	'Masha introduced a/the student to a/the dean.'				

b. #	Maša	predstavila	[studenta]FOC	dek**A**nu	SVOIO
	Masha	introduced	student.ACC	dean.DAT	

The data in (47) and (48) allow us to draw the following two conclusions:

I. The interpretative features <±referential> and <±presupposed> affect the respective order of objects in the same way as the order of a subject with respect to an object. That is, the <±referential> feature can license a scrambled structure whenever the <±presupposed> feature is not operative in the sentence (see (47b)). However, whenever the <±presupposed> feature is operative, it overrides the <±referential> feature (see (48)).

II. The unmarked order of objects in Russian corresponds to the Direct Object linearly preceding the Indirect Object.

2.3.2.2 *Animacy*

Having discovered two interpretative features that belong to an interpretative hierarchy to which the constraint in (28) must refer, we should consider whether there are any other interpretations that license neutral scrambling. For instance, it has been observed by many authors that animacy can have an effect on argument order alternations, with animate arguments having the tendency to precede inanimate arguments. This observation applies to Russian as well:

49. [Čto slučilos'?]CONTEXT — *What happened?* [Čto Ivan sdelal?]CONTEXT — *What did Ivan do?*

a. [Ivan [peredal špiona agEntu]]FOC — SVOIO
Ivan handed spy.ACC agent.DAT
'Ivan handed the/a spy to the/a agent.'

b. # [Ivan [peredal agentu špiOna]]FOC — SVIOO
Ivan handed agent.DAT spy.ACC
*'Ivan handed **a** spy to **the** agent.'*

50. [Čto slučilos'?]CONTEXT [Čto Ivan sdelal?]CONTEXT
What happened? *What did Ivan do?*

a. [Ivan [peredal agentu pis'm**O**]]FOC SVIOO
Ivan handed agent.DAT letter.ACC
'Ivan handed the/a letter to the/a agent.'

b. # [Ivan [peredal pis'mo ag**E**ntu]]FOC SVOIO
Ivan handed letter.ACC agent.DAT
*'Ivan handed **the** letter to **an** agent.'*

In (49), both objects are <+animate> and the most neutral order is once again O-IO (see (49a)). That is, the scrambled IO-O order in (49b) is only possible when licensed by the <±referential> feature, with the indirect object interpreted as <+referential> and the direct object as <-referential>. All other interpretations can be captured by the unmarked O-IO order in (49), rendering neutral scrambling impossible (note that the <±presupposed> feature is not operative for the objects in the all-focus or VP-wide focus contexts of (49) and (50)).

Interestingly, as soon as the objects carry distinct values with respect to the <±animate> feature, a scrambled structure can be licensed if the indirect object carries a positive and the direct object a negative value for this feature (see (50a)). This is because the unmarked structure in (50b) is incapable of reflecting the relative prominence of objects based on the <±animate> feature and is therefore only used if the prominence relation is established on the basis of the <±referential> feature (that is, when the direct object is construed as <+referential> and the indirect object as <-referential>).

Importantly, whenever both objects in (50) are construed as carrying equal values with regards to the <±referential> feature and referentiality encoding is therefore not operative (just as focus encoding is not operative in an all-focus

sentence), it is the <±animate> feature that determines the relative prominence of arguments (see (50a)).[20]

The data in (49) and (50) confirm that the <±animate> feature can regulate the relative prominence of Russian arguments in all-focus sentences where referentiality encoding is not operative, as in (50a). Since the <±referential> feature overrides the <±animate> feature, as in (50b), the latter must be ranked lower on the Argument Prominence Hierarchy than the former:

51. *Argument Prominence Hierarchy* *(to be revised)*

<±presupposed> > <±referential> > <±animate>

If the relative ranking of the interpretative features on the Argument Prominence Hierarchy given in (51) is correct, the so far highest ranked feature <±presupposed> is expected to override the hitherto lowest-ranked feature <±animate> as well. This prediction is borne out:

52. [Komu Ivan peredal pis'mo?]CONTEXT
Who did Ivan hand the/a letter to?

[20] All the examples in this subsection involve object-across-object scrambling. However, the <±animate> feature can determine the relative prominence of arguments in mono-transitive constructions as well (see (i) where the sentences are assumed to occur out of the blue):

(i) a. [Milicionerov svël slučaj]FOC OVS
milicia-men.ACC brought-together chance
'(The) milicia men were brought together by chance.'

b. # [Slučaj svël milicionerov]FOC SVO
chance brought-together milicia-men.ACC

a. Ivan peredal pis'mo [ag**E**ntu]FOC SVOIO
Ivan handed letter.ACC agent.DAT
'Ivan handed the/a letter to the/a agent.'

b. # Ivan peredal [agentu]FOC pis'm**O** SVIOO
Ivan handed agent.DAT letter.ACC

The unmarked order of objects in (52a) is the only possible one in the given context, despite the direct object being <-animate> and the indirect object <+animate> and regardless of their interpretation with respect to referentiality. This suggests that the <±presupposed> feature overrides both the <±referential> and the <±animate> feature.

Similarly, a scrambled order is licensed by the <±presupposed> feature in (53) in spite of the <±animate> feature demanding an unmarked structure (see (54)).

53. [Kogo vrač podverg osmotru?]CONTEXT
Who did the doctor subject to (the) examination?

a. Vrač podverg osmotru [paci**E**nta]FOC SVIOO
doctor subjected examination.DAT patient.ACC
'The doctor subjected the/a patient to (the) examination.'

b. # Vrač podverg [pacienta]FOC osm**O**tru SVOIO
doctor subjected patient.ACC examination.DAT

54. [Čto slučilos'?]CONTEXT [Čto vrač sdelal?]CONTEXT
What happened? *What did the doctor do?*

a. [Vrač [podverg pacienta osm**O**tru]]FOC SVOIO
doctor subjected patient.ACC examination.DAT
'The doctor subjected the/a patient to (the) examination.'

b. # [Vrač [podverg osmotru paci**E**nta]]FOC SVIOO
doctor subjected examination.DAT patient.ACC
*'The doctor subjected **a** patient to **the** examination.'*

The scrambled IO-O order is disallowed in the all-focus or VP-wide focus contexts in (54), unless referentiality encoding permits it. That is, when the higher-ranked constraints are vacuously satisfied and therefore not operative in a sentence, it is animacy encoding that predicts whether a scrambled structure is permitted or not.

It is worth noting that the O-IO order is the most neutral order not only when the direct object is <+animate> and the indirect object is <-animate>, as in (54), or when both are <+animate>, as in (49), but also when both objects are <-animate>:

55. [Čto slučilos'?]CONTEXT [Čto Ivan sdelal?]CONTEXT
What happened? *What did Ivan do?*

a. [Ivan [podverg komnatu osm**O**tru]]FOC SVOIO
Ivan subjected room.ACC examination.DAT
'Ivan subjected the/a room to (the) examination.'

b. # [Ivan [podverg osmotru komn**A**tu]]FOC SVIOO
Ivan subjected examination.DAT room.ACC
*'Ivan subjected **a** room to **the** examination.'*

In (55) both objects are <-animate> and the most neutral order is once again O-IO, with the reverse order, as in (55b), only possible when licensed by referentiality encoding. Therefore, the data in (55) further supports the hypothesis that, in the absence of an interpretative license for scrambling, the order of objects is O-IO.

2.3.2.3 *The final nail in the coffin of IO-O as the unmarked order in Russian: a preliminary discussion of the order of merger*

To be sure, the position that O-IO is the unmarked order of Russian objects is not shared by all authors. While Bailyn (2010) backs this hypothesis up with data involving instrumental secondary predicates, reciprocal and variable binding, as well as scope, Dyakonova (2007) defends the opposite view.

Dyakonova's arguments for the unmarked nature of the IO-O order are based mainly on evidence from idiom formation and topicalization. Both arguments claim to demonstrate that the verb forms a constituent with the direct object to the exclusion of the indirect object, which is taken as evidence for a higher structural position of the indirect object.

The argument from idioms relies on the observation that idiomatic expressions in Russian typically consist of V + O (accusative Theme) and not V + IO (dative Goal), which is used in support of the claim that a Goal argument is projected outside the lexical VP in Russian:

56.	Saša	stroit	devuškam	glazki
	Sasha	makes	girls.DAT	eyes.ACC
	'Sasha flirts with (the) girls.'			

Bailyn (2010) : 22b

It is debatable whether it is plausible to analyse the object that the verb forms a constituent with in an idiomatic expression as a Theme argument, considering that an idiom constitutes a frozen template directly linked to an interpretation, and hence does not seem to involve any thematic roles assigned to the arguments by the verb. In fact, such thematic roles would arguably interfere with the idiomatic interpretation, as they would express the standard semantic relations that the verb establishes with its arguments. It seems then that the status of the object that is included in the VP idiom as a direct object is largely based on it carrying accusative case rather than a Theme θ-role.

More importantly, however, a closer look at Russian idioms that constitute a part of a ditransitive verb phrase reveals that the tendency is for a verb to form an idiom with an *inanimate* object rather than an accusative (or theme) argument. That is,

in ditransitive verb phrases, idioms consisting of V with an indirect object are found alongside idioms consisting of a verb and a direct object, provided the object included in the idiomatic expression is inanimate, while the object that is not part of the idiom is animate (see (57) and (58) respectively).[21]

57.	Oni	predali	menja/Ivana	an**A**feme	SVOIO
	they	committed	me.ACC/Ivan.ACC	anathema.DAT	
	'They damned me/Ivan.'				

58.	Oni	podrezali	mne/Ivanu	kr**Y**l'ja	SVIOO
	they	clipped	me.DAT/Ivan.DAT	wings.ACC	
	'They clipped my/Ivan's wings.'				

It is beyond the scope of the present manuscript to investigate why inanimate arguments have a general tendency to carry accusative case rather than dative in Russian; what matters is that, while an object included in an idiom that is part of a ditransitive verb phrase can be either accusative or dative, it can never be animate, whereas the object selected by the predicate that the idiom forms is consistently animate:

59.	??	Oni	predali	dver'/veter/ čuvstvo	an**A**feme	SVOIO
		they	committed	door/wind /feeling.ACC	anathema.DAT	
		'They damned the/a door/ (the) wind/ the/a feeling.'				

60.	??	Oni	podrezali	dveri/vetru/ čuvstvu	kr**Y**l'ja	SVIOO
		they	clipped	door/ wind/ feeling.DAT	wings.ACC	
		'They clipped the/a door's/ (the) wind's/ the/a feeling's wings.'				

[21] The object not included in the idiom in (56), (57) and (58) must be <+animate> unless the idiom is used in an ironic way similar to how in (i) the verb that usually selects a <+animate; +human> object is used with a <-animate> object:

(i) The drummer murdered the song.

The sentences in (59) and (60) are semantically odd as they assume that a door, wind and a feeling have mental faculties. The consistent difference between the object that is part of the idiom and the one selected by the idiom in terms of the value of the <±animate> feature suggests that the choice of the object a ditransitive verb forms a constituent with in a VP idiom is dependent on this feature.

The reader might wonder why other higher-ranked features such as <±referential> or <±presupposed> are not regarded as potential candidates for determining the order of merger in the above constructions. Let's consider both options. The <±presupposed> feature seems an unlikely candidate for determining what argument a ditransitive verb forms an idiom with. First, this interpretation cannot be specified in the lexicon, whereas idiom formation plausibly takes place at the lexical level. Second, this interpretation is discourse-dependent. That is, the division of a sentence into focus and background is impossible without reference to context, with the same lexical item interpreted as belonging to either background or focus depending on the context in which the relevant sentence occurs:

61. [Kogo oni predali anapheme?]$_{\text{CONTEXT}}$
Who did they damn?

Oni	predali	[menja]$_{\text{FOCUS}}$	an**A**feme	SVOIO
they	committed	me.ACC	anathema.DAT	

'They damned me.'

62. [Čto oni s toboj sdelali?]$_{\text{CONTEXT}}$
What did they do to you?

Oni	[predali]$_{\text{FOCUS}}$	menja	[an**A**feme]$_{\text{FOCUS}}$	SVOIO
they	committed	me.ACC	anathema.DAT	

'They damned me.'

63. [Komu oni podrezali kryl'ja?]$_{\text{CONTEXT}}$
Whose wings did they clip?

Oni	podrezali	[mne]$_{FOCUS}$	kr**Y**l'ja	SVIOO
they	clipped	me.DAT	wings.ACC	

'They clipped my wings.'

64. [Čto oni s toboj sdelali?]$_{CONTEXT}$
What did they do to you?

Oni	[podrezali]$_{FOCUS}$	mne	[kr**Y**l'ja]$_{FOCUS}$	SVIOO
they	clipped	me.DAT	wings.ACC	

'They clipped my wings.'

The <±referential> feature might appear as a potential candidate for the prominence encoding of objects, one of which is part of an idiom and the other is not. However, while the object included in the idiom is consistently <-referential>, the other object can in fact be <-referential> as well:

65.

Oni	predali	kogo-to	an**A**feme	SVOIO
they	committed	someone.ACC	anathema.DAT	

'They damned someone.'

66.

Oni	podrezali	komu-to	kr**Y**l'ja	SVIOO
they	clipped	someone.DAT	wings.ACC	

'They clipped someone's wings.'

The sentences in (65) and (66) are not about the person who got damned or whose wings were clipped but about the fact that 'they' (whoever they might be) were involved in the event of damning someone or clipping someone's wings. Who exactly this someone was, is not relevant for the construal of the sentences in (65) and (66). As the objects not included in the idiom are interpreted as non-specific indefinites in (65) and (66), referentiality encoding cannot take place in these examples, strongly suggesting that the relative prominence of objects is established on the basis of a different interpretation in the relevant constructions, namely, animacy.

In fact, it is an unsurprising outcome that it is the feature <±animate> that regulates the formation of idioms considering that idiom formation plausibly takes place in the lexicon and <±animate> is the only feature out of the hitherto discussed interpretations that is consistently lexically specified. That is, it is reasonable to assume that lexical items are stored in the mental lexicon with the animacy specification attached to them, whereas the higher-ranked interpretations are of a pragmatic nature and their specification can change depending on the context and the intentions of the speaker. They are therefore not expected to be stored in the lexical entry of a noun.

The fact that idiomatic VPs headed by a ditransitive verb always contain an inanimate object raises the question of how and why the <±animate> feature determines the choice of the object the verb merges with first. As already suggested, idiomatic expressions do not involve conventional thematic assignment. That is, the objects not included in the idiomatic expressions in (57) and (58) are interpreted as Theme or Patient, as they denote individuals that undergo the action expressed by the idiomatic predicate. The object trapped within the idiomatic expression, however, does not seem to carry any of the traditionally assumed thematic interpretations. This suggests that the fact that the verb merges first with this particular object to form a VP idiom cannot be due to the thematic hierarchy and must instead be determined by some other lexically specified interpretation that is capable of encoding the prominence relations between the objects in such constructions. We have already established that neither of the interpretations ranked higher than animacy on the Argument Prominence Hierarchy is capable of encoding the relative interpretative prominence of objects in the constructions discussed above. If we are right in assuming that the thematic hierarchy also fails at regulating the order of merger of objects when one is trapped in a VP idiom, the only interpretation left to do the job is animacy. It follows then that the <±animate> feature cannot be vacuously satisfied in such constructions because it is the only feature capable of establishing the relative prominence of objects. It is therefore unsurprising that, at the level where the relevant idiomatic expressions are formed, the verb forms a constituent with a <-animate> object, with the resulting predicate consistently selecting a <+animate> object.

Notably, idioms that include both objects also reflect the order where the verb arguably merges first with an inanimate and then an animate object:

67. a. Otdat' Bogu dušu SVIOO
give.INF God.DAT soul.ACC
'To die.'

b. Pustit' kozla v ogorod
let.INF goat.ACC in garden
'To cause problems upon oneself.'

By hypothesis, the unavailability of thematic prominence encoding in constructions involving idioms forces the order of merger to be regulated by the next available <±animate> feature. Conversely, in sentences that do not contain idiomatic expressions, the relevant interpretative prominence of arguments can always be established on the basis of the thematic hierarchy. It is therefore expected that all the interpretative features hitherto discussed can be vacuously satisfied in non-idiomatic constructions, with the thematic hierarchy establishing the relative prominence of arguments and regulating their order of merger.

The above observations suggest that the interpretative features involved in establishing the relative prominence of arguments in Russian have the ability to affect the order of merger of arguments. We have observed that the <±animate> feature is forced to regulate the order of merger of objects whenever the thematic hierarchy fails to do so. In fact, the hypothesis defended in the next chapter is that neutral scrambling in Russian involves variation in the base component. That is, whenever all of the interpretations on the Argument Prominence Hierarchy given in (51) are vacuously satisfied, it is the thematic hierarchy that encodes the relative prominence of arguments and regulates their order of merger. This results in the order that is taken to be the canonical or unmarked order in a language. However, any of the features on the Argument Prominence Hierarchy is capable of overriding thematic prominence and reversing the order of merger of arguments. The next chapter supports this hypothesis with evidence from scope. For the time being, however, I will treat it as a null-hypothesis.

Apart from idiom formation facts, Dyakonova uses the contrast in topicalization possibilities in (68) to argue that a verb forms a constituent with a Theme argument to the exclusion of a Goal argument:[22]

68. a. [Čitat' skazki]$_{TOP1}$ roditeli detjam očen' lj**U**bjat t_1
read.INF tales.ACC parents kids.DAT very like
'Parents like to read (the) tales to (the) children very much.'

b. # [Čitatj detjam]$_{TOP1}$ roditeli skazki očen' lj**U**bjat t_1
read.INF kids.DAT parents tales.ACC very like

(Dyakonova 2007:22)

In (68), the structure of the sentences is bi-clausal, with the higher clause containing the inflected verb 'love' and the embedded non-finite clause including a *v*P that consists of the infinitive 'to read' and two objects (see (69) for the structure prior to topicalization).[23]

69. Roditeli očen' ljubjat čitat' detjam skazki
parents very like read.INF kids.DAT tales.ACC
'Parents like to read (the) tales to (the) children very much.'

As shown in (68), topicalization of the *v*P is only possible if the fronted phrase includes an infinitive and a Theme argument (see (68a)). It is not possible if the fronted phrase consists of the infinitive and a Goal argument (see (68b)). Dyakonova attributes this to the fact that the verb does not form a constituent with the Goal to the exclusion of the Theme.

However, as correctly pointed out by Bailyn (2010), topicalization of the *v*P must apply after V-to-*v* raising if the requirement that V raises to *v* is to be satisfied at all. Moreover, as is evident from (69), in the pre-topicalization structure, the verb *does*

[22] Dyakonova (2007) marks the example in (61b) with '??/*'. However, I will demonstrate later in this section that the relevant sentence is appropriate when additional pragmatic assumptions are made. Hence, I am using '#' to mark this example.

[23] I stay agnostic as to whether 'read' is a true ditransitive verb.

indeed raise to a position above both objects.[24] Hence, the surface order in (68) can only be derived via remnant movement. That is, in (68a) the indirect object must have evacuated the *v*P prior to topicalization, so that the fronted phrase contains a trace of the indirect object.

Assuming that movement is a 'last resort' operation (Chomsky 1995), movement of the indirect object out of the *v*P results in a more costly structure. Hence, economy considerations predict it to be blocked by a simpler structure with no movement unless the former achieves an interpretation that the latter fails to convey. This is relevant not only for the movement of the indirect object but also for the topicalization of the *v*P containing the trace of the indirect object.

To understand what interpretations license these two processes, two observations are important: First, the topicalized phrase in (68a) conveys the interpretation of a *contrastive* topic (i.e. the fronted phrase is construed as contrasted with another activity that parents possibly do *not* like to be involved in with their children) and must therefore be A'-scrambled.

Second, either of the objects in (69) can undergo an A'-scrambling operation, as long as it conveys the interpretation of a *contrastive* topic (see (70a) and (70b)). Since both objects can in principle vacate the *v*P via A'-fronting, the observation that only the indirect object is allowed to vacate the *v*P in (68) can only be accounted for by assuming that the first step of the remnant movement operation, namely the evacuation of the indirect object out of the *v*P, in (68a) involves A-movement and not A'-movement.[25] This outcome is consistent with our position that A'-scrambling is only available for *contrastive* categories, whereas the indirect object vacates the *v*P precisely because this NP is *not* contrastive. That is, if the indirect object were contrastive in (68a), the entire *v*P, including both objects, would undergo contrastive topicalization, as in (71).

[24] Russian ditransitive verb phrases cannot be analysed as having a right-branching structure, as such an analysis is inconsistent with the scopal properties of objects.

[25] The hypothesis that the first step in the remnant movement in (68a) involves A-movement and the second A'-movement is also consistent with observations made by Abels (2008) with respect to the ordering of operations in remnant movement.

70. a. [Komu roditeli očen' ljubjat čitat' detektivy?]CONTEXT
Who do parents really like reading detective stories to?

[Skazki]TOP1,	roditeli	očen'	ljubjat	čitat'	d**E**tjam *t*1
tales.ACC	parents	very	like	read.INF	kids.DAT

(a	nasčët	detektivov	ne	znaju)
(and	about	detective stories	not	know)

'As for tales, parents really like reading them to children (and as for detective stories I don't know).'

b. [Čto roditeli očen' ljubjat čitat' vzroslym?]CONTEXT
What do parents like reading to adults?

[Detjam]TOP1,	roditeli	očen'	ljubjat	čitat' *t*1	sk**A**zki
kids.DAT	parents	very	like	read.INF	tales.ACC

(a	nasčët	vzroslyx	ne	znaju)
(and	about	adults	not	know)

'As for children, parents really like reading them tales (and as for adults I don't know).'

71. [Ljubjat li roditeli pisat' druz'jam pis'ma?]CONTEXT
Do parents like to write letters to (their) friends?

[Čitat'	detjam	skazki]TOP1	roditeli	**O**čen'	ljubjat *t*1
read.INF	kids.DAT	tales.ACC	parents	very	like

(a	ljubjat	li	oni	pisat'	druz'jam	pis'ma,	ja	ne znaju)
(and	love	cl	they	write	friends	letters	I	not know

'Parents like to read (the) tales to (the) children very much (but I don't know whether they like to write letters to (their) friends).'

The interpretation of the sentence in (71) differs from that in (68a) in that in the former the fronted phrase is construed as contrasted with another activity that parents might not like to be involved in, whereas in the latter it is contrasted with another activity that parents might not like to be involved in *with their children*. In other words, the NP 'children' is not included in the interpretation of contrast in (68a), which by hypothesis provides an interpretative license for its movement.[26]

If the indirect object A-moves out of the *v*P in (68a), locality considerations predict that the direct object cannot undergo the same operation in (68b), even if it is interpreted as non-contrastive and therefore has an interpretative license for movement. This is because only the higher-merged NP is expected to be able to undergo A-movement, as relativized minimality will block A-movement of an object NP across a c-commanding object NP (Rizzi 1990). In other words, the structure in which the lower merged object vacates the *v*P does not exist because it would violate a syntactic well-formedness constraint.

Although the analysis just outlined supports Dyakonova's claim that the objects in (68) are merged in the IO-O order, it does not confirm that IO-O is the unmarked order of Russian objects. In particular, the objects in (68) and (69) carry distinct values with respect to the feature <±animate>, with the indirect object being <+animate> and the direct object <-animate>. It is therefore plausible that (68) and (69) involve a neutrally scrambled structure licensed by animacy encoding in accordance with (36). Consistent with our null-hypothesis that neutral scrambling

[26] Since the sentences in (68) are analysed by Dyakonova without reference to a context, I am assuming that they occur out of the blue and are therefore all-focus sentences. In other words, the entire CP is <-presupposed> with the topicalized part being <-presupposed; +contrastive> and the rest of the sentence <-presupposed; -contrastive>.

As discussed in Part II of this thesis, it is possible to have contrastive topicalization in Russian in an out-of-the-blue context, as long as the sentence has a generic interpretation. For instance, the all-focus sentence in (68a) conveys that out of the set of activities that parents really like to be involved in with their children, reading tales is the one that turns the proposition 'Parents really like to x to children' into a true proposition in more worlds than the negation of this proposition.

Generic topics will be shown to be a subpart of contrastive topics. All contrastive topics will be claimed to involve two types of quantification: quantification over a set of alternatives (i.e. focus value) and quantification over a set of worlds either within the speaker's beliefs or within the shared knowledge/beliefs of interlocutors.

involves variation in the base component, the verb would then merge with the inanimate direct object first and only then with the animate indirect object.

Our proposal makes rather intricate predictions for how topicalization can affect sentences containing the verb *pokazat'* 'to show', which may either take two objects with identical values as regards the <±animate> feature (see (72)) or a <+animate> indirect object and a <-animate> direct object (see (73)).

72. a. [Mat' pokazala rebënka vrač**U**]FOC SVOIO
mother showed child.ACC doctor.DAT
'A/the mother took a/the child to a/the doctor.'

b. # [Mat' pokazala vraču rebËnka]FOC
mother showed doctor.DAT child.ACC
*'A/the mother took **a** child to **the** doctor.'*

73. a. [Mal'čik pokazal devočke fI l'm]FOC SVIOO
boy showed girl.DAT film.ACC
'A/the boy showed a/the girl a/the film.'

b. # [Mal'čik pokazal fil'm dEvočke]FOC
boy showed film.ACC girl.DAT
*'A/the boy showed **a** girl **the** film.'*

As can be seen from (72), in an all-focus context, two animate objects occur in the unmarked O-IO order (see (72a)), with the scrambled structure in (72b) only licensed under referentiality encoding. The objects in (73), on the other hand, favour a scrambled order licensed by animacy encoding (see (73a)), unless referentiality encoding overrides it.

Following our null-hypothesis that neutral scrambling is base-generated, the difference in the order of merger between (72) and (73) should be reflected in options for topicalization. This is because the higher-merged NP that can vacate the *v*P via A-movement is a direct object in (72a) but an indirect object in (73a). Consequently, the fronted phrase is expected to contain an indirect object in the former case, but a direct object in the latter. As shown in (74) and (75), this is precisely the pattern that obtains.

74. a. [Pokazat' vraču]$_{TOP1}$ mat' rebënka x**O**čet t_1
show.INF doctor.DAT mother child.ACC wants
'Mother wants to take a/the child to a/the doctor.'

b. # [Pokazat' rebënka]$_{TOP1}$ mat' vraču x**O**čet t_1
show.INF child.ACC mother doctor.DAT wants
*'Mother wants to take **a** child to **the** doctor.'*

75. a. [Pokazat' fil'm]$_{TOP1}$ mal'čik devočke x**O**čet t_1
show.INF film.ACC boy girl.DAT wants
'A/the boy wants to show a/the film to a/the girl.'

b. # [Pokazat' devočke]$_{TOP1}$ mal'čik fil'm x**O**čet t_1
show.INF girl.DAT boy film.ACC wants
*'A/the boy wants to show **the** film to **a** girl.'*

These topicalization data provide strong support for the hypothesis that the order of merger of objects is reliant on their animacy.[27]

[27] In all the examples in the main text where both objects have identical values as regards the <±animate> feature, the topicalized phrase contains an indirect object, unless referentiality encoding overrides this (see (i) and (ii) below). This strongly suggests that this is the argument that the verb merges with first:

(i) a. [Predstavit' dekanu]$_{TOP1}$ Maša studenta x**O**čet t_1
introduce dean.DAT Masha student.ACC wants
'*Masha wants to introduce a/the dean to a/the student.'*

b. # [Predstavit' studenta]$_{TOP1}$ Maša dekanu x**O**čet t_1
introduce student.ACC Masha dean.DAT wants
'*Masha wants to introduce **the** dean to **a** student.'*

(ii) a. [Podvergnut' osmotru]$_{TOP1}$ vrač komnatu x**O**čet t_1
subject examination.DAT doctor room.ACC wants
'A/the doctor wants to subject a/the room to a/the examination.'

Moreover, and again as predicted by the proposal developed here, (74b) and (75b) are in fact possible whenever the order of objects is reversed due to referentiality encoding (see the translations). Crucially, the same observations are true of Dyakonova's examples in (68). That is, the sentence in (68b) is perfectly grammatical if the indirect object 'kids.DAT' is construed as <-referential> and the direct object 'tales.ACC' as <+referential>.

Furthermore, since the feature <±animate> is outranked not only by the feature <±referential> but also by the feature <±presupposed>, it is expected that the latter is also capable of reversing the order of merger of objects, thereby affecting which object can be included in the topicalized phrase. This prediction is also borne out:

76. [Ljubjat li roditeli pisat' skazki vzroslym?]CONTEXT
Do parents like writing tales for adults?

(Ne znaju ob ètom, no…)
(Not know about that but…)

a. [Čitatj detjam]TOP1 roditeli skazki **O**čen' ljubjat t_1
read.INF kids.DAT parents tales.ACC very like
'(I don't know about that but parents like to read (the) tales to (the) children very much.'

b. # [Čitat' skazki]TOP1 roditeli detjam **O**čen' ljubjat t_1
read.INF tales.ACC parents kids.DAT very like

The order that was illicit in Dyakonova's example in (68b) is the most felicitous in (76) due to the fact that in the context presented here the <-animate> direct object is <+presupposed> (and <+D-linked>) and the <+animate> indirect object is

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b. # [Podvergnut' komnatu]TOP1 vrač osmotru x**O**čet t_1
subject room.ACC doctor examination.DAT wants
*'A/the doctor wants to subject **a** room to **the** examination.'*

<-presupposed> (and <-D-linked>). Plausibly, despite the difference between the objects in this example with respect to the <±animate> feature, a marked order of the objects is disallowed because the highest-ranked operative feature, namely <±presupposed>, does not license it.

As expected, in a sentence where animacy encoding is not operative, as in (74), the <±presupposed> feature can license a scrambled structure whenever the indirect object is <+presupposed> and the direct object <-presupposed>:

77. [Xočet li mat' posvjatit' vraču stixi?]CONTEXT
Does the mother want to dedicate a/the poem to a/the doctor.'

(Ne znaju ob ètom, no…)
(Not know about that but…)

a. [Pokazat' rebënka]TOP1 mat' vraču x**O**čet *t*1
show.INF child.ACC mother doctor.DAT wants
'(I don't know about that but) the mother wants to take a/the child to a/the doctor.'

b. # [Pokazat' vraču]TOP1 mat' rebënka x**O**čet *t*1
show.INF doctor.DAT mother child.ACC wants

The above data do not only support the hypothesis that O-IO is the unmarked order of Russian objects, they also illustrate the interaction of the interpretative constraints regulating the order of arguments in Russian, as determined by the Argument Prominence Hierarchy in (51).

Let me summarize my proposal up to this point. As shown above, all of the interpretations discussed can potentially be part of the information structure of a sentence. However, only one of them can determine the respective order of two arguments, as predicted by their position on the Argument Prominence Hierarchy. To be precise, whenever a higher-ranked constraint is operative, it blocks the application of any lower-ranked constraints, with the latter applicable only when the former is not operative. For instance, the lowest-ranked animacy encoding, which distinguishes between animate and inanimate arguments, can apply only when neither referentiality

nor focus-background encoding takes place; referentiality encoding, which distinguishes arguments that have a specific referent in the interlocutors' shared knowledge from those that do not, outranks animacy but still cannot apply whenever focus-background encoding is operative in a sentence; whereas focus-background encoding, which makes a distinction between pragmatically presupposed and non-presupposed arguments, is the highest ranked out of all the hitherto discussed information-structural constraints.

The highest-ranked information-structural interpretation that is operative in a sentence either licenses a scrambled structure in accordance with (36), or disallows such a structure in case (36) cannot be met. When none of the information-structural interpretations are operative in a sentence, the order of merger of arguments is regulated by the thematic hierarchy and a scrambled structure is not permitted.

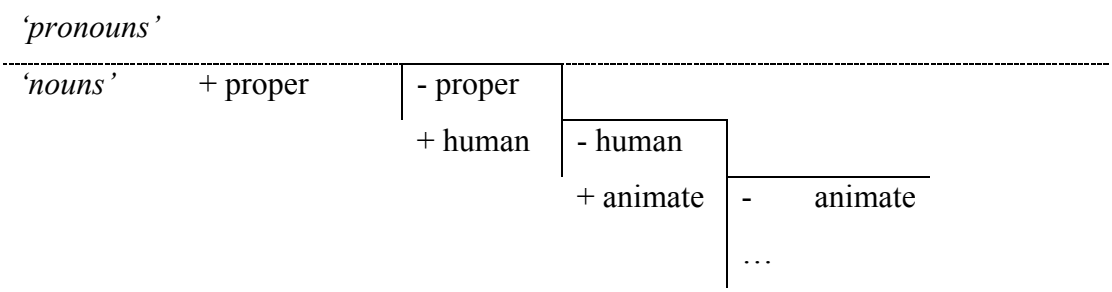
Importantly, there is no overlapping of interpretative constraints in Russian. That is, there are intersections but no entailment: the highest-ranked operative constraint is the one that determines the respective order of two arguments, regardless of interpretative properties ranked lower on the Argument Prominence Hierarchy. It follows that the association of arguments with these interpretive properties is free. As will be demonstrated in Chapter 4, other scrambling languages require scrambling structures to encode a conjunction of interpretive properties, suggesting that even scrambling languages vary as to how permissive they are with respect to structural encoding of information-structural interpretations.

2.3.2.4 *Discourse-anaphoricity and the importance of being human*

The Argument Prominence Hierarchy in (51) in many ways resembles the so-called Animacy Hierarchy introduced by Silverstein (1976) to account for the split in case systems in split ergative languages and used by linguists to account for word order alternations in languages such as the Athabaskan language Navajo (Young and Morgan 1987). A slightly modified version of Silverstein's hierarchy is given in (78).[28]

[28] Silverstein's hierarchy also distinguishes between the personal forms of pronouns, but this distinction is omitted here, as it has no relevance for Russian.

78. *Silverstein's hierarchy*



Silverstein's hierarchy refers to *lexical* feature specifications of noun phrases, which makes it too restricted for our purposes, because a noun phrase that is not lexically specified for any of the above features can still be pragmatically associated with a certain interpretation, which in turn makes it more prominent with respect to another argument. Consequently, the Argument Prominence Hierarchy given in (51) must be construed as containing abstract interpretative features.

However, the interpretations that regulate the respective prominence of arguments in Russian *can* in fact be lexically specified. For instance, animacy is almost always lexically specified. The rare exceptions are the cases where morphologically/phonologically identical nouns have two unrelated interpretations. One such case has already been looked at in (23), repeated in (79), where the same noun *Roman* can either mean 'a novel' or 'a male person named Roman'. However, the <±animate> feature of such nouns is normally encoded by distinct morphological forms used for the accusative case. That is, while for the inanimate masculine nouns the nominative and accusative forms coincide, for the animate masculine nouns the accusative form is different (see (80a)).

79. a. Roman videl m**A**t' SVO
Roman.MASC saw.MASC mother.NOM/ACC
'Roman saw the/a mother.'

b. Roman videla m**A**t' OVS
novel.NOM/ACC saw.FEM mother.FEM.NOM/ACC
'The/a other saw a/the novel.'

80. a. Mat' videla Romana
mother saw Roman.ACC
'The/a mother saw Roman.'

b. Mat' videla roman
mother saw novel.ACC
'The/a mother saw the/a novel.'

The referential interpretation can also be lexically specified, which is arguably the case with proper names (although see footnote 15 for exceptions). Note that on Silverstein's hierarchy, proper names outrank animate nouns just as the <±referential> feature outranks the <±animate> feature on the Argument Prominence Hierarchy in (51), suggesting that the hierarchical organization of lexically specified features is parallel to that of abstract features. Interestingly, on Silverstein's hierarchy, proper names are outranked by pronouns. The observed parallelism between Silverstein's hierarchy and the Argument Prominence Hierarchy begs the question of whether the latter should contain a feature that stands for an interpretation that pronouns are inherently linked to. The obvious candidates for such a feature are the <±presupposed> feature, which is so far ranked highest on the Argument Prominence Hierarchy, and the <±D-linked> feature, whose position on the hierarchy we are yet to establish.

The <±presupposed> feature seems an unlikely candidate for being lexically specified on pronouns as the latter can be either presupposed (see (81a)) or non-presupposed (see (81b)), strongly suggesting that the lexical entries for pronouns do not contain any specifications for the <±presupposed> feature.

81. a. [What did you eat?]CONTEXT

I ate [muffins]FOC

b. [Who broke the vase?] CONTEXT

[I]FOC broke the vase.

Interestingly, the little dialogue given in (81b) is pragmatically sound mainly because the focused constituent is a *first person* pronoun. First and second person pronouns are different from third person pronouns in that the former are always D-linked. Even when they do not refer back to an antecedent in the linguistic context, as in (81b), they always have referents in the extra-linguistic context that serve as discourse-antecedents for these pronouns, namely, the speaker and the hearer. Third person pronouns, in contrast, do not have this advantage. Consequently, using a third person pronoun as the focus in (81b) would result in presupposition failure, unless this pronoun is linked to a discourse-antecedent in the linguistic or extra-linguistic context. It follows then that pronouns *must* be D-linked, or as some authors put it, they are *inherently* discourse-anaphoric.[29]

In section 2.1, we established that D-linkedness and pragmatic presupposition are distinct information-structural notions, as <-presupposed> phrases can easily contain <+D-linked> categories. In fact, a <-presupposed> part of a sentence can consist solely of <+D-linked> material (see the discussion around the example in (12)).

Moreover, the <±D-linked> feature can regulate the relative prominence of two <-presupposed> constituents, suggesting that it is an independent interpretative feature:

[29] Pronouns bound by a quantifier, as in (i) below, have been claimed not to be discourse-anaphoric. However, this claim results from the erroneous assumption that discourse-anaphoricity entails referentiality. However, the present analysis treats the two interpretations as distinct and demonstrates that they can independently license syntactic processes, such as scrambling in Russian (though as discussed in Chapter 4, this is not true for other scrambling languages). To be precise, the interpretation of the pronoun in (i) is <-referential> as it does not pick out any specific referent from the discourse. However, this pronoun does indeed have a discourse-antecedent, namely, the quantifier, with which it has to agree in φ-features (see (ii) where the lack of agreement in gender features between the pronoun and its discourse-antecedent leads to ungrammaticality).

(i) Every policewoman$_1$ is loved by her$_1$ mum.

(ii) *Every policewoman$_1$ is loved by his$_1$ mum.

82. [Čto skazal drug agenta ?]CONTEXT
What did the friend of the agent say?

(On skazal, čto…)
(He said, that…)

a. [Ivan peredal agentu špi**O**na]FOC SVIOO
Ivan handed agent.DAT spy.ACC
'Ivan handed a/the spy to a/the agent.'

b. # [Ivan peredal špiona ag**E**ntu]FOC SVOIO
Ivan handed spy.ACC agent.DAT

The sentences in (82) are identical to the ones used in (49). In both examples, the context forces wide focus on the IP. The objects in (82) and (49) have equal values with respect to the <±animate> feature. However, in (49), the unmarked O-IO order is the most felicitous, with a scrambled structure only possible when licensed by the <±referential> feature, whereas in (82), the unmarked order of objects is impossible (see (82b)). The only interpretative difference between (49) and (82) is that in (49) both objects are <-D-linked>, whereas in (82) the indirect object is <+D-linked> and the direct object is <-D-linked>. Hence, it is plausible that the scrambled structure in (82a) is licensed by the <±D-linked> feature. Notably, the sentence in (82b) is infelicitous in the given context regardless of the interpretation of objects with respect to the <±referential> feature, suggesting that the <±D-linked> feature outranks the <±referential> feature.

As expected the <±D-linked> feature also outranked the <±animate> feature:

83. [Čto tebe skazali pro pis'mo?]CONTEXT
What were you told about a/the letter?

(Mne skazali, čto…)
(I was told, that…)

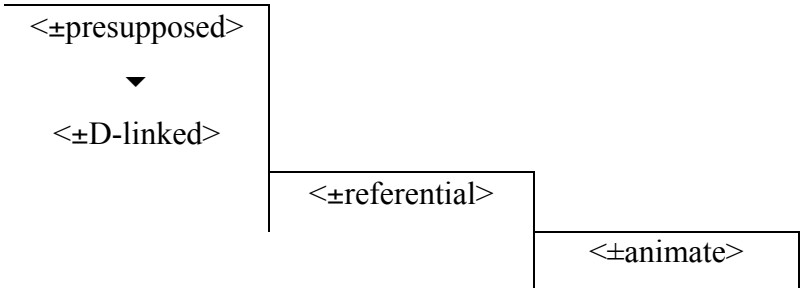
a. [Ivan peredal pis'mo ag**E**ntu]$_{FOC}$ SVIOO
Ivan handed letter.ACC agent.DAT
'Ivan handed a/the letter to a/the agent.'

b. # [Ivan peredal agentu pis'm**O**]$_{FOC}$ SVOIO
Ivan handed agent.DAT letter.ACC

The above observations suggest that <±D-linked> is an independent feature licensing scrambled orders that is ranked higher than the <±referential> and the <±animate> features on the Argument Prominence Hierarchy. However, it is impossible to decide which feature outranks which when it comes to the respective ranking of the <±D-linked> and the <±presupposed> features. Although either feature can operate whenever the other one is not operative, it is impossible to set up a context needed for determining the respective ranking of these two features, namely a context where one of the arguments is <+presupposed; -D-linked> and the other <-presupposed; +D-linked>. This is because <+presupposed> arguments can never be <-D-linked>. While an argument can be discourse-given and still focused, it cannot be discourse-new and not part of the focus. A constituent becomes part of a background in virtue of being present in the discourse, and hence, D-linked, whereas a constituent that is <-D-linked> cannot be pragmatically presupposed.

In view of this, the <±D-linked> feature is better analyzed as dependent on the <±presupposed> feature. That is, the <±D-linked> occupies the same position on the Argument Prominence Hierarchy as the <±presupposed> feature with respect to all the other features but the former is dependent on the latter because the <±D-linked> feature is operative only when both arguments are <-presupposed>:

84. *Argument Prominence Hierarchy* *(to be revised)*



Notably, Silverstein's hierarchy contains one more interpretive feature not yet represented on the Argument Prominence Hierarchy, namely <±human>. Just as the <±D-linked> feature is dependent on the <±presupposed> feature, the <±human> feature is dependent on the <±animate> feature because no argument can be <+human> and <-animate>.

The <±human> feature can regulate the relative prominence of two <+animate> arguments and license a scrambled structure in accordance with (36) in Russian (see (85a)), suggesting that it also belongs on the Argument Prominence Hierarchy.

85. [Kem ty rabotaeš'?]CONTEXT
What do you do?

a. Ja [prodaju ljudjam sob**A**k]FOC SVIOO
I sell people.DAT dogs.ACC
'I sell (the) dogs to (the) people.'

b. # Ja [prodaju sobak lj**U**djam]FOC SVOIO
I sell dogs.ACC people.DAT
*'I sell **the** dogs to people.'*

In (85), the most felicitous order of the <+animate> objects is the scrambled IO-O order licensed by the <±human> feature (see (85a)), unless referentiality encoding overrides it (see (85b)). This suggests that the <±human> is outranked by the <±referential> feature.

As predicted by the ranking of interpretative constraints on the Argument Prominence Hierarchy, the <±presupposed> and the <±D-linked> features override the <±human> feature as well:

86. [Komu ty prodaëš' sobak?]CONTEXT
Who are you selling (the) dogs to?

a. Ja prodaju sobak [lj**U**djam]FOC SVOIO
I sell dogs.ACC people.DAT
'I sell (the) dogs to (the) people.'

b. # Ja prodaju [ljudjam]FOC sob**A**k SVIOO
I sell people.DAT dogs.ACC

87. [Čto tebe skazali pro sobak?]CONTEXT
What were you told about (the) dogs?

(Mne skazali, čto…)
(I was told, that…)

a. [Ivan prodajët sobak lj**U**djam]FOC SVOIO
Ivan sells dogs.ACC people.DAT
'Ivan sells (the) dogs to (the) people.'

b. # [Ivan prodajët ljudjam sob**A**k]FOC SVIOO
Ivan sell people.DAT dogs.ACC

This suggests that the <±human> feature occupies a position on the Argument Prominence Hierarchy that is below the <±presupposed>, <±D-linked> and the <±referential> features. However, the <±human> cannot be analysed as an independent feature as it feeds on the *positive* value of the <±animate> feature. Since the relative ranking of the <±animate> and the <±human> features cannot be established, they are better analysed as ranked equally.

We have already discussed the equal ranking of the <±presupposed> and <±D-linked> features. There, the <±D-linked> applies only to arguments specified for the *negative* value of the <±presupposed> and can therefore be said to bleed the presupposed interpretation rather than feed on it. It is for this reason that the <±D-linked> feature is placed below the <±presupposed> feature, whereas the <±human> feature appears above the <±animate> feature on the Argument Prominence Hierarchy in (88). In other words, the position of features equally ranked with respect to each

other in (88) is not meant to reflect the relative ranking of these features but simply illustrates the observation that the <±D-linked> feature is operative only when both arguments are deprived of the presupposed interpretation, whereas the <±human> feature regulates the relative prominence of arguments when these arguments are enriched with animate interpretation. Importantly, the <±human> and the <±animate> features should not be understood as ranked with respect to each other, and neither should the <±presupposed> and the <±D-linked> features.

88. *Argument Prominence Hierarchy*

<±presupposed>
▼
<±D-linked>
<±referential>
<±human>
▲
<±animate>

Now that the Argument Prominence Hierarchy is complete, we can rewrite the rule licensing Russian neutrally scrambled structures given in (36), so that it makes reference to this interpretative hierarchy:

89. *Interpretative License for Neutral Scrambling in Russian*
Provided that no syntactic restrictions prevent the generation of an unmarked structure with a given truth-conditional interpretation, interpret a neutrally scrambled structure with this interpretation as reflecting the surface quantifier scope relation and/or the relative prominence of two arguments, where the argument in a scrambled position is construed as <+prominent> and the argument in the position across which scrambling takes place as <-prominent> in accordance with the Argument Prominence Hierarchy in (88).

The interpretative license in (89) should be understood as capturing the interaction of the information-structural constraint in (28), the mapping rule in (30) (both repeated below) and the principles of economy.

28. *Information Structural Well-Formedness Constraint*

ARGUMENT ARGUMENT
[+IS-prominent] >> [-IS-prominent]

30. *General form of Syntactic Structure – Conceptual Structure correspondence rules*
Syntactic structure X
{must/may/preferably does} correspond to
conceptual structure Y.

As already mentioned, the information-structural level is seen by the present analysis as a filter that a structural description has to pass in order to be interpreted in a particular discourse. This level contains the rule in (28), which demands a particular ordering of information-structural interpretations. Namely, in the presence of an interpretative difference between two items in terms of prominence, the <+prominent> item must precede the <-prominent> item.

By hypothesis, the syntax of Russian is capable of generating a number of syntactic representations with a given truth-conditional interpretation. However, mapping rules of the type given in (30) filter out those that fail to be mapped transparently onto an information-structural representation, unless a syntactic representation permitting transparent mapping is unavailable. In the latter case, a violation of a mapping rule is allowed as a last resort operation, but the prominence relation encoded at the information-structural level must be made visible at PF via stress-shift in order for a structural description to fit a given context.

It follows from the above analysis that whenever no prominence encoding is taking place at the information-structural level, the mapping rule is vacuously satisfied by any well-formed syntactic representation, as in such a case, any representation can be mapped transparently onto information structure. However, syntactically costly representations never surface, as economy consistently selects the simplest possible

structure. The interaction of economy considerations, the information-structural well-formedness constraint in (28) and the mapping principle in (30) guarantees that neutrally scrambled structures only surface in Russian if they receive the licence in (89). In the absence of this license, the relative prominence of arguments must be established on the basis of the thematic hierarchy.

Before we move on to a discussion of the syntactic processes involved in the generation of scrambled structures, let us briefly look at the mechanism of the information-structural filter. Whenever an inherently marked OV**S** PF representation is passed onto the discourse level, the interface system may detect that this structure has additional complexity in comparison to its canonical counterpart. In this case, the OV**S** structure must obey (30). (Recall that a scrambled structure without a canonical counterpart may violate (30) in mapping onto (28) as it is not marked). By hypothesis, the discourse strategy involved in calculating what interpretation determines the relative prominence of arguments follows a number of steps in a top-to-bottom fashion starting with the highest-ranked constraint on the Argument Prominence Hierarchy. Its ultimate aim is to filter out illicit representations. Whenever transparent mapping onto (28) fails on the basis of all of the interpretations that determine the relative prominence of arguments, the scrambled OV**S** is rejected by the system and the unmarked SV**O** structure is the only structure that can be used for the given truth-conditional and information-structural interpretation.

As already mentioned, the above-discussed information-structural filter is analysed here as contributing toward interpretability of a given representation when it is nested in a specific discourse. For example, placing discourse-anaphoric and pragmatically presupposed material before more dynamic discourse-new and non-presupposed elements in a sentence obeys the *Communicative Dynamism* (Fibras 1964, 1971, 1984, 1992, Sgall et al. 1986). The concept of Communicative Dynamism was first introduced by Fibras (1964) as a gradient notion that determines word order in free-order languages. The degree of Communicative Dynamism of a sentence element is the extent to which it pushes the communication forward. That is, the elements with least communicative dynamism (e.g. those that are contextually known) precede those that have more communicative dynamism (e.g. those that convey new information). Essentially, placing less dynamic material before more dynamic elements contributes to a simplification of parsing.

Similar conclusion can be drawn with respect to the referential interpretation. That is, the linear precedence of an argument that denotes a specific referent presumed to be known to the hearer with respect to an argument that does not (yet) pick out any specific referent in the interlocutors' shared beliefs can also be seen as contributing towards Communicative Dynamism. The more peculiar case is presented by the animate/human interpretations, which treat entities with mental faculties as more accessible than those that lack such faculties. Although there is a clear preference in languages that allow neutral scrambling across arguments to linearly encode these interpretations, the psychological nature of this preference must be left for further research.[30]

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[30] A possible explanation for this comes from the observation that animate interpretation facilitates discourse linking. Vogel and Steinbach (1998) observe that in German, fronted accusative pronouns can only refer to animate entities. Their conclusion is that discourse linking of pronouns is easier if the pronoun refers to an animate entity. Similar observations apply to topicalized pronouns in Russian (see (ii)). Both nouns 'človek' *person* and 'avtobus' *bus* are masculine in Russian and can be associated with the same pronoun 'ego' *him.ACC/it.ACC*, see (i). However, whenever this pronoun is topicalized, as in (ii), it can only refer to an animate entity. The fact that discourse linking to animate NPs is easier than to inanimate NPs seems like a good reason to assume that animate interpretation is more accessible than inanimate.

(i) a. Na ostanovke stojal čelovek, no Ivan ego ne zametil
on bus stop stood person but Ivan him.ACC not noticed
'There was a person standing at the bus stop but Ivan didn't notice him.'

b. K ostanovke podošel avtobus, no Ivan ego ne zametil
to bus stop came bus but Ivan it.ACC not noticed
'A bus came to the bus stop but Ivan didn't notice it.'

(ii) [Na ostanovke ždal vsego odin čelovek, kogda podošel avtobus]$_{\text{CONTEXT}}$
'There was only one person waiting at the bus stop when the bus arrived.'

a. Ego$_1$ Ivan zametil t_1, (a avtobus net)
him.ACC Ivan noticed and bus.ACC not
'Ivan noticed him (but not the bus).'

b. ? Ego$_1$ Ivan zametil t_1, (a čeloveka net)
it.ACC Ivan noticed and person.ACC not

In this chapter, we have established that the unmarked order in Russian is S-V-O(-IO) and have proposed a formal and an interpretative license for Russian sentences that deviate from this canonical order. The next chapter investigates the syntactic processes involved in generating neutrally scrambled structures and defends the hypothesis that neutrally scrambled structures in Russian are the result of variation in the base component.

3. The syntax of neutral scrambling

3.1 A or A'-scrambling?

It was mentioned in the introduction to this manuscript that Russian sentences with neutral scrambling appear to have mixed properties with respect to A and A'-diagnostics. As a result, there has been continuous debate in the linguistic literature as to how Russian neutral scrambling should be analysed. Although most authors share the view that it is the result of movement, triggered either by a syntactic feature (Bailyn 2004) or by a discourse function (King 1995, Junghanns and Zybatow 1997, Ionin 2001, Slioussar 2007), there is no agreement as to whether it involves A-movement or A'-movement. The disagreement concerns the apparently chameleon behaviour of neutral scrambling in Russian: it has been observed to demonstrate A-properties in one syntactic context and A'-characteristics in another.

Various authors have noticed that neutral scrambling in Russian displays several properties typical of A-relations. For instance, it does not give rise to weak crossover effects (see (90)), is clause-bounded (see (3) repeated in (91)), and does not give rise to scope-reconstruction (see (92)) (Ionin, 2001, King, 1995).[31]

90.	Každuju	devočku$_1$	ljubit	eë$_1$	m**A**ma	OVS
	every	girl.ACC	loves	her	mum	
	'Every girl is loved by her mum.'					

[31] In (92a), the apparent wide scope reading of the existential quantifier is accessible due to the availability of a specific interpretation for the indefinite.

91. [Kto ty xočeš', čtoby poceloval Anju?]CONTEXT
Who do you want to kiss Anna?

\

a. Ja xoču, čtoby Anju pocelovala [K**A**tja]$_{FOC}$
I want that Anna.ACC kissed Catherine
'I want Catherine to kiss Anna.'

\

b. #Anju$_1$, ja xoču, čtoby [K**A**tja]$_{FOC}$ pocelovala t_1
Anna.ACC I want that Catherine kissed

\

c. #Anju$_1$, ja xoču, čtoby t_1 pocelovala [K**A**tja]$_{FOC}$
Anna.ACC I want that kissed Catherine

92. a. Každuju otkrytku podpisali [dva stud**E**nta]$_{FOC}$
every postcard.ACC signed two students
'Every postcard was signed by two students.'

∀> ∃; ?∃>∀

b. Dve otkrytki podpisal [každyj stud**E**nt]$_{FOC}$
two postcards.ACC signed every student
'Two postcards were signed by every student.'

∃>∀; *∀> ∃

The same properties hold of object-across-object neutral scrambling:

93. [Čto ty xočeš', čtoby sekretarša otoslala každomu avtoru?]CONTEXT
What do you want the secretary to send to every author?

a. Ja xoču, čtoby sekretarša otoslala každomu avtoru$_1$
I want that secretatry sent every author.DAT

[ego$_1$ stat'j**U**]$_{FOC}$
his article.ACC
'I want the secretary to sent every author his article.'

b. # Každomu avtoru$_1$, ja xoču, čtoby sekretarša otoslala
every author.DAT I want that secretatry sent

[ego$_1$ stat'j**U**]$_{FOC}$
his article.ACC

94. a. Sekretarša otoslala každomu avtoru dve stat'j**I**
secretary sent every author.DAT two articles.ACC
'The secretary sent every author two articles.'

∀> ∃; ?∃>∀

b. Sekretarša otoslala dvum avtoram každuju stat'j**U**
secretary sent two authors.DAT every article.ACC
'The secretary sent two authors every article.'

∃>∀;*∀> ∃

Following Mahajan's (1990) diagnostics for A vs. A'-position, the sentences in (90)-(94) should be analysed as involving A-scrambling. However, it has been claimed that scope reconstruction and WCO effects are unreliable tests for an A-relation in Russian because this language has so-called 'frozen' scope and obviates WCO effects in general (King 1995, Ionin 2001, Bailyn p.c., 2004).

Moreover, Ionin (2001) argues on the basis of the examples like (95) that neutral scrambling does not feed anaphoric binding in Russian, suggesting that the derived position of the object is not an A-position.

95. a. * Roditeli drug druga$_1$ videli detEj$_1$ SVO
parents.NOM each other.GEN saw children.ACC

b. * Detej$_1$ videli roditeli drug drUga$_1$ OVS
children.ACC saw parents.NOM each other.GEN

(Ionin 2001:44)

The assumed lack of anaphoric binding, the general lack of WCO effects and the 'frozen' scope property have led linguists to believe that in Russian neutrally scrambled OVS constructions, the object scrambles to an A'-position. There are, however, a number of reasons to reject this conclusion.

To begin with, the ungrammaticality of (95b) appears to be due to an independent factor: the Russian reciprocal resists being embedded in an animate argument carrying the most prominent θ-role in the predicate's argument structure. This claim is supported by the fact that native speakers of Russian find the phrase 'roditeli drug druga' *parents.NOM each other.GEN* ungrammatical on its own. This suffices to explain the ungrammaticality of (95b). It is beyond the scope of the present manuscript to investigate this selective behaviour of the Russian reciprocal. What matters is that embedding the reciprocal in an inanimate argument, as in (96b), results in a grammatical sentence, strongly suggesting that anaphoric binding is possible in Russian neutrally scrambled sentences.[32, 33]

96.	a.	*Vystrely	drug druga$_1$	ubili	milicion**E**rov$_1$	SVO
		shots.NOM	each other.GEN	killed	milicia-men.ACC	

[32] A reciprocal must be used in the examples involving anaphoric binding, as anaphors in Russian are subject-oriented.

[33] An embedded reciprocal is used in the examples involving anaphoric binding because the Russian reciprocal does not have a nominative form (e.g. *drug drug). This might be a result of an economy condition that blocks scrambled structures with a reciprocal as a subject due to the existence of an unmarked structure with a reciprocal as an object that already captures the required interpretation:

(i)	a.		Milicionery$_1$	ubili	drug dr**U**ga$_1$	SVO
			milicia-men	killed	each other.ACC	
	b.	*	Milicionerov$_1$	ubil	drug dr**U**g$_1$	OVS
			milicia-men.ACC	killed	each other	

b. Milicionerov$_1$ ubili vystrely drug dr**U**ga$_1$ OVS
milicia-men.ACC killed shots.NOM each other.GEN
'Milicia men were killed by each others shots.'

As expected, replacing the subject in (96) with an animate NP results in ungrammaticality, as in (97) (I am grateful to Klaus Abels for suggesting this example), while embedding a reciprocal in an animate argument that is not assigned the most prominent θ-role in the argument structure of the predicate is fine (see (98), where anaphoric binding is possible in both the unmarked structure in (98a) and the scrambled structure in (98b), respectively).[34]

97. * Milicionerov$_1$ ubili kollegi drug dr**U**ga$_1$ OVS
milicia-men.ACC killed colleagues.NOM each other.GEN

98. a. Boris predstavil Mašu i Ivana$_1$ SVOIO
Boris introduced [Masha and Ivan].ACC

roditeljam drug dr**U**ga$_1$
parents.DAT each other.GEN
'Boris introduced Masha and Ivan to each other's parents.'

b. Boris predstavil Maše i Ivanu$_1$ SVIOO
Boris introduced [Masha and Ivan].DAT

roditelej drug dr**U**ga$_1$
parents.ACC each other.GEN
'Boris introduced Masha and Ivan to each other's parents.'

[34] Although the unmarked structure in (98a) sounds more natural than the scrambled sentence in (98b), the latter is not perceived as ungrammatical, suggesting that the blocking effect observed in monotransitive constructions is not as pronounced in case with objects of a ditransitive verbs. This might be due to the observation that the interpretation of the sentences in (98a) and (98b) is not strictly speaking identical. Although the difference in the interpretation is rather subtle, it can still be imagined that introducing X to Y is not exactly the same as introducing Y to X.

At this point, the only remaining obstacle to analysing sentences with neutral scrambling as involving A-scrambling is the assumed property of 'frozen' scope and the general lack of WCO effects. However, the examples in (99) and (100), below, demonstrate that WCO violations and scope reconstruction do in fact obtain whenever an A'-moved quantifier undeniably crosses an argument. This suggests that the scrambled sentences that are taken to have 'frozen' scope or to lack WCO violations involve reconstruction of an A'-moved object to an A-position *above* the sentence-final focused subject, as in (101) and (102) below (Titov 2007, Titov to appear and Titov forthcoming).[35]

99. [Eë mama xočet, čtoby kto poceloval každuju babušku?]CONTEXT
Who does her mum want to kiss every grandma?

/

* [Každuju devočku]$_{TOP1}$, eë$_1$ mama xočet,
every girl.ACC her mum wants

[35] WCO violations and scope reconstruction also obtain in Russian split-scrambled constructions, as in (ia) and (ii), respectively. Split scrambling involves A'-movement of a contrastive constituent out of a larger constituent, with the in situ remnant lacking contrastive reading. As can be seen from (ib), the ungrammaticality of (ia) is indeed due to a WCO violation.

\

(i) a. * [D**E**vočku]$_{FOC1}$ eë$_1$ mama ljubit [každuju t_1], (a ne babušku)
girl.ACC her mum loves every (and not grandma)

\

b. [D**E**vočku]$_{FOC1}$ Ivan ljubit [každuju t_1], (a ne babušku)
girl.ACC Ivan loves every (and not grandma)
"Ivan loves every girl (not every grandma)."

\

(ii) [Každogo pian**I**sta]$_{FOC1}$ dva mal'čika slyshali [pesnju t_1]
every pianist.GEN two boys listened song.ACC

(a ne každogo gitarista)
(and not every guitarist)
'Two boys listened to a/the song of every pianist (not every guitarist).'

∃>∀; *∀> ∃

\

čtoby t_1 poceloval [Iv**A**n]$_{FOC}$ (a nasčët každoj babuški ne znaju)
that kissed Ivan (but about every grandma not know)

100. [Dva mal'čika xotjat, čtoby kto poceloval každuju babušku?]$_{CONTEXT}$
Who do two boys want to kiss every grandma?

/

[Každuju devočku]$_{TOP1}$, dva mal'čika xotjat,
every girl.ACC two boys want

\

čtoby t_1 poceloval [Iv**A**n]$_{FOC}$ (a nasčët každoj babuški ne znaju)
that kissed Ivan (but about every grandma not know)
'Two boys want every girl to be kissed by Ivan (but I don't know about every grandma).'

∃>∀; *∀> ∃

101. [Ivan xočet, čtoby kto poceloval každuju babušku?]$_{CONTEXT}$
Who does Ivan want to kiss every grandma?

/

[Každuju devočku]$_{TOP1}$, Ivan xočet, čtoby t_1
every girl.ACC Ivan wants that

\

pocelovala [eë$_1$ m**A**ma]$_{FOC}$ (a nasčët každoj babuški ne znaju)
kissed her mum (but about every grandma not know)
'Ivan wants every girl to be kissed by her mum (but I don't know about every grandma).'

102. [Ivan xočet', čtoby kto poceloval každuju babušku?]$_{CONTEXT}$
Who does Ivan want to kiss every grandma?

/

[Každuju devočku]$_{TOP1}$, Ivan xočet, čtoby t_1
every girl.ACC Ivan wants that

\

pocelovali	[dva	m**A**l'čika]$_{FOC}$	(a nasčët každoj babuški ne znaju)
kissed	two	boys	(but about every grandma not know)

'Ivan wants for every girl to be kissed by two boys.'

∀> ∃; ?∃>∀

In (99), the object of the embedded clause that conveys the interpretation of Contrastive Topic moves to the left periphery of the matrix clause and fails to bind a pronoun embedded in an argument of the main clause. Regardless of the approach to WCO adopted, binding-theoretic or scope licensing[36], the scrambled operator cannot be analyzed as being in an A-position in (99). In (100), the fronted universal, with the interpretation of Contrastive Topic, fails to take scope over the existential quantifier in the main clause. In (101) and (102), in contrast, the object arguably A'-moves from an A-scrambled position above the subject. Reconstruction to this position allows it to bind a pronoun embedded in the clause-final focused subject, (as in (101)), as well as to take scope over that subject (as shown in (102)).

In other words, what can be said about the examples in (101) and (102) is that an A-scrambled OVS structure with a focused subject is created prior to A'-scrambling of the object, which carries the interpretation of contrastive topic. As I will now argue, this marked order is precisely what the mapping rule in (30) would lead us to expect, because an object with the interpretation of contrastive topic is more prominent than a focused subject.

As can be seen from (99) – (102), in a Topic-Focus construction, the contrastive topic and the focus are both <-presupposed> and both can be <-D-linked> in the sense that neither the object nor the subject requires linking to an *identical* discourse-antecedent. Moreover, as can be seen from (103) below, neither animacy nor referentiality encoding can account for a scrambled structure in a Topic-Focus

[36] In the scope licensing account (Ruys, 2000) the operator licensing the pronoun does not have to be itself in a position from which it c-commands the pronoun but can be embedded in a c-commanding constituent over which it takes scope. This configuration is, however, impossible in Russian due to independent factors like, for instance, the lack of quantifier raising in this language.

sentence, as the object here is <-animate> and can be construed as <-referential> (see the translation).[37]

103. [Kto el sup?]CONTEXT
Who ate (the) soup?
/ \
[Boby]$_{CT}$ el [Bor**I**s]$_{FOC}$ (a nasčët supa ne znaju)
beans.ACC ate Boris (but I don't know about the soup)
'Boris ate (the) beans (but I don't know about (the) soup).'

However, an argument that conveys the interpretation of contrastive topic does contain a link to the discourse that an argument with the interpretation of new information focus lacks.[38] To be precise, the objects in (99) – (103) are linked to a member of a set to which they themselves belong. For instance, in (103), both the soup and the beans belong to the set of meals that Boris could potentially eat. It can therefore be argued that while the new information focus in (103) simply provides a value for y in 'y ate x', the contrastive topic replaces a member of the set of meals that is already present in the discourse with a different member of the same set. What can be said about the contrastive topics in (99) – (103), then, is that they are all linked to a *non-identical* discourse-antecedent. In other words, contrastive topics contain a *secondary* D-link. If so, the relative discourse-prominence of arguments in (99) – (103) is established on the basis of the <±D-linked> feature, with the object interpreted as discourse-prominent, unlike the subject: the former contains a link to the discourse that the latter lacks.

Since the mapping rule in (30) requires that A-scrambled structures respect the constraint in (28), it predicts that when the relative prominence of <-presupposed> arguments is established on the basis of the <±D-linked> feature, an object with the interpretation of contrastive topic A-scrambles above a subject that belongs to <-D-linked> new information focus. The resulting OVS structure may then serve as input for A'-movement of the contrastive topic.

[37] Some authors argue that contrastive topics must be specific. However, as is evident from (103), contrastive topics can be interpreted as non-specific indefinites.

[38] For reasons for analysing focus in Topic-Focus as <-contrastive> see Part II chapter 5 section 5.3.

Although it is impossible to determine on the basis of the surface order whether the objects conveying the interpretation of contrastive topic in (99) – (103) have undergone A'-movement from their canonical underlying position or from an A-scrambled position above the subject, this issue can be settled on the basis of scope, given that A'-movement obligatorily reconstructs for scope.[39] That is, A'-movement from the canonical underlying position would result in the object being interpreted in the scope of the subject. However, as can be seen from the scopal reading in (102), in a Russian Topic-Focus sentence, topic outscopes focus, strongly suggesting that, whenever the object is a contrastive topic and the subject a new information focus, an A-scrambled structure is formed prior to A'-movement of the object.

As already mentioned, the <±D-linked> feature can only regulate the relative prominence of <-presupposed> arguments, as no argument can be <+presupposed> and <-D-linked>. This is exactly the type of prominence encoding we find in the Topic-Focus sentences in (99) – (103), where both arguments are <-presupposed> but only the object carries a positive value with respect to the <±D-linked> feature.

Unsurprisingly, the <±presupposed> feature is also capable of regulating the relative prominence of arguments that have equal values with respect to the <±D-linked> feature (see (104) and (105)). After all, the <±presupposed> and the <±D-linked> features are ranked equally on the hierarchy in (88). In (104), a <+presupposed> and <+D-linked> indefinite subject outscopes the A'-scrambled <-presupposed> and <+D-linked> object. Similarly, the sentence in (105) has inverse scope, suggesting that a scrambled OVS structure is created prior to A'-scrambling of

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[39] That A'-scrambled constituents obligatorily reconstruct is apparent from examples like (i) below, which are unambiguous: the indefinite cannot be dependent on the universal. For further discussion, see Neeleman & Van de Koot 2008. The same judgment holds for the Russian examples in (ii) and in (100) in the main text (contra Bailyn 2001).

(i) [Every b**O**y]$_{CF1}$ two girls said [that Mary kissed t_1]

∃>∀; *∀> ∃

(ii) [Každogo m**A**l'čika]$_{CF1}$ dve devočki xotjat, [čtoby Maša pocelovala t_1]
every boy.ACC two girls want that Masha kissed
'Two girls want every boy to be kissed by Masha.'

∃>∀; *∀> ∃

the subject despite both arguments being <+D-linked>, as long as the object is <+presupposed> and the subject <-presupposed>.

104. [Gde dva mal'čika vstretili každuju babušku ?]CONTEXT
Where did two boys meet every grandma?

	/					\
[Každuju	devočku]$_{TOP1}$,	dva	mal'čika	vstretili	t_1	[d**O**ma]$_{FOC}$
every	girl.ACC	two	boys	met		at-home

(a nasčët každoj babuški ne znaju)
(and about every grandma not know)
'Two boys met every girl at home (but I don't know about every grandma).'
∃>∀; *∀> ∃

105. [Gde každaja babuška vstretila dvux mal'čikov?]CONTEXT
Where did every grandma meet two boys?

	/					\
[Každaja	devočka]$_{TOP1}$,	dvux	mal'čikov	vstretila	t_1	[d**O**ma]$_{FOC}$
every	girl	two	boys.ACC	met		at-home

(a nasčët každoj babuški ne znaju)
(and about every grandma not know)
'Every girl met two boys at home (but I don't know about every grandma).'
∃>∀; *∀> ∃

Analogously, in (106), the <±presupposed> feature licenses an A-scrambled order of two <+D-linked> arguments (see (106a)). The unmarked structure where a <-presupposed> argument precedes the <+presupposed> argument is disallowed despite both arguments being D-linked to a set (see (106b)).

106. [Kto el sup?]CONTEXT
Who ate (the) soup?

		/		\	
		[Boby]$_{CT}$	el	[Bor**I**s]$_{FOC}$,	a…
		beans.ACC	ate	Boris	and
		/		\	
a.		sup	(el)	Ivan	
		soup.ACC	ate	Ivan	
		/		\	
b.	#	Ivan	(el)	sup	
		Ivan	ate	soup.ACC	

'Boris ate (the) beans (but I don't know about (the) soup).'

The findings of this section support the view that an A-scrambled Topic-Focus structure licensed by the <±D-linked> feature can be created prior to A'-scrambling of the contrastive topic. This explains the scope and binding facts previously taken as evidence for the frozen scope property and the apparent lack of WCO effects. Moreover, the data in (99) and (100) straightforwardly contradict the hypothesis that Russian consistently has surface scope and obviates WCO violations. Russian neutral scrambling has been shown to target a position that passes all the diagnostics for an A-position, strongly suggesting that it should be analysed as an instance of A-scrambling. The next section questions the view according to which Russian A-scrambling involves movement and argues for a base-generation analysis.

3.2 Base-generated scrambling

3.2.1 Scope facts

Russian A-scrambling can be analysed either as resulting from A-movement (Bailyn 2004, King 1995, Slioussar 2007) or from variation in the base component (Titov 2007).[40] There are two arguments supporting the latter analysis.

[40] Richards' (2008) analysis of A-scrambling that attempts to tackle the locality and scope issues is discussed in Chapter 4.

First, to sustain an A-movement analysis of A-scrambling, it must be stipulated that this type of A-movement is not subject to locality restrictions (Rizzi 1990), as neutral scrambling would require A-movement of argument NPs/DPs across c-commanding argument NPs/DPs. However, we have already seen that Russian A-scrambling does obey locality. Recall the examples involving remnant topicalization discussed in the previous chapter. These were shown to favour an analysis where a higher-merged <+prominent> object A-moves out of a *v*P that conveys the interpretation of contrastive topic (see (68a) repeated in (107a) below). The <-prominent> object, in contrast, is unable to move out of the *v*P in (68b) (repeated in (107b)), presumably because this operation would violate locality.

107. a. [Čitat' skazki]$_{TOP1}$ roditeli detjam očen' ljUbjat t_1
read.INF tales.ACC parents kids.DAT very like
'Parents like to read (the) tales to (the) children very much.'

b. # [Čitatj detjam]$_{TOP1}$ roditeli skazki očen' ljUbjat t_1
read.INF kids.DAT parents tales.ACC very like

(Dyakonova 2007:22)

We may therefore conclude that these data strongly support the conclusion that Russian A-movement respects locality, as one would expect. Consequently, it is reasonable to assume that A-scrambling of argument NPs/DPs across c-commanding argument NPs/DPs does not involve A-movement.

Moreover, an A-movement analysis of Russian A-scrambling requires a further stipulation: it must be assumed that there is no scope reconstruction in the A-chains formed by this operation. This stipulation, however, is not supported by Russian data either: a Russian passive, which is only minimally distinct from an A-scrambled OVS structure, does allow for scope reconstruction of the A-moved argument. That is, unlike the A-scrambled structure in (92b), the minimally different passive in (108) is scopally ambiguous:

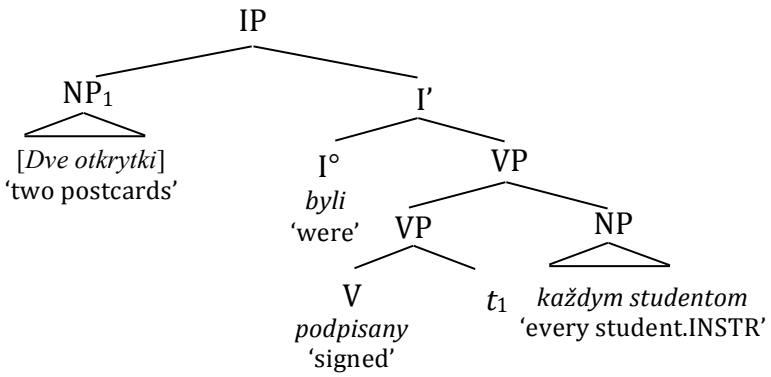
108. [Dve otkrytki]$_1$ byli podpisany t_1 każdym studentom
two postcards were signed every student.INSTR
'At least two postcards were signed by every student.'

∃>∀; ∀> ∃

In (108) the underlying direct object undergoes A-movement to SpecIP, as is characteristic of the passive construction. The interpretation of the sentence in (108) is ambiguous: there is a wide scope reading for the indefinite with respect to the universal, conveying that every student signed the same two postcards, and also a narrow scope reading for the indefinite denoting the distributive interpretation where for every student there were two postcards that he signed.

The availability of the second reading confirms that the A-moved indefinite quantifier can be interpreted in the scope of the universal quantifier in the 'by-phrase'. This is expected considering that the trace of the moved object is left in its thematic position, which is below the VP-adjoined 'by-phrase':

109.



Admittedly, without any context, the wide scope reading of the existential quantifier in (108) is easier to access than the narrow scope reading, making it difficult to see the scopal difference between (108) and (92b). However, whenever the OVS structure and its passive counterpart are placed in a context that forces the narrow scope reading of the existential quantifier, the difference between their scopal properties becomes obvious.

To demonstrate this, we will set up a context that makes a reading where an indefinite outscopes a universal semantically odd, as in (110)-(111). This semantic

oddness forces the indefinite to reconstruct below the universal whenever such reconstruction is possible.

110. Context: *Too many reporters arrived at the crime scene and there were not enough cars to accommodate all of them. A lot of effort was made to find a place for each of them in the 10 available cars and eventually…*

a. # Dvux reportërov vmestila každaja mašina OVS
two reporters.ACC accommodated every car

b. Každaja mašina vmestila dvux reportërov SVO
every car accommodated two reporters.ACC
'Every car accommodated two reporters.'

In (110a), the A-scrambled OVS structure is disallowed in the given context despite it having an interpretative license provided by the <±animate> feature.[41] That is, even though the object is <+animate> and the subject is <-animate>, an A-scrambled structure cannot be used in the context of (110). Provided that the inverse scope reading is unavailable in structures of neutral scrambling, we may attribute this fact to the absence of a contextual license for the surface scope reading of (110a), which would require each of the ten cars to accommodate the same two reporters at the same time. Notably, the verb in (110) is in perfective aspect signalling that the action took place once but the same two reporters cannot be in every car at once. The required distributed reading is of course captured correctly by the surface scope of (110b).

Moreover, an unmarked structure, as in (111a), is also impossible in a context that forces an inverse scope reading, despite the arguments carrying identical values with respect to the <±animate> feature, suggesting that there is no quantifier raising (henceforth QR) in Russian unmarked SVO structures.[42] Thus, only the semantically

[41] The contexts in (110) and (111) are set up in such a way that both arguments carry identical values as regards the <±presupposed> feature. The interpretation of arguments with respect to <±referential> feature is free in these examples.

[42] Antonyuk-Yudina (2010) argues on the basis of the example in (i) that QR is possible in Russian but is restricted to the verbal domain. In (i), the objects are in the O-IO order, which the author also analyses as the unmarked order. According to the author's judgments, both readings, surface and inverse, are possible in (i).

(i)	Učitel’	dal	kakuju-to	knigu	každomu	studentu
	TeacherNOM.MSC	gave	[some	book]ACC.FEM	[every	student]DAT.MSC

‘The teacher gave some book to every student’ (some > every), (every > some)

Antonyuk-Yudina (2010:4a)

However, an analysis of (i) as having both scopal readings is undermined by the following observations:

First, the indefinite in (i) is modified by a wh-TO pronoun that is used in Russian to signal that the referent is not identifiable by the speaker (Geist 2008). It is, however, possible to anchor the object NP modified by wh-TO in (i) to the discourse referent introduced by the subject-NP. In fact, the latter interpretation is obligatory in (i), as the <±referential> feature is the only interpretation in this supposedly all-focus sentence that can override the <±animate> feature and prevent it from licensing a scrambled order. In other words, the interpretation of the direct object as specific is forced in (i) by the fact that it is <-animate>, whereas the indirect object is <+animate>. This means that ‘some book’ must be interpreted as a specific book known to the teacher but not the speaker.

Second, the verb in (i) is in the perfective aspect signaling that the action took place only once. But a teacher cannot give one specific book to every student at the same time (unless he tears it in pieces).

Both of the above facts force a particular reading in (i) according to which the teacher gave books with one *specific title* to every student. In other words, ‘some book’ does not denote an object that is a book but only a title of a book in (i).

Therefore, instead of analysing the sentence in (i) as having both scopal readings, I would suggest that only the surface scope is possible here, which is in fact forced by the specific interpretation of the direct object. Yet, the semantic oddness triggered by the aspectual properties of the verb prevents the direct object from denoting a specific book and forces it to refer to a specific property of this book, namely, its title. Although this results in the reading where different books with the same title have been distributed to the students, the direct object does not refer to books but to their title, and it is one and the same title that each student has received.

For a true distributive interpretation either the direct object would have to refer to books that are distributed among students, or, if it still denotes a title of a book, it should be possible for the sentence to have the interpretation where each student received a book with a different title. Neither of these interpretations is accessible in (i), strongly suggesting that no inverse scope and no QR are possible in the verbal domain in Russian. This outcome is further supported by the observation that if instead of ‘wh-TO book’, ‘two books’ were used, and the direct object could no longer denote a specific title of a book, the sentence in (i) would become nonsensical under the assumption that there are more than two students, as it would require that the same two books were given to every student at once. The semantic oddness of (ii) strongly supports the view that only surface scope is possible in Russian unmarked

odd surface scope reading is available for (111a). As a result, the A-scrambled OVS construction in (111b) is more felicitous in the given context, as it is the only structure that can convey the required distributive interpretation, according to which for every house there were two different flags that decorated it.

111. Context: *Flags were being placed on the roofs of each of the 73 houses on our street. At the end of the day...*

a.	#	Dva	flaga	ukrasili	každyj	dom	SVO
		two	flags	decorated	every	house.ACC	

b.	Každyj	dom	ukrasili	dva	flaga	OVS
	every	house.ACC	decorated	two	flags	
	'Every house was decorated with two flags.'					

The data in (111) support the already suggested view that an A-scrambled structure in Russian can be created not only to reflect the relative prominence of arguments but also to allow one argument to appear in the scope of another, as in (111b). In other words, whenever an unmarked structure, as in (111a), fails to achieve the required scopal interpretation, a marked structure is used. In addition, we have seen that, whenever an unmarked structure can achieve the required scopal reading, a scrambled structure cannot be used (see (110)). Logically, such scopal encoding is achievable only if both the unmarked and the A-scrambled structures unambiguously correspond to one particular scopal reading (in the case at hand, this is the surface scope reading). After all, if both readings were available for the unmarked structure, a marked structure would never be licensed by scope considerations. Similarly, if an A-

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structures and that there is no QR even in the verbal domain. (The sentence in (ii) improves if a modifier such as *po-očeredi* 'in turn' is used, which makes the construal of repeated action available.)

(ii)	#	Učitel'	dal	dve	knigi	každomu	studentu
		TeacherNOM.MSC	gave	[two	books]ACC.FEM	[every	student]DAT.MSC
		'The teacher gave some book to every student'					
							∃>∀; *∀> ∃

scrambled structure were scopally ambiguous, it would be incapable of encoding any particular scopal interpretation.

While the data in (110) and (111) demonstrate that only surface scope is available for Russian unmarked and A-scrambled constructions, the minimally distinct passive construction can quite easily occur in the context given in (110), repeated in (112), without triggering semantic oddness (see (112a)). This suggests that the A-moved indefinite is able to reconstruct to a position below the universal.

112. Context: *Too many reporters arrived at the crime scene and there were not enough cars to accommodate all of them. A lot of effort was made to find a place for each of them in the 10 available cars and eventually…*

a. Dva reportëra byli razmeščeny v každoj mašine
two reporters were accomodated in every car
'Two reporters were accommodated in every car.'

b. # V každoj mašine byli razmeščeny dva reportëra
in every car were accomodated two reporters

Moreover, since the passive sentence in (112a) is capable of encoding the required distributive reading, the scrambled variant of the passive construction in (112b) is inappropriate in the given context, as it does not achieve any interpretation that is not already captured by (112a).[43]

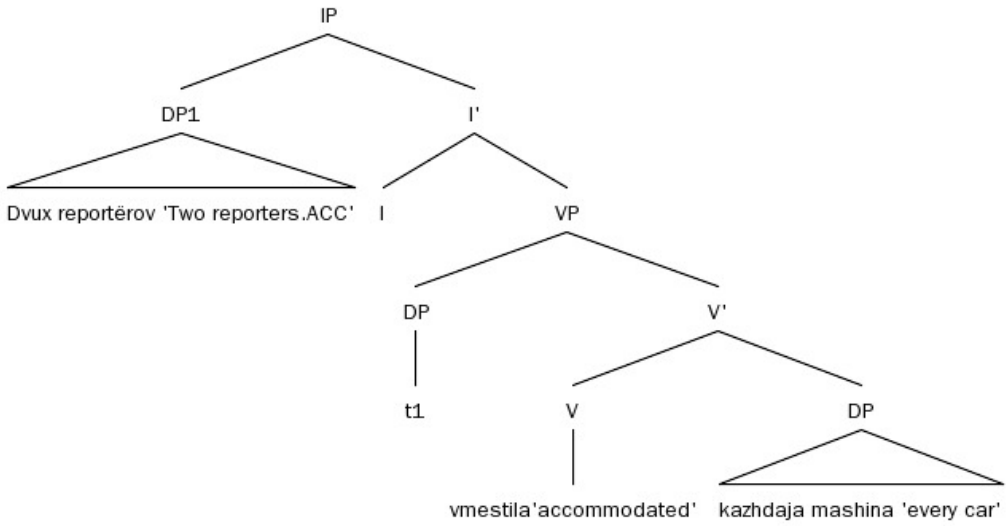
The sentence in (112b) sounds more felicitous in a context that forces narrow focus on the thematic object, for example, 'Who was accommodated in every car?'. In such a context, (112b) would better reflect the information structure of the sentence by placing <+presupposed> material before the <-presupposed> argument, while keeping the required wide-scope reading for the universal.

The data in (110) and (112) demonstrate that inverse scope is available for passive constructions but not for A-scrambled structures. This suggests that the underlying object of a passive construction undergoes A-movement, which allows it

[43] I am assuming that in the scrambled passive construction the direct object stays in-situ, whereas the PP moves to SpecIP.

to take scope in the position of the trace. The object of an A-scrambled structure, conversely, is only capable of taking wide scope, strongly suggesting that it is generated in a position above the subject. What remains to be clarified is what exactly the underlying structures of (110) and (112) are and how the difference in scopal readings comes about. Let us first look at the A-scrambled structure in (110a). Assuming, as before, that the object DP is generated above the subject DP in Russian OVS constructions, (110a) must have the structure given in (113), where the verb merges first with the subject DP and only then with the object DP. The latter moves to SpecIP to satisfy the EPP.[44] Reconstruction of the object DP to the position above the subject DP results in surface scope.

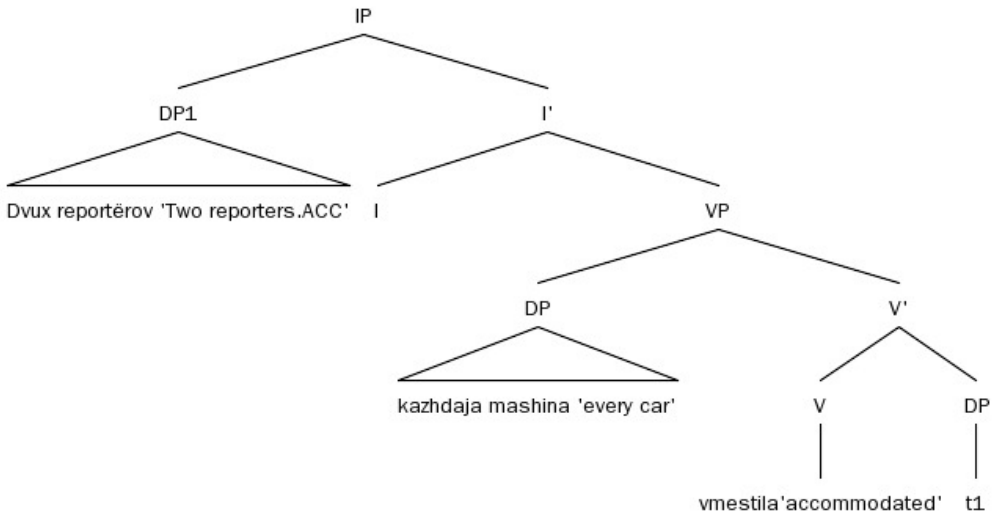
113.



Locality considerations rule out structures where an object DP moves to SpecIP across a c-commanding subject DP to satisfy the EPP, as in (114). This accounts for the unavailability of inverse scope in A-scrambled constructions, as well as the unavailability of A-scrambled OSV orders.

[44] It is debatable whether Russian is subject to the EPP condition in the same way as English is, as in intransitive constructions SpecIP can be left unfilled. This is because movement to this position is restricted to arguments with a specific interpretation in this type of construction (Titov 2009). Non-specific arguments therefore remain within the intransitive VP. However, in transitive constructions, as well as in intransitive constructions with an adjunct, movement of one of the XPs to SpecIP becomes obligatory (see also Bailyn 2004 for the claim that in Russian the EPP can be satisfied by any XP).

114. *



As can be seen from (113) and (114), relativized minimality and the assumption that objects are generated above subjects in Russian OVS gives us the correct result with respect to scopal readings in Russian A-scrambled OVS sentences.

Let us now turn to the passive constructions in (112). These contain a ditransitive verb that takes a Patient DP object and a Location PP object.[45] The active variants of (112) are given in (115). The active sentence in (115a) has an unmarked order of objects, with the animate object DP preceding and outscoping the inanimate object PP. The sentence in (115b), conversely, is an A-scrambled variant of (115a). Here the object PP outscopes the object DP. Both structures have surface scope.

115. a. Organizatory razmestili dvux reportërov
organizers accommodated two reporters.ACC

v každoj mašine
in every car.PREP
'(The) organizers accommodated two reporters in every car.'

∃>∀; *∀> ∃

[45] I am ignoring the fact that phrases containing quantifiers and numerals are sometimes analysed as QPs and NumPs, respectively, as all of these phrases behave like DPs/NPs in terms of locality.

b. Organizatory razmestili v každoj mašine
organizers accommodated in every car.PREP

dvux reportërov
two reporters.ACC
'(The) organizers accommodated two reporters in every car.'

∀> ∃; ?∃>∀

The sentence in (115b) can serve as the underlying structure for (112b). As mentioned earlier, (112b) is felicitous in a context where the PP is <+presupposed> and the DP <-presupposed>. In this case, the difference in the value with respect to the <±presupposed> feature licenses an A-scrambled structure in (115b) and (112b). The PP object moves to SpecIP to satisfy the EPP and the resulting structure satisfies the mapping rule in (30), as the <+prominent> argument precedes the <-prominent> argument.[46]

Curiously, the scrambled structure in (115b) must also be able to serve as the underlying structure for the passive sentence in (112a). This is because the inverse scope reading is available for it. In other words, to account for the availability of both scopal readings in passive constructions, our theory must allow both structures in (115) to be available as underlying structures for (112a):[47]

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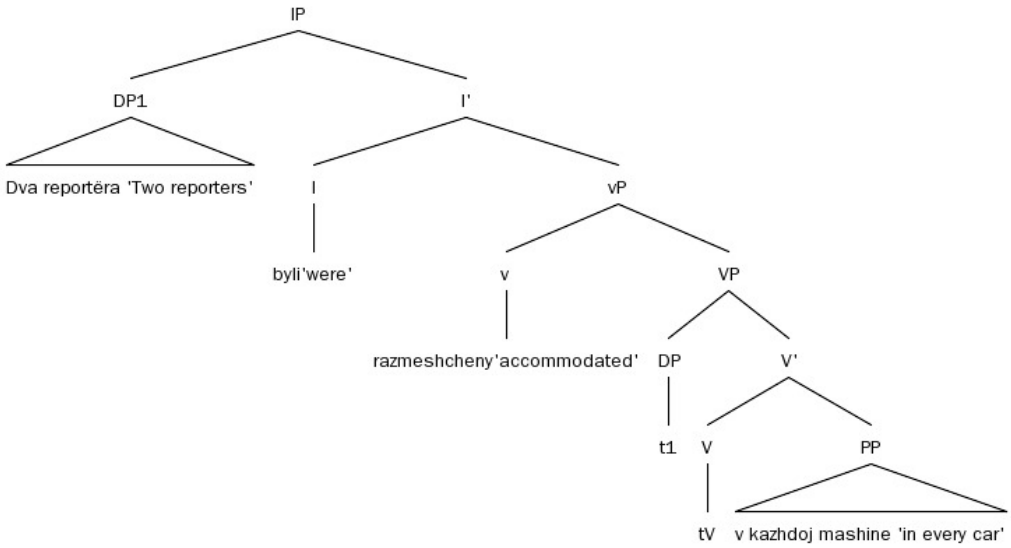
[46] Note that the PP in (112) and (115) cannot be analysed as an adjunct because of its obligatory status:

(i) * Dva reportëra byli razmeščeny
two reporters were accomodated

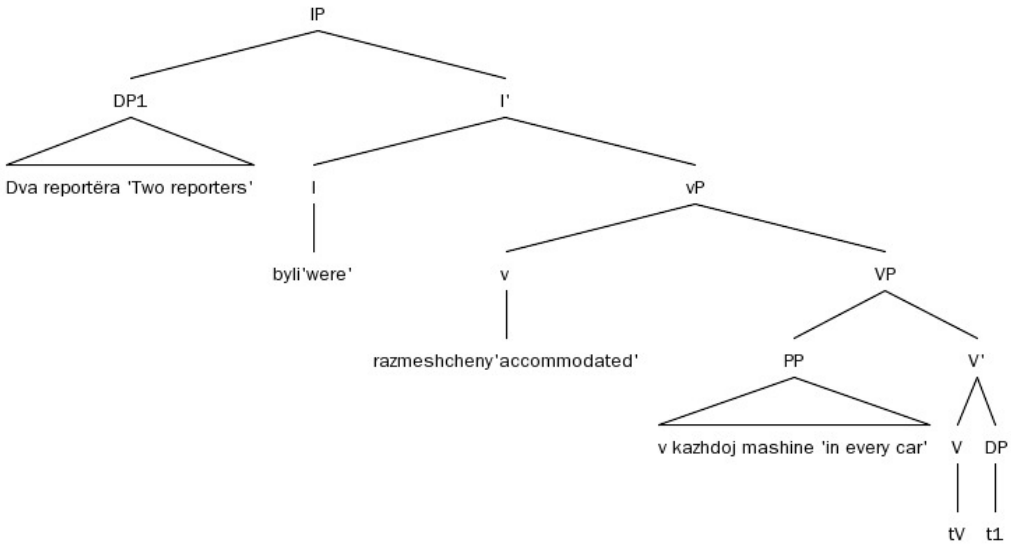
The sentence in (i) is ungrammatical because the Russian verb *razmestit'* 'to accommodate/place/locate' requires overt presence of the argument receiving the Location role.

[47] Although the availability of both scopal readings in the passive construction in (112a) allows for the conclusion that (115b) is the only source for it (after all, given the availability of optional scope reconstruction in A-chains, the surface scope can be achieved by interpreting the indefinite DP in the derived position), such an assumption is theoretically implausible. The sentence in (115b) is a scrambled sentence that requires an interpretative licence. However, the animacy distinction between the arguments favours the unmarked structure given in (115a). Moreover, the context in (112) cannot license scrambling on the basis of the <±presupposed> or the <±referential> features (this is why in (112b) is infelicitous in this context). Therefore, the scrambled sentence in (115b) can only be licensed

116. *Surface scope*



117. *Inverse scope*



Importantly, the structure in (117) is not ruled out by locality considerations, because, unlike the infelicitous structure in (114), the construction in (117) involves A-movement of a DP across a c-commanding PP (and not a c-commanding DP). That is,

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by scope considerations if it is the source for (112a). At the same time, it would be rather counterintuitive to assume that the scrambled structure licensed by scope considerations is the source for a passive sentence that does not reflect the relevant scopal relations. In particular, this is anti-economical considering that the unmarked structure in (115a) can be the source for (112a) whenever the latter has surface scope.

the DP containing the universal quantifier does not c-command the DP containing the indefinite, as the former is too deeply embedded in the PP.[48]

The assumption that the underlying direct object is allowed to A-move to SpecIP from a position below the PP containing the universal helps us capture the fact that the inverse scope reading is available for the passive sentence in (112a) but not for the A-scrambled sentence in (110a). However, it remains unclear why it is the DP that moves to SpecIP in (112a) and not the PP. We know that a PP can move to this position (see (112b)) in an appropriate context. Moreover, assuming that an A-scrambled structure in (115b) licensed by scopal considerations serves as the underlying structure for (112a), movement of the DP creates a longer A-chain than movement of a PP would (see (110)). What licenses this longer chain?

Recall that the sentence with a moved PP, as in (112b), is infelicitous in the context of (112) but it is perfectly fine in a context where the PP is more prominent than the DP. In the latter case, the structure in (112b) can be transparently mapped onto the information-structural representation that obeys (28). In the context of (112), however, animacy is the only IS interpretation that is operative, and the encoding of this interpretation favours the unmarked DP-PP surface order. Although scopal considerations license a marked order of merger in (112a), the absence of locality restrictions in this sentence allows it to obey the mapping rule in (30) as well. By hypothesis, this is achieved via A-movement of the animate DP across the inanimate PP. The resulting surface order of the arguments corresponds to the animate DP preceding the inanimate PP. This structure can be transparently mapped onto an information-structural representation that obeys (28). In other words, the structure in (112a) is the optimal structure for the context in (112), as it captures the correct scopal reading through an inverse order of merger of arguments and satisfies (30) via A-

[48] It must be assumed that PPs in c-commanding A-positions cannot block A-movement of DPs across them to account for examples like in (i) (Hans van de Koot p.c.):

(i) John$_1$ seems to Mary [t_1 to be the most desirable man on earth]

In (i), the subject DP of the embedded clause A-moves to the SpecIP position of the matrix clause crossing a c-commanding PP in an A-position. This suggests that PPs should be treated different from DPs in an A-chain, which might be due to the former being inert for the case/agreement system (Hans van de Koot p.c.).

movement of the animate DP across the inanimate PP. Assuming that quantifier scope relations are based on c-command (overt or covert), whereas information-structural prominence is reliant on surface precedence, the structure in (112a) fits the context in (112) perfectly.

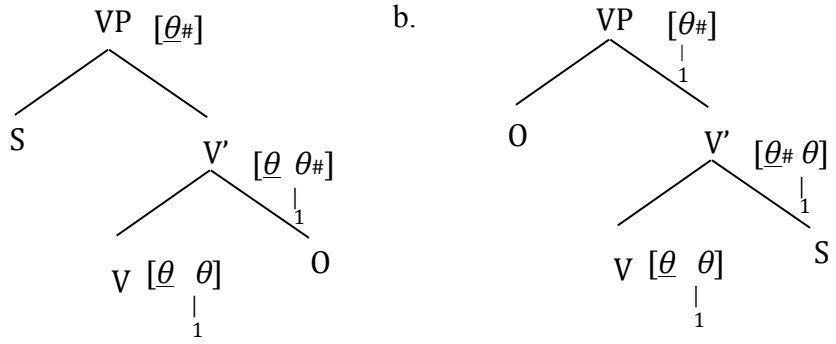
To sum up, the fact that Russian passives allow for both surface and inverse scope construals suggests that an A-moved indefinite can take scope not only in its derived surface position but also in the position of its trace. Sentences with A-scrambling of argument DPs/NPs across c-commanding argument DPs/NPs, in contrast, are better analysed as base-generated, as only the surface scope is available for them, indicating that no movement takes place.

3.2.2 The mechanism of base-generated scrambling and conditions on its application

The scopal properties of A-scrambled OVS sentences with two DP/NP arguments suggest that these are better analyzed as involving a marked order of merger rather than A-movement. As argued in the previous chapters, scrambled structures are marked with respect to canonical orders and therefore require an interpretative license. In a movement analysis, scrambled structures are costly because they involve an extra movement operation (Chomsky 1995), and, in the case at hand, they also involve extra structure, as the OVS order cannot be achieved simply by movement of the object to SpecIP. For the base-generation analysis, I would like to adopt the idea developed by Neeleman and van de Koot (in preparation) that scrambled structures are costly because they involve late assignment of a θ-role that is linked to a more complex object in the predicate's ordering tier, as in (118b). To be precise, the orders of projection in the unmarked SVO structure in (118a) and the scrambled OVS construction in (118b) are not equally economical. The optimal order of assignment of θ-roles is the one that maximally reduces the content of the projecting predicate (see (118a)). Marked orders, on the other hand, result from the assignment of an 'unexpected' θ-role, one whose assignment does not maximally reduce the content of the projecting predicate (see (118b)). Assuming that only the external θ-role is not linked to the ordering tier, copying it is cheaper than copying a linked θ-role. This is because copying the latter requires simultaneous copying of a link to the ordering tier.

As a result, whenever the external θ-role is assigned before an internal one, a more complex structure results. The added complexity of the marked OVS structure in (118b) is particularly visible when compared to the unmarked structure in (118a) where the head's external θ-role is assigned after the discharge of the internal role. Unlike the unmarked SVO construction in (118a), (118b) contains an additional copy of a θ-role linked to the ordering tier.

118. a. b.



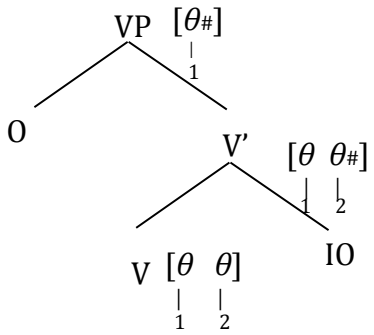
Assuming that θ-role assignment applies under direct domination (Neeleman and van de Koot 2002), which in turn forces copying of a θ-role to the first node above an argument, the internal θ-role linked to the ordering tier must be copied to the VP-node in order to be satisfied by the object NP in (118b) ('#' signals satisfaction of a θ-role). In (118a), on the other hand, the internal θ-role is dispensed first. The fact that the θ-role linked to the ordering tier does not have to be copied above the V'-node makes the unmarked SVO structure in (118a) more economical than the marked OVS in (118b).

For similar reasons, an unmarked ditransitive structure also has lower information content than a marked structure in which IO scrambles across DO. Although both objects carry an internal θ-role linked to the ordering tier, the least prominent θ-role of the two is assumed to be linked to a more complex object in the ordering tier. All else being equal, this θ-role is therefore discharged first. The orders of projection of the unmarked SVOIO in (119a) and the scrambled SVIOO in (119b) are therefore not equally economical, as can be seen from (120a) and (120b), respectively. To be exact, (120b) contains an additional copy of the Goal θ-role that is linked to a more complex object in the predicate's ordering tier.

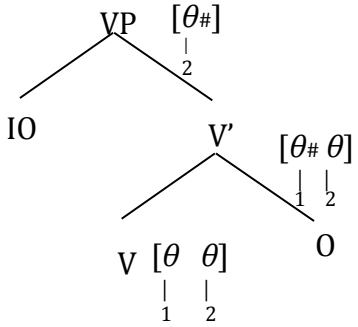
119. a. [Ivan predstavil studentov dek**A**nu]$_{FOC}$ SVOIO
Ivan introduced students.ACC dean.DAT
'Ivan introduced the students to the dean.'

b. Ivan predstavil dekanu [stud**E**ntov]$_{FOC}$ SVIOO
Ivan introduced dean.DAT students.ACC
'Ivan introduced the students to the dean.'

120. a.



b.



The hypothesis that I would like to put forward is that in Russian, there are two conditions on base-generated scrambling. First, I will assume that the choice between A-movement and base-generation of A-scrambling is subject to economy. That is, Russian aims at obeying (30) using the most economical syntactic structure that is available. The optimal representation therefore results from an interaction of syntactic and information-structural constraints. For instance, Russian has an independent syntactic requirement that the SpecIP position be filled. In the unmarked case, this position is occupied by the subject. However, the unmarked structure cannot consistently obey (30). Whenever the required transparent mapping cannot be achieved by the unmarked structure, movement of a <+prominent> argument to SpecIP becomes the preferred option. From the point of view of economy, the argument that is closest to the SpecIP position is the optimal candidate for movement to this position, as such movement creates the shortest A-chain. However, movement of the closest argument can become a disfavored option if the resulting structure does not obey (30). In this case, a longer A-chain is allowed as long as movement does not violate locality and the resulting structure satisfies (30). By hypothesis, whenever a <+prominent> argument cannot move to SpecIP due to a locality violation, base-generation becomes the only available strategy used by the language to satisfy (30).

Finally, whenever base-generation is also ruled out by an independent syntactic constraint (see below), the rule in (30) is violated, as there is no way of satisfying it. In other words, violation of (30) is the last resort option that the language has to choose when no other options are available.

In conclusion, the option of generating NPs in a scrambled order is chosen over A-movement only when the latter violates a syntactic constraint such as locality. That is, whenever a discourse-related A-movement of an argument NP/DP to SpecIP is possible without crossing any c-commanding argument NPs/DPs, this option is chosen over base-generation as the most economical. This is because movement in this case satisfies an independent syntactic requirement that the SpecIP must be filled. In a base-generated A-scrambled structure, the highest merged argument has to undergo this movement as well, as the EPP requirement holds in any transitive construction. Consequently, a structure that satisfies both the EPP and (30) with one step of movement is more economical than the one that contains two costly operations: an inverse order of merger in order to satisfy (30) and movement to satisfy the EPP.

We have already argued for the existence of discourse-related A-movement in ditransitive constructions discussed in section 2.3.2.3, where an object NP in SpecVP was assumed to undergo A-movement out of this VP in order to resolve a clash in discourse interpretations between the NP and the *v*P. The object NP in the complement to V position, in contrast, could not undergo the same movement operation as the object NP in SpecVP. This contrast was attributed to Relativized Minimality.

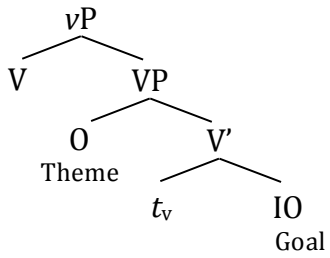
This proposal makes correct predictions for examples with an unmarked order of merger of objects of a ditransitive verb, as in (121) and (122).

121.	Maša	možet	predstavit’	studenta	dekanu
	Masha	can	introduce	student.ACC	dean.DAT

‘*Masha wants to introduce a/the dean to a/the student.’*

In (121), the objects are merged in the unmarked O-IO order, as shown in (122).

122.



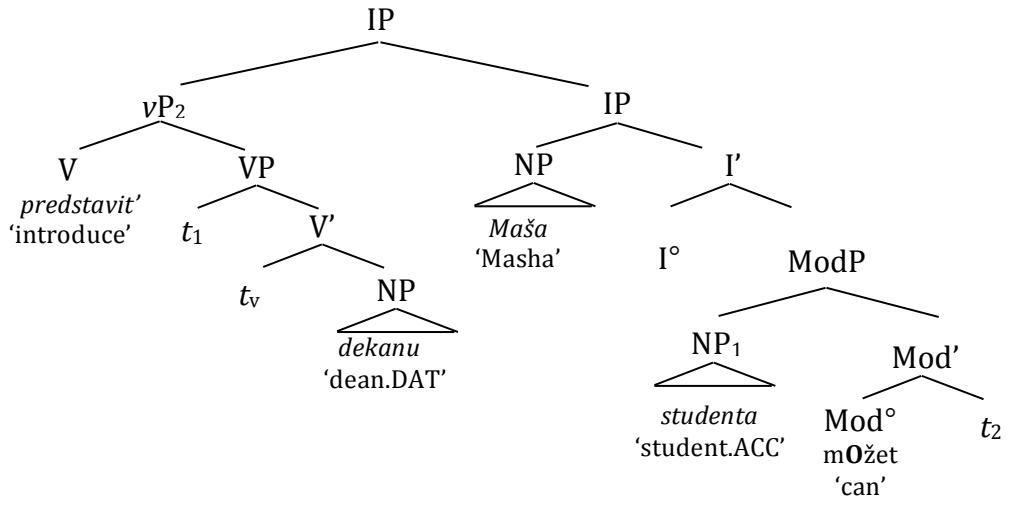
UNMARKED STRUCTURE

Whenever the VP has the interpretation of a contrastive topic but the Theme object does not, the latter is assumed to undergo A-movement out of the VP, as in (123a) (the corresponding structure is given in (124)). The Goal object, in contrast, cannot undergo the same movement operation, unless referentiality encoding licenses a marked order of merger. Example (123b) is therefore not acceptable when the interpretation of objects with respect to the <±referential> feature is free.

123. a. [Predstavit' dekanu]$_{TOP1}$ Maša studenta m**O**žet t_1
introduce dean.DAT Masha student.ACC wants
'*Masha wants to introduce a/the dean to a/the student.'*

b. # [Predstavit' studenta]$_{TOP1}$ Maša dekanu m**O**žet t_1
introduce student.ACC Masha dean.DAT wants
'*Masha wants to introduce **the** dean to **a** student.'*

124.

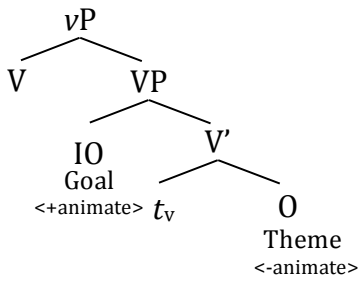


In (122) and (124) the Theme is merged after the Goal, as the objects have the same value for all the features on the hierarchy in (88). As a result, the higher merged Theme is allowed to undergo A-movement out of the *v*P. The remnant *v*P containing the trace of the A-moved direct object subsequently undergoes A'-fronting due to its interpretation of contrastive topic. Importantly, the Goal is not allowed to undergo A-movement out of the *v*P prior to the latter's fronting because such movement would cross the c-commanding Theme NP.

This proposal also makes correct predictions for examples in which the objects are merged in a marked order. In (125), the Goal is <+animate>, whereas the Theme is <-animate>, so that (89) licenses a marked order of merger, as shown in (126).

125. Ja mogu podarit' detjam1 podarki
I can give.INF children.DAT presents.ACC
'I can give (the) presents to (the) children.'

126.



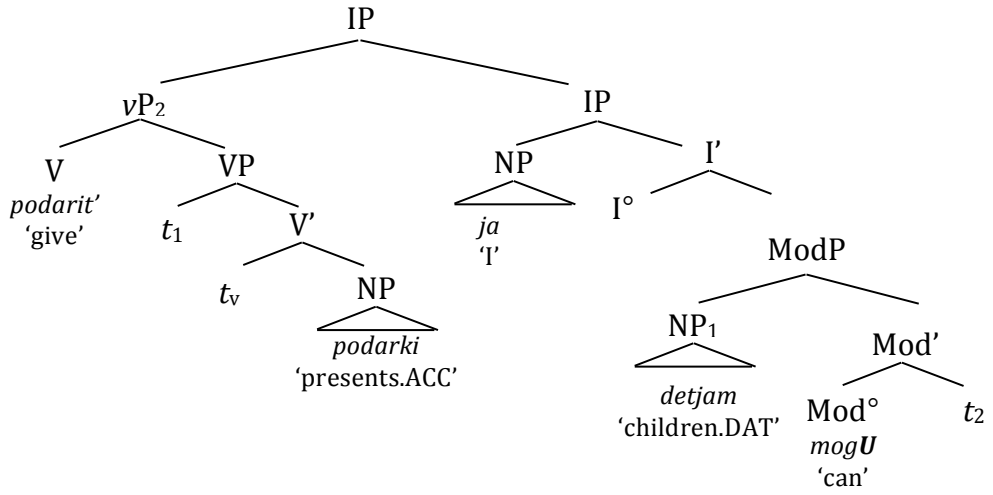
MARKED STRUCTURE

As expected, it is now the Goal NP generated in SpecVP that can undergo A-movement out of the *v*P (see (127a) and (128)), whereas the Theme NP in the complement to V position cannot (see (127b)).

127. a. [Podarit' t_1 podarki]$_{CT2}$ ja detjam$_1$ mog**U** t_2
give.INF presents.ACC I children.DAT can
'I can give (the) presents to (the) children.'

b. # [Podarit' t_1 detjam]$_{CT2}$ ja podarki$_1$ mog**U** t_2
give.INF children.DAT I presents.ACC can
*'I can give **the** presents to children.'*

128.



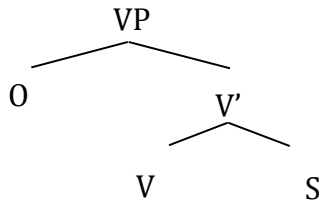
In sum, the above data can be accounted for if discourse-related A-movement of NPs is possible, but only when such movement does not violate locality. In the latter case, generating a marked order through base-generation is predicted to be the only option. In other words, variation in base component is restricted to scrambling of a DP/NP argument across (c-commanding) DP/NP argument.[49]

The second condition on base-generated A-scrambling has to do with the structural positions that allow for variation in the choice of argument. In an unmarked monotransitive construction, the subject can be analysed as generated either in SpecVP, as shown in (118), or in SpecIP. However, in order to sustain the VP-internal subject hypothesis, it must be assumed that in an unmarked ditransitive construction, the subject is generated in Spec*v*P. This is because the SpecVP is already occupied by one of the objects in this type of construction. To avoid the inconsistency with respect to the position in which subjects are generated in the unmarked case, I will assume that in an unmarked structure, the subject is consistently generated in the SpecIP position. Conversely, whenever (30) demands an inverse order of merger, the subject

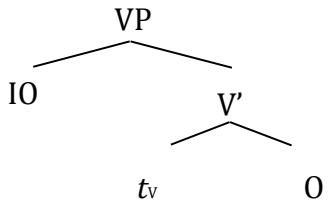
[49] The proposed analysis implies that in a structure containing a DP/NP argument and a PP argument, inverse order of merger is possible only when licensed by quantifier scope considerations. Transparent mapping onto (28), on the other hand, can always be achieved via A-movement in this type of construction.

of a monotransitive verb is exceptionally generated in the complement to V position. The low generation of the subject is forced by the impossibility of assigning an internal role externally to VP (Neeleman and van de Koot, in preparation). Crucially, a VP can accommodate no more than two arguments – one in SpecVP and one in the complement to V position. The hypothesis I would like to put forward is that the inability of a VP to host more than two arguments places restrictions on base-generated scrambling. To be precise, the SpecVP position and the complement to V position are the only two syntactic positions that allow for variation with respect to which argument they host.[50] Consequently, generating NPs in a scrambled order is restricted to the VP domain:

129. a. Scrambled Monotransitive Constructions



b. Scrambled Ditransitive Constructions



Arguments of a monotransitive verb (see (129a)) or a ditransitive verb (see (129b)) can be generated either in a thematically unmarked or marked orders but the generation of marked orders is possible only within a VP. In a monotransitive construction, the scrambled object generated in SpecVP moves to SpecIP to satisfy the EPP. Movement of the scrambled object out of the VP must be assumed to account for the observation that both subjects and A-scrambled objects precede a modal in Russian (see (130)).

[50] This hypothesis is compatible with the common claim that base-generation must take place within the limits of the maximal projection of the selecting head in its initial position. However, the present analysis does not adopt the position that the locality of base-generation entails the impossibility of treating pre-subject scrambling as base-generated scrambling (cf. Gema Chocano). This is because the option of generating subjects within the VP allows for base-generation of both arguments of a monotransitive verb within its maximal projection in a scrambled order.

130. a. [Kogo Ivan možet pocelovat'?]$_{CONTEXT}$
Who can Ivan kiss?

Ivan$_1$	možet	pocelovat'	[Anju]$_{FOC}$
Ivan	can	kiss	Anna.ACC

'Ivan can kiss Anna.'

b. [Kto možet pocelovat' Anju?]$_{CONTEXT}$
Who can kiss Anna?

Anju$_1$	možet	t_1	pocelovat'	[Ivan]$_{FOC}$
Anna.ACC	can		kiss	Ivan

'Ivan can kiss Anna.'

In a ditransitive construction, SpecIP is already occupied by the subject but a higher-merged object can still A-move out of the VP for discourse-related reasons (see (124) and (128)), as long as movement targets an A-position below the subject.

The above model predicts that in ditransitive constructions neither of the objects can be base-generated above the subject, as the latter occupies a position outside the VP. (Note that generating the subject of a ditransitive verb VP-internally would require that one of the internal roles is assigned externally to VP.) Moreover, movement of an object of a ditransitive verb to an A-position above a subject is also prohibited, as such movement would violate locality. As a result, an object of a ditransitive verb is expected to be unable to A-scramble across the subject leaving the other object behind. This prediction is supported by the fact that the OVSIO and IOVSO orders are impossible in Russian:

131. [Kto komu predstavil studentov?]$_{CONTEXT}$
Who introduced (the) students to whom?

a.

[Ivan]$_{FOC}$	predstavil	studentov	[dek**A**nu]$_{FOC}$
Ivan	introduced	students.ACC	dean.DAT

'Ivan introduced (the) students to a/the dean.'

b. * Studentov predstavil [Ivan dek**A**nu]$_{FOC}$ OVSIO
students.ACC introduced Ivan dean.DAT

c. # Studentov [Ivan]$_{FOC}$ predstavil [dek**A**nu]$_{FOC}$ OSVIO
students.ACC Ivan introduced dean.DAT

132. [Kto kogo predstavil dekanu?]$_{CONTEXT}$
Who introduced whom to a/the dean?

a. [Ivan]$_{FOC}$ predstavil dekanu [stud**E**ntov]$_{FOC}$
Ivan introduced students.ACC dean.DAT
'Ivan introduced (the) students to a/the dean.'

b. * Dekanu predstavil [Ivan stud**E**ntov]$_{FOC}$ IOVSO
dean.DAT introduced Ivan students.ACC

c. # Dekanu [Ivan]$_{FOC}$ predstavil [stud**E**ntov]$_{FOC}$ IOSVO
dean.DAT Ivan introduced students.ACC

The sentences in (131a) and (132a) have discontinuous focus and therefore do not optimally reflect the relative prominence of arguments. That is, in both sentences, a <-presupposed> subject precedes a <+presupposed> object. Yet, these sentences are chosen over the sentences with continuous focus in (131b) and (132b), presumably because the latter involve an illegal operation: either an object of the ditransitive verb is generated above the subject (and therefore outside the VP) or an object NP A-moves across the subject NP, in violation of locality. The sentences in (131c) and (132c) demonstrate that the ungrammaticality of (131b) and (132b) is not due to Distinctness (Richards 2006).[51]

The data in (131) and (132) demonstrate that the information-structural encoding of relative argument prominence is subject to syntactic constraints. Although Russian sentences normally reflect the relative prominence of arguments, such

[51] The sentences in (131c) and (132c) are felicitous only if the sentence-initial objects are A'-fronted as contrastive topics. In this case, they must be marked with topic intonation (IK3).

encoding is reliant on the availability of a syntactic structure that can be mapped onto the required information-structural representation. If a structure that maximally reflects the information structure of a sentence cannot be created due to purely syntactic restrictions, then there is no other option but to compromise the transparency of the mapping to information structure.

In fact, we have already observed the same restrictions in examples involving variable binding, where unmarked structures may fail to be generated despite optimally reflecting the relative prominence of arguments (see (133)).

133. [Kogo ljubjat ego roditeli?]$_{CONTEXT}$
Who is loved by his parents?

a. [Iv**A**na]$_{FOC1}$ ljubyat ego$_1$ roditeli OVS
Ivan.ACC love his parents
'Ivan is loved by his parents.'

b. * Ego$_1$ roditeli ljubyat [Iv**A**na]$_{FOC1}$ SVO
his parents love Ivan.ACC

In (133a), the pronoun embedded in the discourse-anaphoric subject is bound by the object.[52] In (133b), however, the pronoun is not c-commanded by the object, rendering binding impossible. Moreover, the pronoun cannot refer to 'Ivan.ACC' through coreference either in (133b). This pattern of coreference is ruled out by GPAD (Williams 1997), which is given in (134). In (133b) the pronoun neither follows its antecedent nor is it in a subordinate clause. That is, the structure in (133b) corresponds to the ill-formed structure in (134b). Crucially, the object in (133) is

[52] That (133a) involves binding is supported by the observation that a sloppy reading is available (and in fact favored) in a structure involving VP-ellipsis, as in (i) below:

(i) Iv**A**na$_1$ ljubyat ego$_1$ roditeli i Bor**I**sa tože
Ivan.ACC love his parents and Boris.ACC too
'Ivan is loved by his parents and Boris is too (=Boris is loved by his own parents not Ivan's).'

discourse-new. The pronoun can therefore not be interpreted as referring back to a discourse-antecedent with which the object is in a discourse-anaphoric relation.

134. *General pattern of anaphoric dependence* (Williams 1997:26)

a.		[… pro …]$_{subord}$	[… antec …]$_{subord}$
b.	*	[…pro …]$_{matrix}$	[… antec …]$_{matrix}$
c.		[… antec …]$_{matrix}$	[… pro …]$_{subord}$
d.		[… antec …]$_{subord}$	[… pro. …]$_{matrix}$

Interestingly, the sentence in (133b) is ill-formed even when the object is destressed (see (135)).

\

135.	*	Ego$_1$	roditeli	lj**U**bjat	Ivana$_1$	SVO
		his	parents	love	Ivan.ACC	

The English variant of (135) is grammatical presumably because the destressed object can be interpreted as discourse-anaphoric simply in virtue of not forming a part of the constituent carrying the main sentence stress. It is therefore plausible that there is a discourse-antecedent for the object in the English variant that also serves as an antecedent for the pronoun (see Williams 1997 for the same conclusion).

In Russian, a <+presupposed> object can occur in constructions with different information structures, but none of them have the word order in (135). That is, the object can either occur in a sentence where it is the only <+presupposed> argument, as in (136a) and (136b), or the focus can be expressed on the verb, with both arguments belonging to the background. Let us consider both options.

In the former case, the <+presupposed> object has to A-scramble across the <-presupposed> subject in accordance with (89). The SVO word order, as in (135), can therefore not capture this information structure:

136.	a.	Ivana$_1$	[ljubjat	ego$_1$	pod**I**teli]$_{FOC}$	O[VS]$_{FOC}$
		Ivan.ACC	love	his	parents	

b. Ivana$_1$ ljubjat [ego$_1$ pod**I**teli]$_{FOC}$ OV[S]$_{FOC}$
Ivan.ACC love his parents

In the case with a focused verb, both arguments belong to the background but for the object to follow the subject containing the pronoun, the sentence has to occur in a context that already contains an ungrammatical sentence:

137. * [Ego$_1$ roditeli nenavidjat Ivana$_1$]$_{CONTEXT}$
his parents hate Ivan.ACC

* Net, ego$_1$ roditeli [lj**U**bjat]$_{FOC}$ Ivana$_1$ SVO
no his parents love Ivan.ACC

This is because Russian requires parallelism between the word order within the background of a sentence and the word order in the immediately preceding context. Changing the argument order within the background results in a degraded acceptability:

138. [Ivana$_1$ nenavidjat ego$_1$ roditeli]$_{CONTEXT}$
Ivan.ACC hate his parents

a. ??/* Net, ego$_1$ roditeli [lj**U**bjat]$_{FOC}$ Ivana$_1$ SVO
no his parents love Ivan.ACC

b. Net, Ivana$_1$ [lj**U**bjat]$_{FOC}$ ego$_1$ roditeli OVS
no Ivan.ACC love his parents
'Ivan is loved by his parents.'

The condition that disallows any inconsistency between the argument order within a background and the argument order in the immediately preceding context is captured in (139).

139. *Argument Order Consistency Condition*

The order of arguments within a background has to reflect the order of arguments in the immediately preceding context

The examples in (137) and (138) contain a contrastive focus. As can be seen from (140), the condition in (139) also rules out inconsistent structures with new information focus on the verb.

140. [Kak otnosjatsja k Ivanu ego roditeli?]$_{\text{CONTEXT}}$
How is Ivan treated by his parents?

a.	??/*	Ego$_1$	roditeli	[lj**U**bjat]$_{\text{FOC}}$	Ivana$_1$	SVO
		his	parents	love	Ivan.ACC	

b.	Ivana$_1$	[lj**U**bjat]$_{\text{FOC}}$	ego$_1$	roditeli		OVS
	Ivan.ACC	love	his	parents		
	'Ivan is loved by his parents.'					

Thus, all Russian constructions where a pronoun embedded in a subject precedes a discourse-anaphoric object with which it corefers are ruled out for independent reasons.

Since neither coreference nor binding are possible for (133b), whenever the pronoun and the object denote the same individual, the unmarked structure is replaced by the scrambled one in (133a). The grammatical sentence in (133a), however, does not reflect the relative prominence of arguments, as the <-presupposed> object NP precedes the <+presupposed> subject NP. Note that the license in (89) demands a specific interpretation for an A-scrambled structure only when no syntactic restrictions are placed on the generation of an unmarked structure with the same truth-conditional interpretation. However, we have just established that it is impossible to have an unmarked structure where the pronoun embedded in a subject denotes the same individual/entity as the object in Russian. Consequently, generation of a scrambled structure for this truth-conditional interpretation is the only option, as no simpler structure with this interpretation can be created. The scrambled structure in (133a) therefore does not require (89) as its licence.

We have already seen that neutral scrambling in Russian can be licensed by the requirement for one argument to be interpreted in the scope of the other argument. By hypothesis, the scrambled structure in (133a) is licensed by the requirement for the subject to occur in the scope of the focused object in order to be bound by it (or to follow it in order to be linked to it via coreference), albeit at the cost of not reflecting the relevant prominence of arguments.

Importantly, focused objects that surface in an A-scrambled position are also interpreted in this position. That is, an A-scrambled construction licensed by binding considerations also exhibits surface scope:

141. [Kogo posetili dva ego rodstvennika]CONTEXT
Who was visited by two of his relatives?

[Každogo	stud**E**nta]FOC1,	pocetili	dva	ego1	rodstvennika
every	student.ACC	visited	two	his	relatives

'Every student was visited by two of his relatives'.

∀> ∃; *∃>∀

142. [Kogo posetil každyj ego rodstvennik]CONTEXT
Who was visited by every relative of his?

[Dvux	stud**E**ntov]FOC1,	pocetil	každyj	ix1	rodstvennik
two	students.ACC	visited	every	their	relative

'Two students were visited by every relative of theirs.'

∃>∀;*∀> ∃

In (141), the existential quantifier fails to take scope over the universal, presumably because the former embeds a pronoun, which forces a distributive reading. In (142), on the other hand, the distributive interpretation is unavailable and the universal must take scope under the indefinite.

The scope readings in (141) and (142) strongly suggest that the arguments can be merged in a marked order whenever such a marked order of merger is forced by a syntactic constraint, whereas the data in (133) support the view that information structural encoding of relative argument prominence can be overridden by syntactic considerations.

The above observation extends to ditransitive constructions involving object-across-object A-scrambling. That is, objects that are involved in binding surface in an A-scrambled position even when they are new information foci. Moreover, they are also interpreted in this position:

143. [Čto Anna otoslala dvum ego avtoram?]$_{CONTEXT}$
What did Anna send to two of its authors?

Anna	otoslala	každyj	rom**A**n$_1$	dvum	ego$_1$	avtoram
Anna	sent	every	novel.ACC	two	its	authors.DAT

'Anna sent every novel to two of its author.'

∀> ∃; *∃>∀

144. [Komu Anna otoslala dva ego romana?]$_{CONTEXT}$
Who did Anna send two of his novels?

Anna	otoslala	každomu	**A**vtoru$_1$	dva	ego$_1$	romana
Anna	sent	every	author.DAT	two	his	novels.ACC

'*Anna sent every author two of his novels.'*

∀> ∃; *∃>∀

We have argued that ditransitive constructions disallow A-scrambling of a <+prominent> object across a <-prominent> subject because neither base-generation in an A-position above the subject nor movement to such a position are permitted. Yet, whenever both objects are interpreted as <+prominent>, they can scramble across a <-prominent> subject (see (145)), as long as they both occur in a preverbal position. Moreover, both objects must precede a modal (see (146)), suggesting that they both undergo movement to a pre-modal position.

145. [Kto predstavil studentov dekanu?]$_{CONTEXT}$
Who introduced (the) students to a/the dean?

a. Studentov dekanu predstavil [Iv**A**n]$_{FOC}$ OIOVS
students.ACC dean.DAT introduced Ivan
'Ivan introduced (the) students to a/the dean.'

b. * Studentov predstavil dekanu [Iv**A**n]$_{FOC}$ OVIOS
students.ACC introduced dean.DAT Ivan

c. * Dekanu predstavil studentov [Iv**A**n]$_{FOC}$ IOVOS
dean.DAT introduced students.ACC Ivan

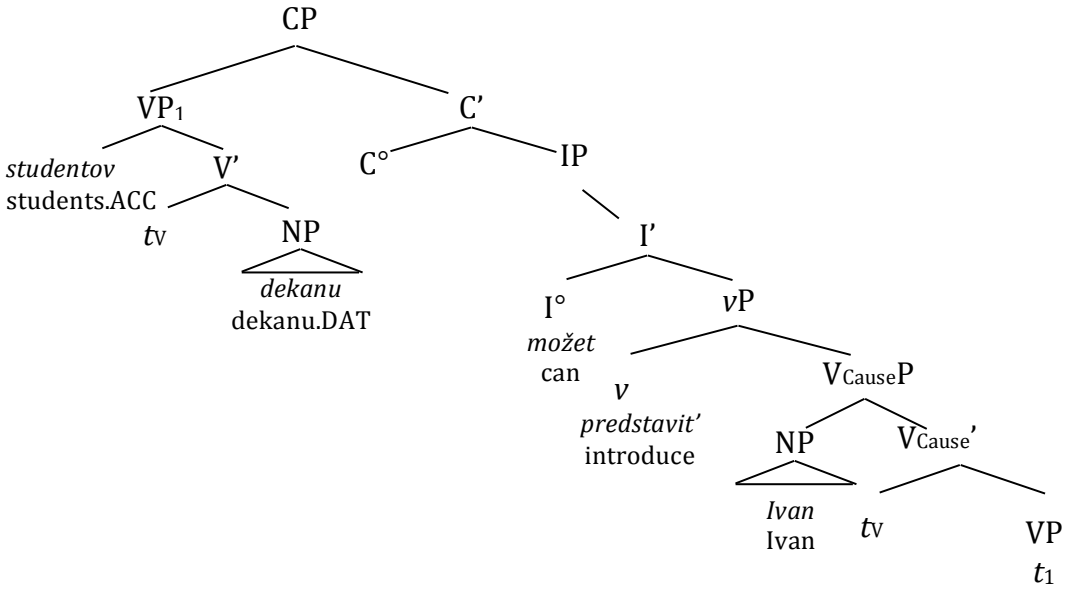
146. [Kto možet predstavit' studentov dekanu?]$_{CONTEXT}$
Who can introduce (the) students to a/the dean?

Studentov dekanu možet predstavit' [Iv**A**n]$_{FOC}$
students.ACC dean.DAT can introduce Ivan
'Ivan can introduce (the) students to a/the dean.'

Assuming, as before, that neither base generation nor A-movement is available for either of the object NPs in (145) and (146), the only possible analysis for these examples is to assume movement of the entire VP to a position before the modal. The syntactic tree for (146) is given in (147).[53]

[53] In (147), I am assuming that the subject is generated in a Specifier position of a phrase directly dominating the VP. A verbal phrase between the VP and the *v*P is needed to account for the fact that the verb precedes the subject in the surface structure but follows a modal and a low (manner) adverb, as in (i) below. Although I am calling the relevant phrase VCauseP, I am in fact agnostic as to the nature of this phrase. (I am also staying agnostic to the nature of the position targeted by VP-movement as long as it is an A'-position.) To my knowledge, the structure in (147) constitutes the only exception to the rule that subjects are generated in SpecIP unless the structure involves an inverse order of merger. That is, generating the subject in SpecIP would require that the verb moves to some position between CP and IP (assuming that the VP moves to SpecCP and the modal moves to C). However, it is unlikely that there is an extra projection between CP and IP to which an unaccented manner adverb could adjoin. Another way to keep the subject in SpecIP would be to assume that the IP has a rightward specifier. However, the fact that VOS as an unmarked order is very rare cross-linguistically seems to suggest that it cannot be base-generated (Hans van de Koot p.c.).

147.



Importantly, movement of the entire VP cannot be a case of A-movement, as what moves is not an argument but a constituent that contains two objects and the trace of V. It is therefore expected that neither surface scope nor scopal ambiguity should be available for any of the objects included in the moved VP. This prediction is borne out:

148. a. [Každogo studenta dekanu]$_1$ predstavili dva doc**E**nta t_1
every student.ACC dean.DAT introduced two lecturers
'Two lecturers introduced every student to a/the dean.'
∃>∀;*∀> ∃

b. [Studentov každomu dekanu]$_1$ predstavili dva doc**E**nta t_1
student.ACC every dean.DAT introduced two lecturers
'Two lecturers introduced students to every dean.'
∃>∀;*∀> ∃

(i) Studentov dekanu možet bystro predstavit' *(bystro) Ivan
Students.ACC dean.DAT can quickly introduce quickly Ivan
'Ivan can quickly introduce (the) students to a/the dean.'

In (148), the indefinite cannot depend for scope on the universal suggesting that neither of the objects can take scope from their derived positions. This observation is compatible with the hypothesis that the VP containing both objects undergoes movement to a preverbal position in (148).[54]

[54] In constructions of the type given in (148), pronouns can be linked to one of the fronted objects via coreference (see (i)). Examples that must be analysed as involving variable binding, as in (ii), are judged by native speakers of Russian as less felicitous under the coreferential reading than the ones in (i). That is, while in (i) the coreferential reading is most natural, in (ii) it is easier to access the reading where the pronouns do not refer back to one of the fronted objects. It is, however, not absolutely impossible to access the coreferential reading in (ii). Assuming that binding requires c-command from an A-position, the examples in (ii) and in (148) give contradictory results with respect to the constituent structure in the relevant sentences (see, however, Janke and Neeleman 2012 for the claim that binding is sensitive to linear order and that it never provides evidence for a constituent structure).

(i) a. [Kto predstavil devočku mal'čiku?]$_{\text{CONTEXT}}$
Who introduced the/a girl to the/a boy?

[Devočku$_2$ mal'čiku]$_1$ predstavila eë$_2$ m**A**ma t_1
girl.ACC boy.DAT introduced her mum

b. [Kto predstavil mal'čika devočke?]$_{\text{CONTEXT}}$
Who introduced the/a boy to the/a girl?

[Mal'čika devočke$_2$]$_1$ predstavila eë$_2$ m**A**ma t_1
boy.ACC girl.DAT introduced her mum

(ii) a. [Kto predstavil každuju devočku mal'čiku?]$_{\text{CONTEXT}}$
Who introduced every girl to the/a boy?

? [Každuju devočku$_2$ mal'čiku]$_1$ predstavila eë$_2$ m**A**ma t_1
every girl.ACC boy.DAT introduced her mum

b. [Kto predstavil mal'čika každoj devočke?]$_{\text{CONTEXT}}$
Who introduced the/a boy to every girl?

? [Mal'čika každoj devočke$_2$]$_1$ predstavila eë$_2$ m**A**ma t_1
boy.ACC every girl.DAT introduced her mum

The above analysis has several implications. First, it has been shown that Russian obeys the mapping rule in (30) whenever possible. However, generation of a syntactic structure that is transparently mapped onto an information-structural representation that obeys (28) is restricted by syntactic constraints. Consequently, whenever syntax fails to generate a structure that can be transparently mapped onto a well-formed information-structural representation, the rule in (30) is violated. Crucially, violation of the rule in (30) is not merely a disfavoured option in Russian. It is only permitted if no alternative structure that can satisfy (30) exists.

Second, the scrambling operation in (147), although a case of A'-movement, does appear to contribute to a transparent mapping in accordance with (30). This should perhaps not surprise us. As discussed above, scrambled constructions that obey (30) in mapping onto (28) are not consistently created through one and the same syntactic operation. Due to locality, A-scrambling of an NP/DP argument across a c-commanding NP/DP argument involves generation of the prominent NP/DP argument in an A-position above the non-prominent NP/DP argument. However, Russian A-scrambling can also involve A-movement to SpecIP as long as it does not trigger violation of a syntactic constraint.

As mentioned in the introduction to this manuscript, Russian has two types of discourse-related argument reordering, each associated with a distinct interpretation. One type distinguishes between discourse-prominent and non-prominent arguments; another differentiates arguments with a contrastive interpretation from non-contrastive arguments (see Part II). We have hypothesised that the grammar employs distinct syntactic operations for the two types of reordering, and that these give rise to distinct interpretative effects. Why then does the movement in (147) not give rise to a contrastive interpretation?

We may answer this question as follows. A'-scrambling of a category X may indeed be licensed by a contrast-related interpretive effect for X. But in (147), A'-scrambling of X is motivated not by the interpretation of X itself, but by the interpretation of material contained in X, namely by structural encoding of the prominence of the two argument NPs it contains with respect to another argument NP.

Interestingly, the same surface order as in (147) can be used to encode contrastive interpretation of the A'-moved constituent:

149. [Kto možet predstavit' lektorov professoru?]$_{\text{CONTEXT}}$
Who can introduce (the) lecturers to a/the professor?

Étogo ja ne znaju, no…
I don't know that but…

[Studentov	dekanu]$_{\text{CT}}$	možet	predstavit'	[Iv**A**n]$_{\text{FOC}}$
students.ACC	dean.DAT	can	introduce	Ivan

'Ivan can introduce (the) students to a/the dean.'

Although the fronted phrase in (149) has the interpretation of a contrastive topic, there does not seem to be any particular reason to analyse the sentences in (147) and (149) as involving distinct syntactic operations. However, the motivations behind these operations must be distinct. Thus, in (147), the verb moves out of the VP for purely syntactic reasons that consistently require that the ditransitive verb moves above its objects, and the remnant VP moves in order for the <+presupposed> objects contained in it to precede a <-presupposed> subject. In (149), on the other hand, the syntactically motivated movement of the verb coincides with its information-structurally driven need to vacate the VP. That is, the verb belongs to the background of the sentence and cannot be construed as conveying contrastive interpretation, whereas the rest of the VP is indeed contrastive and it is contrast that licenses its A'-fronting.

The fact that the same syntactic structure is used to encode different interpretations is not very surprising. After all, a base-generated scrambled structure is used in Russian not only to encode interpretative prominence of arguments but can also be employed to represent a particular quantifier scope relation. It seems then that there is no one-to-one correspondence between a specific syntactic structure and a particular interpretation it is matched up with. Quite the contrary, the syntax of Russian arguably produces a number of different syntactic structures (e.g. base-generated unmarked and marked structures as well as constructions involving either A or A'-movement), which can be matched up with an interpretation at LF or used at the postgrammatical level of discourse to capture a variety of information-structural interpretations.

We have argued that, despite the existence of syntactic restrictions on neutral scrambling, Russian makes use of any available tool to obey (30). Throughout this manuscript, we have assumed that the information-structural constraint in (28) is universal. This means that even non-scrambling languages, such as English, aim at structurally representing the interpretative prominence of arguments. For instance, as already mentioned, English occasionally makes use of passive constructions to encode the information-structural prominence relations. Thus, the most felicitous English translation of the Russian example in (40), repeated in (150), contains a passive (see (151).

150. [Čto slučilos'?]$_{\text{CONTEXT}}$
What happened?

a. [Mašu ukusila os**A**]$_{\text{FOC}}$ OVS
Mary.ACC stung wasp
'Mary was stung by a wasp.'

b. # [Osa ukusila M**A**šu]$_{\text{FOC}}$ SVO
wasp stung Mary.ACC

151. [What happened?]$_{\text{CONTEXT}}$

a. Mary was/got stung by a wasp

b. ? A wasp stung Mary

The passive construction in (151a) is chosen by native speakers of English over the SVO structure in (151b), suggesting that English also aims at obeying (30). Why is it then the case that English does not generate OVS constructions in order to satisfy (30)? After all, the interpretative license is available for such constructions in English as well.

Previously, we have argued that, apart from an interpretative license, marked orders also require a formal license. We have hypothesised that the absence of morphological case markers on English DPs might be responsible for the lack of A-

scrambling in this language. However, Russian scrambling is possible even for morphologically indistinguishable NPs, provided that the grammatical function of arguments can be contextually identified. As can be seen from (152), for English, contextual identification is not enough to license a scrambled OVS structure.

152. [Who kissed Mary?]$_{\text{CONTEXT}}$

\

\# Mary kissed [J**O**hn]$_{\text{FOCUS}}$ *OVS

Moreover, even morphological markers carried by English pronouns, as in (153), and agreement markers, as in (154), are unable to provide a formal license for scrambling:

153. [Who kissed Mary?]$_{\text{CONTEXT}}$

\

* Her kissed [J**O**hn]$_{\text{FOCUS}}$

154. * The plates outweighs the glass

The next section investigates the difference between Russian and English in terms of word order flexibility. I propose that there is a requirement in any given language to structurally represent thematic prominence, encoded in keeping with the thematic hierarchy, and linearly represent information-structural prominence, encoded in accordance with (28). The two requirements may be in conflict. I argue that languages choose different strategies to resolve this conflict, with any such strategy resulting in a violation of either (30) or the requirement to structurally encode thematic prominence. Any such violation must be made visible at the PF interface.

3.3 Encoding of the relative argument prominence

3.3.1 The place of m-case

Before we look closely at the processes involved in the generation of well-formed representations in Russian and English, some remarks on case are required. The present analysis adopts the idea that morphological case must be distinguished from syntactic licensing, with the former being treated as a morphological phenomenon (Bobaljik 2008, Harley 1995, Marantz 2000, McFadden 2002, 2003, 2004, Schütze 1997, Sigurðsson 1991, 2003, Yip, Maling and Jackendoff 1987, Zaenen, Maling & Þráinsson 1985). This does not mean that I want to argue that m-case is independent from the syntax. Indeed, I will assume that the distribution of m-case is largely determined on the basis of the output of the syntactic component. Adopting the model of grammar developed within the theory of Distributed Morphology (Embick and Noyer 2001, Halle and Marantz 1993, 1994), where insertion of lexical material comes late in the derivation, i.e. after Spell-Out, I assume that m-case is also assigned at this stage (see also McFadden 2003). This means that m-case cannot affect pre-Spell-Out narrow syntax, but m-case assignment depends on its output. Importantly, m-case does not depend on any syntactic feature that is responsible for DP-licensing. The fact that, in languages such as English, m-case and positional licensing tend to pattern together in most instances is due to the fact that both are sensitive to the structural environment of a given DP.

For a full discussion of the argumentation of the above claim I must refer the reader to the above-cited works. In this manuscript, I will discuss two examples that support the proposed view. Consider the Icelandic data in (155), taken from Zaenen, Maling & Þráinsson (1985).

155. a. Ég hjálpaði honum
I helped him.DAT
'I helped him.'

b. Honum var hjálpað
him.DAT was helped
'He was helped.'

c. Ég vonast til að PRO verða hjálpað
I hope for to PRO be helped
'I hope to be helped.'

In (155a), the verb takes two arguments, one nominative and one dative. The sentence in (155b) is a passive variant where the dative argument becomes the subject of the sentence. As Icelandic is a Verb-Second language, clause-initial position is not a reliable diagnostic of subject-hood but the example in (155c) shows that the dative argument in the Icelandic passive construction is indeed a subject, unlike the dative argument in the German variant in (156), because the dative argument can be realized as a PRO in Icelandic (see (155c)) but not in German (see (156b)), where the fronted argument is better analysed as a topicalized object:

156. a. Ihm wurde geholfen
him.DAT was helped
'He was helped.'

b. * Ich hoffe PRO geholfen zu werden
I hope PRO helped to be
Intended: 'I hope to be helped.'

McFadden 2003: 7, 9

The data in (155) can only be understood if m-case and DP-licensing are independent from each other. That is, the dative subject moves to SpecIP in (155b) in order to be licensed but the m-case that this subject bears remains dative.

Bobaljik 2008 discusses Icelandic data provided by Jónsson (1996) and Zaenen, Maling & Þráinsson (1985) where dative subjects occur as external arguments to a range of experiencer predicates (157a-b) and also as the derived subjects in the passives of goal-selecting verbs (157c-d). Note that dative subjects co-occur here with nominative objects as well.

157. a. Jóni líkuðu þessir sokkar
Jon.DAT like.PL these socks.NOM
'Jon likes these socks.'

b. Það líkuðu einhverjum þessir sokkar
EXPL liked.PL someone.DAT these socks.NOM
'Someone liked these socks.'

c. Þeim var hjálpað
them.DAT was.SG helped
'They were helped.'

d. Um veturinn voru konunginum gefnar ambáttir
in the winter were.PL the king.DAT given slaves.NOM
'In the winter, the king was given (female) slaves.'

Zaenen, Maling & Þráinsson (1985) and Sigurðsson (1989) apply a variety of subject-hood diagnostics to show that the dative NPs in examples like (157) are indeed subjects. In addition, Harley (1995) and Jónsson (1996) have carefully established that the nominative objects in such quirky-subject constructions are objects, and systematically fail the corresponding subject-hood tests. For example, (157b) involves an expletive in clause-initial position, which forces the dative subject NP, but not the nominative object NP, to be indefinite, while in (157d), the position between finite auxiliary and participle is a reliable diagnostic for subject-hood, again, uniquely picking out the dative NP.

Control constructions, once again, provide another subject-hood diagnostic: in the infinitival clause, the subject must be PRO, while the object cannot be. The contrast in (158) shows that the dative is the subject and the nominative the object.

158. a. Jón vonast til [að ___ líka
Jon.NOM hopes for to PRO.DAT like

								þessi bók]
								this book.NOM
								'Jon hopes to like this book.'
b.	*	María	vonast	til	[að	___	líka	Jóni
		Maria.NOM	hopes	for	to	PRO.NOM	like	John.DAT
		'Intended: Maria hopes that John likes her.'						

German again provides an instructive minimal contrast. German also has DAT-NOM case arrays in which the dative c-commands the nominative (see Frey 1993, Haider & Rosengren 2003, Wurmbrand 2004) but German lacks quirky case and it is nominative, not the dative, which passes the subject-hood tests, including replacement by PRO in control infinitives (159).

159.	a.	*	Ich	hoffe	[__	der	Leo	zu	gefallen]
			I	hope	PRO.DAT	the.NOM	Leo	to	like
			Intended: 'I hope to like Leo.'						
	b.		Ich	hoffe	[__	dem	Leo	zu	gefallen
			I	hope	PRO.NOM	the.DAT	Leo	to	like
			'I hope that Leo likes me.'						

With the exception of their morphological case (and agreement) properties, quirky subjects in Icelandic are subjects, and nominative objects are objects. This is particularly relevant within GB/MP approaches, since the distributional diagnostics at issue (for example, the distribution of PRO versus lexical NP) have been seen as the purview of *Case Theory* since Chomsky 1981. The star witness for invoking Case Theory in this context is the ECM configuration. When the infinitive is embedded under a case-assigning verb such as *believe*, the PRO requirement is lifted and a lexical NP subject is allowed (see (160)).

160.	Hann	telur	Maríu	vita	svarið.
	He	believes	Maria.ACC	to know	answer
	'He believes Maria to know the answer.'				

Quirky subject NPs have exactly the same distribution as non-quirky subjects. They are obligatorily replaced by PRO in infinitive clauses (158a), except when the infinitival clause is the complement to an ECM verb (161).

161.	Ég	tel	þeim	hafa	verið	hjálpaði	prófinu
	I	believe	them.DAT	to have	been	helped	exam.the
	'I believe them to have been helped on the exam.'						

The above data demonstrate that all of the syntactic effects attributed to Case Theory in GB are robustly evident in Icelandic, but can only be understood if one ignores the case that NPs actually happen to bear. The conclusion that Bobaljik (2008) draws is that the syntactic distribution of NPs is not governed by considerations of case as manifest morphologically, but rather by some more abstract system of syntactic licensing, i.e. Structural Case (Cowper 1988, Freidin & Sprouse 1991), which is responsible for Case Theory effects but is distinct from the algorithms that assign m-case.

In this manuscript, I will adopt the view that the m-case assignment rules must make reference to syntactic structure in their structural description (input), but they effect no change to the syntactic representation (output). That is, no rules of the syntax proper make reference to the output of the rules of m-case assignment (Zaenen, Maling & Þráinsson 1985, Yip, Maling & Jackendoff 1987, Marantz 1991, and McFadden 2004). Following Bobaljik (2008), I assume that the proper place of the rules of m-case assignment is the Morphological component that is a part of the PF interpretation of structural descriptions.

I will also adopt the proposal introduced by Marantz (1991), that there are three primary types of morphological case: (i) lexical (including quirky) case assigned idiosyncratically by particular lexical items, (ii) unmarked case (conventionally called nominative for nominative-accusative languages, and absolutive for ergative languages), and (iii) "dependent" case. Dependent case is assigned only when more

than one NP in a single domain is eligible to receive m-case from the case-assignment rules. For nominative-accusative languages, such as Russian, the dependent case is accusative.

According to Marantz (1991), dependent accusative case is assigned to the lower NP in the domain. In particular, he suggests that the assignment of morphological cases proceeds via the disjunctive hierarchy in (162):

162. Case Realization Disjunctive Hierarchy Domain: government by V+I

a. lexically governed case
b. dependent case (ACC, ERG)
c. unmarked / default case

In (162), the first m-case assigned is lexical, then, dependent, and, finally, unmarked.

Bobaljik (2008) argues that the morphological case assignment algorithm must make reference to syntactic structure; at a minimum, in order to correctly allocate the dependent case, the relative hierarchical positions of two competing NPs must be known, a property that is established by the syntax. I adopt the logic of Bobaljik's (2008) main argument that m-case assignment is post-syntactic but maintain that it is not the hierarchical positions of two competing NPs that must be known in order to correctly allocate the dependent case but the nature of the θ-roles they satisfy.

There are empirical and theoretical reasons for assuming that m-case is linked to thematic interpretations rather than to structural positions of NP arguments. It has been mentioned previously in this manuscript that m-case allows for assignment of grammatical functions without reference to structural positons in Russian. As will be demonstrated in the next subsection, there is no direct link between a specific m-case and a specific grammatical function. What m-cases encode is the relative thematic prominence of arguments in accordance with the thematic hierarchy, which in turn helps determine the grammatical functions of these arguments. Plausibly, in languages like English, the relative thematic prominence of arguments is structurally encoded, as a subject always c-commands an object in English (either overtly or at LF in case of A'-scrambling of the object). It follows then that if the m-case assignment algorithm made reference to the syntactic positions of arguments, its application would be

redundant. This is because syntax would already encode the thematic prominence relation and m-case would simply duplicate it. In fact, the redundancy of m-case assignment in languages that consistently use structure for encoding of the relative thematic prominence is evident in English – a language that hardly has any m-case marking. In languages such as Russian, conversely, m-case plays an important role in grammar in that it encodes the relative thematic prominence of NP arguments independently from their syntactic positions. It is exactly the independence of m-case from hierarchical positions of NP arguments, as well as its ability to autonomously encode the relative thematic prominence of arguments in Russian, what makes the idea that the m-case algorithm makes reference to the nature of the θ-role that an argument satisfies particularly attractive.

3.3.2 Russian versus English

Following Bobaljik (2008), I assume that there is no evidence that syntax ever sees the output of the morphological case-assignment algorithms. This follows if morphological case-assignment is part of a post-syntactic morphological component — m-case assignment happens "too late" in the derivation for syntax to make reference to it. Armed with this understanding of m-case, we may now proceed to a discussion of the difference between Russian and English.

Since the current analysis separates structural NP licensing from m-case, I would like to propose the following: structural case is assigned to NP/DP arguments in A-positions, such as the SpecIP and the complement to V positions in order to license overt NPs/DPs by finite I° and V°, respectively. However, I would like to argue that the choice of m-case assigned to an NP is not dependent on the position in which this NP surfaces. The observation that in non-scrambling languages, such as English, m-case and positional licensing tend to pattern together might be a reflection of the fact that thematic prominence is consistently structurally encoded in them, as in (118a). Assuming that m-case assignment makes reference to the nature of the θ-role an argument satisfies, it is also expected to be sensitive to thematic prominence. In scrambling languages, such as Russian, conversely, thematic interpretations can be

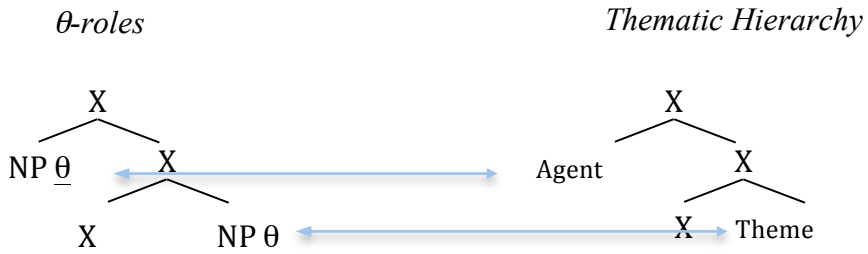
encoded by means other than structure. It is therefore plausible that, in Russian, m-case does not track positional licensing.

Let us see how exactly thematic prominence ends up being structurally represented in non-scrambling languages, such as English. Since a marked order of merger is disallowed in English, a monotransitive verb consistently merges first with the internal (e.g. Theme) argument, which satisfies a theta-role that is linked to a more complex object in the predicate's ordering tier, and only then with the external (e.g. Agent) argument. Consequently, the Theme argument surfaces in the complement to V° position, whereas the Agent argument occupies the SpecIP position. This is what structural encoding of thematic prominence is meant to represent.

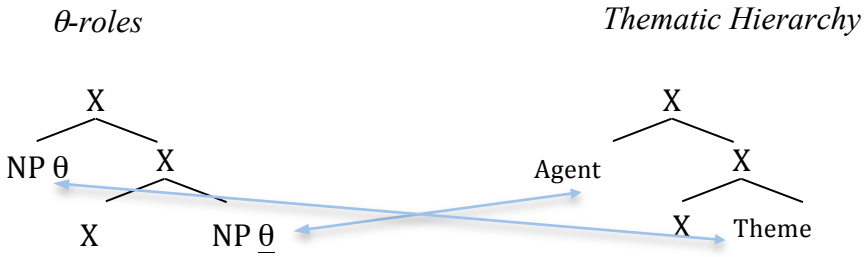
Importantly, it is not meant to represent the idea expressed by UTAH (Baker 1988) according to which each thematic interpretation is directly linked to a specific structural position. Instead, I will keep assuming an economy condition that chooses structures with less information content over costly structures, as illustrated in (118).

Since marked orders of merger are impossible in English, this language never produces costly representations that fail to structurally encode thematic prominence established on the basis of the thematic hierarchy, as in (163b). Instead, every syntactic representation in English structurally represents thematic prominence, as in (163a). Russian, conversely, does seem to allow structures as in (163b).

163. a. Unmarked Structure ☺

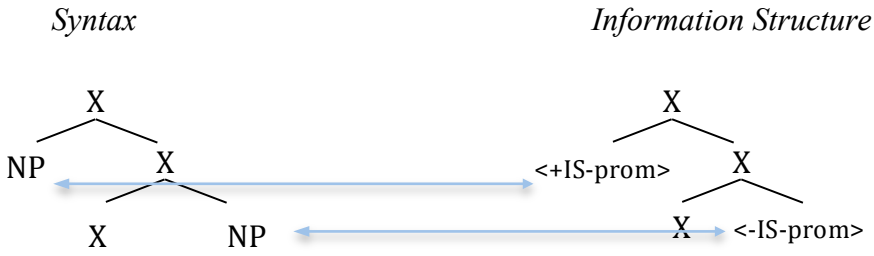


b. Costly Structure ☹

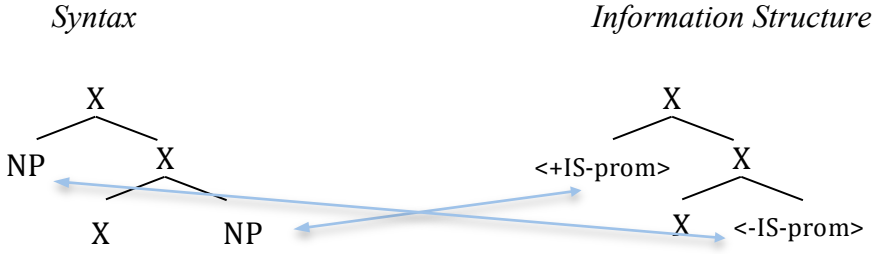


The difference between English and Russian therefore can be described as follows: While Russian aims at obeying (30) for the mapping between syntax and information-structure (see (32a) repeated in (164a)) but allows a violation of the requirement to structurally encode thematic prominence (see (163b)), English behaves in the exactly opposite way: it allows violations of (30) for mapping onto an information-structural representation (see (164b)) but thematic prominence is consistently structurally represented in this language (see (163a)).

164. a. Transparent Mapping ☺



b. Twisted Mapping ☹



By hypothesis, any violation of the requirement to syntactically represent relative argument prominence must be made visible at the PF interface. Thus, twisted mapping onto an information-structural representation must be made visible at PF via stress shift, as in (165). (Note that the fact that PF visibility is required for twisted mapping onto information structure does not imply that the mapping onto information structure has to precede PF. As before, I will assume that PF creates a prosodically marked representation in order for it to fit a context that an unmarked representation fails to match. That is, PF has to create an alternative prosodic representation whenever syntax fails to make an alternative representation available.)

165. [Who kissed Mary?]$_{\text{CONTEXT}}$

\

[J**O**hn]$_{\text{FOC}}$ kissed Mary.

The structure in (165) involves twisted mapping onto the information-structural representation that encodes the relative prominence of arguments on the basis of the <±presupposed> feature. The violation of (30) is made visible by the <-presupposed> argument receiving the main sentential stress.

By analogy, a failure of marked syntactic representations to structurally represent thematic prominence should also be made visible at PF. This, however, cannot be done through prosody. This is because prosody is only capable of discriminating the prominence of two arguments that have distinct values with respect to one specific interpretative feature. As there can be only two values for one feature, positive and negative, marking one of the arguments with stress is sufficient. Thus, in (165), the argument carrying a negative value with respect to the <±presupposed> feature is marked with stress. Thematic interpretations, however, are not encoded through two polar values of the same feature. A given sentence can contain more than two arguments, each of which is linked to a distinct thematic interpretation. Recovery of thematic interpretations, therefore, requires a more fine-grained system. The hypothesis that I would like to put forward is that m-case markers are the most common tool language uses to recover a violation of the requirement to structurally

represent thematic prominence. Such an approach can be based on the theories that assume that m-case is at PF.[55]

Since the present analysis does not assume a one-to-one correspondence between syntactic positions and thematic interpretations even for languages with rigid argument orders, I will not assume that a given m-case is directly linked to a specific thematic interpretation in scrambling languages either (inherent cases aside).

As before, I adopt the idea that in unmarked constructions, thematic prominence is encoded via an order of θ-role assignment that maximally reduces the content of the projecting predicate. This encoding is possible due to θ-roles being ordered with respect to each other in the theta grid. Such ordering must be done in accordance with the thematic hierarchy, as in (166).

By analogy, I would like to propose that, whenever more than one NP is eligible to receive m-case from the case-assignment rules, the m-case assignment algorithm given in (162) determines that the θ-role linked to a more complex object in the predicate's ordering tier receives the dependent accusative case.[56] The other NP will, as expected, receive the unmarked nominative case (see (167)). Thus, m-cases are matched with thematic interpretations through θ-roles in (167). The thematic interpretations in (167) are ordered in keeping with the thematic hierarchy, and the corresponding theta-roles are ordered through linking to the ordering tier. The algorithm in (162) ensures that m-cases are also ordered with respect to each other, with the least prominent dependent m-case being linked to the least prominent θ-role and therefore to the least prominent thematic interpretation.

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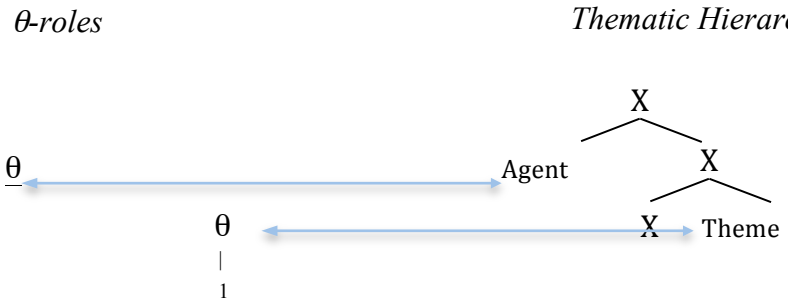
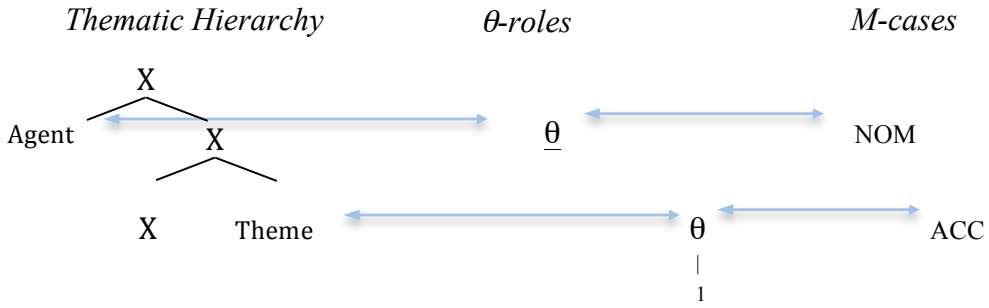
[55] While prosody is ill equipped to recover thematic prominence, morphology seems like a suitable tool to encode information-structural prominence.

[56] The difference between nominative-accusative languages, on the one hand, and ergative-absolutive languages, on the other, can be captured by the idea that it is the unlinked θ-role that receives the dependent ergative case in the latter. Such an assumption would group ergative with nominative (and absolutive with accusative) on the basis of the theta-role the arguments that receive these cases satisfy. This would explain the neutral NOM-ACC and ERG-ABS argument orders, as well as the fact that ERG arguments can bind into ABS arguments but not vice versa. At the same time, ergative would be grouped with accusative as a dependent case, whereas nominative and absolutive would be the default unmarked cases. The morphological facts associated with different m-case systems would follow from the assumptions that a default case forces external agreement markers and can be marked with a zero morpheme, whereas a dependent case can alternate with genitive.

166. Mapping of thematic interpretations onto θ-roles in the grid



167. Mapping of m-cases onto θ-roles (to be revised)



We can now look at how exactly the m-case assignment algorithm applies in Russian. As before, I assume that nominative m-case is the unmarked case in Russian. It is therefore consistently marked on an NP if this is the only NP in a single domain that is eligible to receive m-case from the case-assignment rules. In intransitive constructions, the sole argument of a predicate consistently carries nominative case, as in (168), regardless of its thematic interpretation.

168. a. Ivan smeëtsja
Ivan.NOM laughs
'Ivan is laughing'

b. Ivan pribyl
Ivan.NOM arrived
'Ivan has arrived'

Russian has a number of mono-transitive verbs assigning lexical case to one of their arguments. Some of these are given in (169). The verbs in (169a-b) are agentive verbs that assign inherent dative case to their objects. They are subcategorized into two (out of three) semantic classes established by Blume (1998) (the third class 'verbs of relative motion' does not seem to exist in Russian). The verbs in (169c) are non-agentive experiencer verbs that assign inherent dative to the experiencer argument. And, finally, in (169d), I have placed what I call verbs of 'management'. These are agentive verbs that assign inherent instrumental case to their objects.

169. a. **Verbs of communication/ social gesture:** *otvečat'* 'answer', *pisát'* 'write to', *podmigivat'* 'wink at', *čitat'* 'read to', *zvonit'* 'to phone', *ugrožat'* 'threaten'.

b. **'Obey' verbs:** *služit'* 'serve', *pomogat'* 'help', *poklonjatsja* 'worship'

c. **Experiencer verbs:** *nravit'sja* 'be pleasing to', *prinadležat'* 'belong to'

d. **Verbs of 'management':** *upravljat'* 'govern', *vladet'* 'possess'

According to the m-case assignment algorithm given in (162), lexical m-case is assigned first (see (170)-(172)). Since one of the arguments in (170)-(172) has received lexical case, it is out of contention, and thus dependent case is not assigned. Hence, the remaining caseless NP in each derivation receives unmarked nominative case. Interestingly, in (170), the verb assigns lexical dative case to the thematically more prominent Experiencer argument, so, it is the thematically less prominent Theme argument that receives the unmarked nominative case. In (171) and (172), in contrast, the verbs assign lexical case, dative and instrumental, respectively, to their Patient/Theme objects. As expected, the unmarked nominative case is assigned in (171) and (172) to the Agent subjects.

170.	Ivanu	[$_{VP}$ nravitsja	Katja]
	Ivan.DAT	pleases	Catherine.NOM
	'Ivan likes Catherine.'		

171.	Ivan	[$_{VP}$ pomogaet	Kate]
	Ivan.NOM	helps	Catherine.DAT
	'Ivan helps Catherine.'		

172.	Ivan	[$_{VP}$ upravljaet	zavodom]
	Ivan.NOM	manages	factory.INSTR
	'Ivan is in charge of a factory.'		

In (170)-(172), only one NP is eligible to receive case from the case-assignment rules. Consequently, this NP receives the unmarked nominative case regardless of its thematic interpretation or structural position. A similar line of reasoning applies to passivized monotransitive constructions, where the sole argument of the verb receives the unmarked nominative case, as this is the only argument that is eligible to receive m-case from the case-assignment rules.[57]

[57] The only exception known to me to the rule that the unmarked nominative case is assigned to an NP if that is the only NP in a single domain that is eligible to receive m-case from the case-assignment rules are the so-called 'toshnit'-constructions, as in (i), and impersonal constructions with an implied Agent, as in (ii).

(i) Ivana tošnilo/mutilo/rvalo
Ivan.ACC made-sick/made-nauseated/made-vomit.3.SG
'Ivan was sick/nauseated /vomited.'

(ii) Knigu otoslali v redakciju
book.ACC sent.3.PL in editorial office
'They sent the book to the editorial office.'

An investigation of the reason why these constitute an exception has to be left for further research. A possible solution would be to argue that the former involve inherent case assignment, whereas in the latter, verbal agreement with the implied Agent might block nominative case assignment to the Theme NP.

When more than one argument is eligible to receive m-case from the case-assignment rules, the dependent accusative case is always assigned before the unmarked nominative. As already discussed, it is assigned to a thematically less prominent argument, i.e. to the argument that satisfies a θ-role that is linked to a more complex object in the predicates ordering tier. To put it differently, accusative case is used in order to encode the relative thematic prominence. In (173), no lexical case is assigned. There are therefore two NPs in (173) requiring m-case, and the one that satisfies the θ-role that is linked to a more complex object in the predicates ordering tier receives the dependent accusative. Next, the remaining caseless NP receives the unmarked nominative.

173.	a.	Ivan	[$_{VP}$	poceloval	Katju]	SVO
		Ivan.NOM		kissed	Catherine.ACC	
		'Ivan kissed Catherine.'				
	b.	Katju$_1$	[$_{VP}$ t_1	poceloval	Ivan]	OVS
		Catherine.ACC		kissed	Ivan.NOM	
		'Ivan kissed Catherine.'				

It has been noted in the linguistic literature that objects of monotransitive verbs that receive inherent case differ from normal direct objects in a number of ways, and in each respect, they are like indirect dative objects of a ditransitive verb (McFadden 2003). Thus, German dative IOs and objects of *helfen* 'to help' are both unable to become the subject of the normal passive with *werden*:

174.	a.	*	Der	Junge	wurde	geholfen	
			the.NOM	boy.NOM	was	helped	
			Intended: 'The boy was helped.'				
	b.	*	Der	Junge	wurde	von	seiner Mutter
			the.NOM	boy.NOM	was	from	his mother

eine	Lederhose	geschenkt	
a	leather-pants	given	

McFadden 2003:10

Haider (1985) argues on the basis of examples like in (174b) that dative in German ditransitive constructions cannot be structural because it does not alternate with other cases the way that accusative alternates with the nominative in passive.

By analogy, Russian indirect objects must be analysed as receiving inherent dative case, as, unlike accusative direct objects, they cannot alternate with nominative in passive:

175.	a.		Kniga	byla	otoslana	Ivanu
			book.NOM	was	sent	Ivan.DAT
			'The book was sent to Ivan.'			
	b.		Ivanu	byla	otoslana	kniga
			Ivan.DAT	was	sent	book.NOM
			'The book was sent to Ivan.'			
	c.	*	Ivan	byl	otoslan	knigu
			Ivan.NOM	was	sent	book.ACC

The hypothesis that dative case in Russian ditransitive constructions is lexical is further confirmed by the data in (176), which involves Russian numerals that take a genitive singular NP complement. Here, the singular genitive form of the complement of the numeral is available only for nominative and accusative numeral phrases, but not the dative. That is, in both (175) and (176), the dative form must be preserved.

176.	a.	Dva	studenta	podvergli
		two.NOM	student.SG.GEN	subjected

dva zdanija dvum osmotram
two.ACC building.SG.GEN two.DAT examinations.PL.DAT
'Two students subjected two buildings to two examinations.'

b. * Dva studenta podvergli
two.NOM student.SG.GEN subjected

dva zdanija dvum osmotra
two.ACC building.SG.GEN two.DAT examination.SG.GEN

Both objects in (176) are inanimate. Therefore, a difference in interpretation with respect to animacy cannot be the reason why the direct object but not the indirect object is transparent for grammatical changes imposed by the numeral.

The dative case assigned to indirect objects patterns therefore with the inherent cases, which are also unable to undergo grammatical changes under a numeral. Compare (177) with (178):

177. Ivan postroil/ kupil dva zavoda
Ivan built/ bought two.ACC factory.SG.GEN
'Ivan has built/ bought two factories.'

178. a. Ivan vladeet/ upravljaet dvumja zavodami
Ivan possesses/ manages two.INSTR factories.PL.INSTR
'Ivan possesses/ manages two factories.'

b. * Ivan vladeet/ upravljaet dvumja zavoda
Ivan possesses/ manages two.INSTR factory.SG.GEN

Assuming that the dative case in Russian intransitive constructions is lexical, it should be assigned first, according to the m-case assignment algorithm. However, unlike what was the case with monotransitive constructions, in ditransitive constructions, after assignment of the lexical dative case, there are still two NPs left that are eligible for m-case from the case-assignment rules. In accordance with (162), the dependent accusative case is assigned next, and, it is the argument that is linked to a more

complex object in the predicate's ordering tier that receives it. Finally, the unmarked nominative is assigned to the remaining NP:

179. Anja dala Kate knigu
Anna.NOM gave Catherine.DAT book.ACC
'Anna gave Catherine a/the book.'

Importantly, neither dative nor instrumental have to necessarily be inherent in Russian. For example, either of these cases can be assigned to a subject, as long as the subject does not agree with the inflected verb. In the presence of an agreeing finite Iº, however, either of them has to change to nominative.

Thus, dative case is assigned to a subject whenever there is no finite I° present in the sentence, as in (180a). As can be seen from (180b), a nominative argument is not allowed in a construction with a non-finite I°. However, the finite construction in (180c) requires a nominative argument with the same thematic interpretation as the dative in (180a).

180. a. Maše ne pocelovat' Ivana
Masha.DAT not kiss.INF Ivan.ACC
'Masha can't kiss Ivan.'

b. * Maša ne pocelovat' Ivana
Masha.NOM not kiss.INF Ivan.ACC

c. Maša ne pocelovala Ivana
Masha.NOM not kissed Ivan.ACC
'Masha didn't kiss Ivan.'

In sentences with default agreement, instrumental case is assigned to subjects with the Cause thematic interpretation that favour a non-specific construal, as in (181a).

181. a. Volnoj oprokinulo lodku
wave.INSTR overturned.Sg.Neutr.3rd boat.ACC
'A wave overturned a boat.'

b. Volna oprokinula lodku
wave.NOM overturned.SG.Fem.3rd boat.ACC
'The/a wave overturned a boat.'

In (181a), the instrumental subject is interpreted as a non-specific cause of the action expressed by the predicate, whereas the agreeing nominative subject in (181b) admits a definite or specific indefinite interpretation.

The above data suggest that dative and instrumental cases are used in Russian not only as lexical cases but also as unmarked cases. This, however, is restricted by the structure in which they occur, as well as the interpretation of the relevant argument in terms of specificity.

Interestingly, the dependent accusative case also has a variant that encodes a non-specific indefinite interpretation, namely, genitive. It is found in the so-called genitive of negation constructions, as in (182b), and intentional genitive constructions, as in (183b).

182. a. Ivan ne polučal pis'mo
Ivan not received letter.ACC
'Ivan didn't receive the/a letter.'

b. Ivan ne polučal pis'ma
Ivan not received letter.GEN
'Ivan didn't receive any letter.'

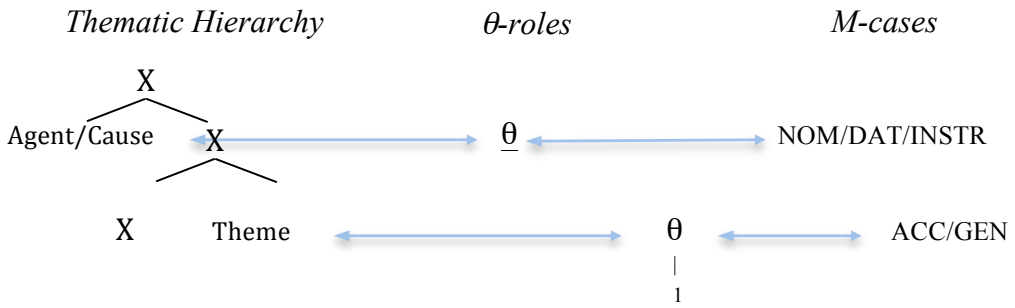
183. a. Ivan ždal čudo
Ivan waited mirracle.ACC
'Ivan waited for the/a miracle.'

b. Ivan ždal čuda
Ivan waited mirracle.GEN
'Ivan waited for a miracle.'

While the accusative variants in (182a) and (183a) admit a definite or specific indefinite construal, the genitive objects in (182b) and (183b) must be interpreted as non-specific indefinites.

The m-case assignment algorithm must therefore be adjusted for Russian to include variants of the dependent and the unmarked case:

184. Mapping of m-cases onto θ-roles



The examples (181)-(183) demonstrate that the <±referential> feature can be encoded in Russian not only structurally but also via m-case. Arguably, the m-case encoding of this feature is applied whenever structural encoding is unavailable, or, more precisely, insufficient. For instance, in the unmarked structure in (181b), the interpretation of the arguments is ambiguous. That is, both arguments can be <-referential> or <+referential>, or the subject can be encoded as <+referential> and the object <-referential>. Structural encoding of the <-referential> status of the subject cannot be achieved via an A-scrambled structure if the object is to be construed as <-referential> as well. That is, the equal <-referential> status of the arguments can be represented only by an unmarked SVO structure, where the status of the nominative subject remains ambiguous. Assigning instrumental case to the subject disambiguates its interpretation as <-referential> in (181a).

Similarly, in (182a) and (183a), the status of the object with respect to the <±referential> feature is ambiguous. Structural encoding of the <-referential>

interpretation of the object is impossible, as it already occupies the non-prominent position. Assigning genitive case to the object once again disambiguates it as <-referential>.

Therefore, the data in (181)-(183) demonstrate that m-case is used in Russian not only to encode the relative thematic prominence of arguments but also to disambiguate the interpretation of arguments in terms of their information-structural interpretation, such as referentiality. Interestingly, it can also be used to distinguish animate from inanimate objects. In (185), the verb *bojat'sja* 'to fear' assigns accusative case to an animate object (see (185a)) and genitive to an inanimate object (see (185b)).

185. a. Ivan boitsja svoju mamu / *svoej mamy
Ivan fears self's.ACC mum.ACC self's.GEN mum.GEN
'Ivan is afraid of his mum.'

b. Ivan boitsja svoej sud'by / *svoju sud'bu
Ivan fears self's.GEN destiny.GEN self's.ACC destiny.ACC
'Ivan fears his destiny.'

We have seen that Russian uses morphology to disambiguate the interpretation of arguments in terms of animacy and referentiality. By analogy, one might hypothesise that languages with less flexibility in word order encode definiteness/indefiniteness via morphology as well, as syntactic encoding is restricted in them. Arguably, the choice between definite versus indefinite articles in such languages is a manifestation of morphological encoding of referentiality. Interestingly, in some languages, for instance in German, articles do not only encode the definite versus indefinite interpretation of nouns but also the thematic interpretation of arguments, as they carry m-case markers along with nouns.

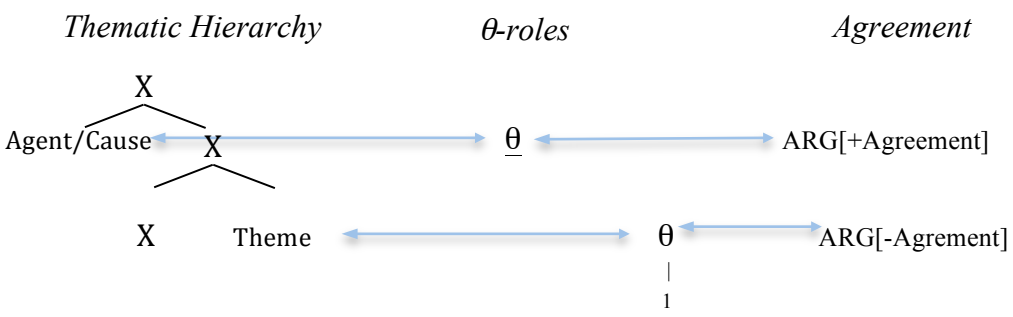
Since the present analysis assumes that m-case is at PF, it follows that, in the absence of syntactic encoding, information-structural interpretations can be made visible at PF not only via prosody but also via m-case. The data presented above support this view.

In the previous sections, we have seen that relative thematic prominence can be encoded in Russian not only via m-case markers but also via agreement markers, as in (24), repeated in (186).

186. a.	Stakan	pereveshivaet	tar**E**lki	SVO
	glass.SG.NOM/ACC	outweighs.SG	plates.PL.NOM/ACC	
	'The/a glass outweighs (the) plates.'			
b.	Stakan	pereveshivajut	tar**E**lki	OVS
	glass.SG.NOM/ACC	outweigh.PL	plates.PL.NOM/ACC	
	'The/a glass is outweighed by (the) plates.'			

Bobaljik (2008) argues very convincingly that, cross-linguistically, it is m-case, and not any syntactic relation (such as abstract case or Grammatical Function), that determines the accessibility of a given NP for controlling agreement on the predicate. He suggests that if we accept that m-case is a post-syntactic operation, then the feeding relationship that holds between m-case assignment and agreement controller choice forces the conclusion that agreement is a post-syntactic operation. Following Bobaljik (2008), I will assume that agreement is a late operation, part of the post-syntactic morphological component operating at PF. Therefore, a violation of structural encoding of thematic prominence, as in (186b), can be recovered at PF, as shown in (187), where the thematically most prominent argument (i.e. the argument that satisfies the theta-role that does not have a link to the ordering tier) shows agreement with the verb.

187. Thematic prominence encoding via agreement



Agreement, or the lack of it, to be precise, is also used in Russian for the encoding of the <±referential> feature. In monotransitive constructions with a PP and an NP argument, as in (188), the neutral word order is PPVNP (see (188a) and (188b)). The inverse NPVPP order can be used to signal that the NP in SpecIP is <+referential> whereas the NP embedded under the preposition is <-referential> (see (188c)). For the construal of both NPs as <-referential>, only the neutral order can be used. However, the interpretation of the subject NP in such constructions is ambiguous and easily admits a definite/specific interpretation, as in (189a), as long as the other NP is also construed as <+referential>. The interpretation of the subject can be disambiguated via default agreement.

The availability of default agreement is due to numeral phrases in Russian being interpreted by syntax either as NPs or QPs (Pesetsky 1982). In the former case the verb agrees with the nominative NP, as in (188a) and (189a), while in the latter case agreement cannot take place and the verb is in a default 3rd person singular form (see (188b)). Whenever agreement is default, the numeral phrase has an obligatory non-referential interpretation, (see (189b)).

188. a. Na stole ležat dva rom**A**na,
on table lie.PL.3 two novels.NOM
'(The) two novels are lying on the/a table.'

b. Na stole ležit dva rom**A**na,
on table lie.SG.3 two novels.NOM
'Two novels are lying on the/a table.'

c. Dva romana ležat na stol**E**
two novels lie.PL.3 on table
'The two novels are lying on a table.'

189. a. Na stole ležat dva rom**A**na, kotorye mne
on table lie.PL.3 two novels.NOM that me

prislal IvAn
sent Ivan.NOM
'The two novels that Ivan sent me are lying on the table.'

b. * Na stole ležit dva romAna, kotorye mne
on table lie.SG.3 two novels.NOM that me

prislal IvAn
sent Ivan.NOM

c. * Dva romana ležit na stolE
two nobels lie.SG.3 on table

In (189a), the agreeing NP can be interpreted as <+referential>, which is confirmed by its ability to take a relative clause. In (189b), the non-agreeing QP cannot be associated with a relative clause, strongly suggesting that it is <-referential>. The example in (189c) shows that default agreement is impossible when the subject is in the SpecIP position. This is because (189c) represents a marked structure licensed by referentiality encoding. As a result, the marked position of the subject is licensed by it being <+referential>. Yet, the default agreement is linked to the <-referential> construal of the subject. Thus, the examples in (189) demonstrate that the encoding of the <±referential> feature is not reduced to structural or m-case encoding but can be achieved via agreement markers.

In this section, we have argued that the difference between Russian and English is not due to the lack of a formal license for scrambling in the latter, but rather to the fact that English chooses structural encoding of thematic prominence over syntactic encoding of information-structural prominence. By contrast, Russian behaves in exactly the opposite way. This explains why the grammar of English does not produce A-scrambled structures even in the presence of morphological or contextual identification.

Yet, it is quite uncontroversial that the preference for structural encoding of thematic prominence is linked to morphological deficiency. Old English had richer morphology and allowed more word order freedom. For instance, OSV orders in embedded clauses are found in old English with personal pronoun objects with some

frequency and with all types of verb. They also occur, less frequently, with independently used demonstrative pronoun objects (Ans van Kemenade p.c.). The question of whether it was the abolition of m-case that resulted in rigid orders or whether it was the preference for the structural encoding of thematic prominence that resulted in the redundancy and subsequent abolition of case morphology has to be left for further research. What is important is that it is thematic prominence that is structurally encoded in modern English, which in turn results in occasional twisted mapping onto the information-structural representation.

Russian, on the other hand, has been shown to favour transparent mapping onto the information-structural representation. This can only be achieved if the corresponding syntactic structure can in principle be generated. Otherwise, twisted mapping onto the information-structural representation is used as the last resort option (see (133a) repeated in (190a)).

190. [Kogo ljubjat ego roditeli?]CONTEXT
Who is loved by his parents?
\

a.		[Iv**A**na]FOC1	ljubyat	ego1	roditeli	OVS
		Ivan.ACC	love	his	parents	
		'Ivan is loved by his parents.'				

\

b.	*	Ego1	roditeli	ljubyat	[Iv**A**na]FOC1	SVO
		his	parents	love	Ivan.ACC	

The structure in (190a) not only fails to structurally represent thematic prominence, it also requires a twisted mapping onto the information-structural representation. The violation of (30) in the mapping onto the information-structural representation must therefore be made visible at PF via stress-shift. This strongly suggests that, whenever syntactic encoding is unavailable, Russian uses exactly the same tool as English for the visibility of relative information-structural prominence based on the <±presupposed> feature. That is, whenever an alternative structure that fits a given context cannot be generated in syntax, it is created in prosody.

Interestingly, we have seen in (19), repeated in (191), that thematic prominence does not need to be recovered at PF in constructions involving embedded possessive

pronouns. This is because the syntactic structure with the bound/coreferenced possessive pronoun, as in (191a), can only be interpreted as OVS. In other words, the relative thematic prominence of arguments is already visible at LF at the point the pronoun and the object receive the same indices.

191. Mat'$_1$ ljubit eë$_1$ d**O**č' OVS
mother.NOM/ACC loves her daughter.NOM/ACC
'Mother is loved by her daughter.'

Similarly, arguments that are lexically specified or unambiguously linked to a particular information-structural interpretation through context do not need to participate in PF visibility, as their relative information-structural prominence is in any case visible at the discourse level.

Possessive embedding can also determine a particular encoding of the <±referential> interpretation (see (192)).

192. [Segodnja moj načal'nik otdal svoj buterbrod
today my boss gave-away self's sandwich.ACC

golodnoj sob**A**ke]$_{\text{FOCUS}}$
hungry dog.DAT
'Today my boss gave away his sandwich to a hungry dog.'

(Slioussar 2007:1.7.b.)

The example in (192) is taken from Slioussar (2007). The author analyses the sentence in (192) as a scrambled structure licensed by the indirect object being more salient and carrying 'additional emphasis'. However, it seems more reasonable to analyse this sentence as encoding the <±referential> interpretation. Since the sentence in (192) is used by the author in an all-focus context, <±referential> is the highest operative interpretation here. The possessive reflexive embedded in the Theme argument forces a <+referential> interpretation of this argument. As a result, the mapping rule in (30) cannot license a marked structure and only the unmarked Theme-Goal order is possible.

Unsurprisingly, whenever the values of objects are equal with respect to the <±referential> feature and the referentiality constraint is vacuously satisfied, it is the lower-ranked <±animate> feature that regulates the order of arguments in the sentence, allowing for a scrambled structure. This happens when both objects are <+referential>, as in (193), and when they have a free interpretation with respect to the <±referential>feature as in (194).

193. [Čto novogo?]CONTEXT
What' new?

a. [Segodnja moj načal'nik otdal svoej sobake
today my boss gave-away self's dog.DAT

svoj buterbr**O**d] FOCUS
self's sandwich.ACC
'Today my boss gave away his sandwich to a his dog.'

b. # [Segodnja moj načal'nik otdal svoj buterbrod
today my boss gave-away self's sandwich.ACC

svoej sob**A**ke] FOCUS
self's dog.DAT

194. [Čto novogo?]CONTEXT
What' new?

a. [Segodnja moj načal'nik otdal golodnoj sobake
today my boss gave-away hungry dog.DAT

buterbr**O**d]FOCUS
sandwich.ACC
'Today my boss gave away a/the sandwich to a/the hungry dog.'

b. # [Segodnja moj načal'nik otdal buterbrod
today my boss gave-away sandwich.ACC

golodnoj sob**A**ke]FOCUS
hungry dog.DAT
*'Today my boss gave away **the** sandwich to **a** hungry dog.'*

To sum up, any language has a general tendency to encode the relative interpretative prominence of arguments. It can be encoded on the basis of either thematic prominence or information-structural prominence. The encoding itself is also not restricted to one type. That is, the relative interpretative prominence can be either syntactically represented, or, in the absence of structural encoding, it must be made visible at PF either via prosody or morphology. We have seen that English aims at structurally representing thematic prominence, which results in an occasional failure to linearly represent information-structural prominence. Some of the information-structural interpretations are lexically specified (e.g. animacy) and therefore do not need to be made visible at PF. Other interpretations, however, require PF visibility. Thus, whenever the relative information-structural prominence is encoded on the basis of the <±presupposed> feature but fails to be syntactically represented, it must be made visible at PF via stress-shift. By analogy, PF visibility of the <±referential> feature is achieved via the different morphological forms of English articles.

Russian, in contrast, optimizes the syntactic encoding of information-structural prominence. Consequently, thematic prominence occasionally fails to be structurally represented in this language. The recovery of the relative thematic prominence at PF is done via m-case or agreement markers. M-case and agreement markers are used in Russian also to disambiguate information-structural interpretations such as referentiality, whenever syntactic encoding is unavailable/insufficient. Similarly, stress-shift is used in Russian for the encoding of the <±presupposed> feature, whenever a syntactic structure that could encode it fails to be generated.

Although the PF visibility of information-structural prominence and PF recovery of thematic prominence seem to be very similar (i.e. the latter is achieved through morphology, whereas the former through prosody and morphology), the present analysis does not require that the two processes apply in exactly the same manner. Thus, recovery of thematic interpretations at PF through morphology can be

achieved due to theta-roles being part of the syntactic structure that serves as input to PF. The visibility of information-structural prominence at PF, on the other hand, is due to PF being capable of creating an alternative (marked) representation that involves a stress-shift operation. In other words, whenever syntax fails to generate an alternative representation (and PF fails to inherit markedness from syntax), PF must make such a representation available. In the absence of such a mechanism, grammar would fail to produce all the necessary representations to fit all possible contexts.

Notably, PF recovery of thematic interpretations has an affect on the truth-conditional interpretation of sentences. This is because a syntactic structure containing theta-roles is submitted not only to PF but also LF. In contrast, PF visibility of information-structural prominence has no affect on LF. All that a representation with a stress-shift achieves is that it can be used in a specific context that an unmarked PF representation fails to fit.[58]

Before we move on to a discussion of other theories of scrambling, let us briefly look at the mechanism of generating marked and unmarked PF representations used at the discourse level in Russian and English. The present analysis assumes that when a syntactic representation containing a monotransitive verb and its two arguments is passed onto PF, the latter checks whether the representation is paired up with an alternative representation. If it is, PF assigns default stress via the Nuclear Stress Rule to both representations and recovers via m-case markers the marked nature of the syntactic representation that does not represent thematic prominence via overt c-command.

If there is only one syntactic representation for the given numeration and truth-conditional interpretation (i.e. there is no pair), PF creates the alternative representation via stress shift. As there is no alternative syntactic representation, the existing syntactic representation cannot be analysed as marked even when it does not encode thematic prominence via overt c-command. Therefore, PF recovery of the thematic interpretations through m-case markers becomes redundant and can be omitted.

[58] I am assuming that constructions containing focus sensitive operators involve syntacting marking of the constituent interpreted in the scope of the operator at LF. This marking determines which element receives stress at PF.

If the numeration contains a ditransitive verb, more alternative representations are needed at the discourse level. This is because a ditransitive verb selects more than two arguments. Consequently, more relative argument prominence relations are encoded. In all other respects, the mechanism works the same as with monotransitive verbs.

Let us first consider how this system works for monotransitive constructions in Russian and English. In Russian, in a typical case, syntax produces a pair <SVO; OVS>. PF assigns nuclear stress via Nuclear Stress Rule to both representations and recovers the thematic prominence relation of the marked OVS via m-case markers. When the resulting PF interpretations <SV**O**; OV**S**> are considered at the discourse level, the m-case markers in the OV**S** structure reveal the marked nature of the syntactic representation that is input to PF. As a result, economy considerations rule out association of the OV**S** PF representation with the interpretation that can be captured by the unmarked SV**O**, namely the interpretation where both arguments have equal information-structural status.

In the special case discussed above, where Russian scrambling is licensed by binding considerations, syntax produces only one (i.e. scrambled) representation for the given numeration and truth-conditional interpretation. As there is no alternative syntactic representation, PF has to produce an alternative prosodic representation. That is, PF creates two representations: <OV**S**; **O**VS>. As the syntactic representation passed onto PF does not have an alternative representation, it cannot be analysed as syntactically marked. Therefore, PF recovery of theta-interpretations becomes redundant and can be omitted. When the two PF representations are interpreted at the discourse level, by economy, the prosodically marked **O**VS can only have the interpretation not captured by the unmarked OV**S**, namely narrow focus on the object, but it is incompatible with the interpretation where both arguments have equal information-structural status.

In English, syntax never produces an alternative representation for SVO. Therefore, when <SVO> is submitted to PF, the latter has to create an alternative representation via stress shift. That is, PF creates two representations, an unmarked and a marked one: <SV**O**, **S**VO>. By economy, the marked **S**VO representation cannot be associated with the discourse interpretation captured by the unmarked SV**O**, namely the interpretation where both arguments have equal information-structural status.

For ditransitive verbs, Russian syntax produces the following representations: one unmarked SVOIO representation and two marked representations, one with object-across-object scrambling – SVIOO, and one with scrambling across the subject – [O t_2 IO]$_1$V$_2$ S t_1. All of these representations receive default nuclear stress and the thematic interpretations in the latter two must be recovered at PF via relevant m-case markers. That is, the indirect object in Russian always carries a distinct dative m-case marker allowing for the recovery of the thematic interpretations of objects in constructions involving object-across-object scrambling. In OIOVS, identification of the thematic interpretation of the IO through a dative case marker also suffices for the recovery of thematic interpretations of arguments because the SIOVO order is illicit in Russian, as it is blocked by the simpler SVIOO structure:

195. Doč' Ivanu predstavila m**A**t'
daughter.NOM/ACC Ivan.DAT introduced mother.NOM/ACC
'The/a daughter was introduced to Ivan by (her/his/a) mother.'
**'The/a daughter introduced to Ivan (her/his/a) mother.'*

196. Doč' predstavila Ivanu [m**A**t']$_{FOC}$
daughter.NOM/ACC introduced Ivan.DAT mother.NOM/ACC
'The/a daughter introduced to Ivan (her/his) mother.'

The marked SVIO**O** and OIOV**S** cannot capture the interpretation conveyed by SVO**IO**, namely the interpretation where all the arguments have equal information-structural status. When the relative information-structural prominence is encoded on the basis of the feature <±presupposed>, the SVIO**O** is interpreted as having narrow focus on the direct object, whereas the OIOV**S** is interpreted as having narrow focus on the subject (or the constituent containing the verb and the subject).

There are, however, two interpretations for which Russian syntax is unable to create corresponding structures, namely focus on the subject and the direct object, and focus on the subject and the indirect object. Recall, that OVSIO and IOVSO orders are impossible in Russian. The corresponding representations must therefore be created in prosody: <**S**VO**IO**; **S**VIO**O**>.

In English, syntax produces only one (unmarked) representation for ditransitive verbs that take two DP objects: SVIOO. PF creates all the necessary marked prosodic

representations for all the interpretations required at the discourse level: <SV**IO**O, **S**VIOO, **S**VIO**O**, **SVIO**O>.

The important finding of this section is that the difference between languages with rigid orders, such as English, and flexible orders, such as Russian, can be reduced to the choice of interpretative prominence – either thematic or information-structural – that must be encoded via syntactic structure.

The next chapter compares the present analysis to other theories of (Russian) scrambling and investigates what implications the present analysis has for other scrambling languages.

4. Other accounts and other languages

Some of the data presented in the previous chapters have been discussed in the linguistic literature, with various analyses offered for them that differ substantially from the one presented here. This chapter looks at these approaches and argues that the present account has advantages over them.

I will start with a discussion of previous analyses of the Russian data that are accounted for in the present manuscript as manifestations of the morphological encoding of the <±referential> feature. I will then move on to previous accounts of Russian scrambling as well as of scrambling in general.

4.1 Accusative unaccusatives (Lavine and Freidin 2002)

In section 3.3, we briefly looked at constructions involving morphological encoding of referentiality. One such construction is the so-called accusative unaccusative construction (Lavine and Freidin 2002), given in (197) and (198) below. Lavine and Freidin (2002) analyse such constructions as involving two objects, direct and indirect, and argue that the argument order in such constructions is free.

However, the analysis of the instrumental argument as an indirect object seems unwarranted. First, this argument carries either the Cause or the Instrument thematic role, which as a rule is assigned to the external argument (see, for example, Reinhart

2002). Second, instrumental case is never assigned to indirect objects in Russian. In fact, it is usually assigned to subjects (e.g. adjoined subjects in passive constructions), and in rare cases a verb can select an instrumental direct object, as is the case with the verbs *upravljat'* 'to govern' and *vladet'* 'to possess'. Third, the instrumental case in accusative unaccusatives can be replaced by nominative case, as in (199), whereas otherwise indirect objects in Russian never have the option of bearing nominative case.

197. a. Vetrom i doždjami sbilo seti
wind.INSTR and rains.INSTR knocked-down.Sg.3 nets.ACC
'Wind and rain knocked down some nets.'

b. Volnoj oprokinulo lodku
wave.INSTR overturned.Sg.3 boat.ACC
'A wave overturned a boat.'

[Kovtunova 1980: 354]

198. a. Soldata ranilo pulej
soldier.ACC wounded.SG.3 bullet.INSTR
'A soldier was wounded by a bullet.'

b. Podvaly zatopilo livnem
basements.ACC flooded.Sg.3 downpour.INSTR
'Basements were flooded by the downpour.'

c. Ženščinu zadavilo kovrom samolëtom
woman.ACC crushed.SG.3 carpet airplane.INSTR

v parke Gor'kogo
in park Gorky.GEN
'A woman was crushed by the flying carpet [attraction] in Gorky Park.'

[Moskovskij komsomolec 9/13/99]

(Lavine and Freidin 2002:6)

199. a. Veter i dožd' sbili seti
wind.NOM and rains.NOM knocked-down.Pl.3 nets.ACC
'(The) wind and (the)rain knocked down some nets.'

b. Volna oprokinula lodku
wave.NOM overturned.Pl.3 boat.ACC
'The/a wave overturned a boat.'

The present analysis sees the accusative unaccusative construction in (197) and (198) as a monotransitive construction that makes use of the instrumental case to indicate the <-referential> status of the Cause/Instrument subject NP. Crucially, it is then predicted that the order of arguments in the accusative unaccusative construction is not free – contra Lavine and Freidin (2002) – but regulated by the mapping rule in (30). Thus, whenever the object in such constructions is construed as <-referential>, as in (197), the unmarked SVO structure is used, because this structure is capable of representing the information structure of a sentence where both the object and the instrumental subject carry equal (negative) values with respect to the <±referential> feature. However, as soon as the object is construed as <+referential>, and the instrumental subject is, as expected, <-referential>, as in (198), the unmarked SVO structure fails to encode information-structural prominence and the marked OVS must be used.

The proposed analysis captures the fact that the 'nets' and 'boat' in (197) do not refer to any specific nets or a specific boat, whereas, in (198), 'soldier' and 'woman' refer to specific individuals and 'basements' to specific basements. Therefore, in (198), there is an interpretative difference between the non-referential instrumental subjects and the <+referential> objects licensing a scrambled OVS structure, whereas in (197) the <+referential> interpretation is unavailable for the objects in all-focus contexts because such an interpretation would violate (30). As is evident from (200a), a possessive pronoun embedded in an object makes the unmarked SVO construction infelicitous because the pronoun adds a <+referential> interpretation to the object, while the instrumental subject is construed as <-referential>. As a result, the SVO structure in (200a) violates (30). The marked OVS construction in (200b), in contrast, correctly captures the information structure of the sentence. Unsurprisingly, as soon as

the subject is not specified for the <±referential> feature, the unmarked structure becomes available (see 200c).[59]

200. [Čto slučilos'?]$_{CONTEXT}$
What happened?

a. # [Volnoj oprokinulo moju lodku]$_{FOC}$ $S_{<-R>}VO_{<+R>}$
wave.INSTR overturned.Sg.3 my boat.ACC

b. [Moju lodku oprokinulo volnoj]$_{FOC}$ $O_{<+R>}VS_{<-R>}$
my boat.ACC overturned.Sg.3 wave.INSTR
'A wave overturned my boat.'

c. [Volna oprokinula moju lodku]$_{FOC}$ $S_{<+R>}VO_{<+R>}$
wave.NOM overturned my boat.ACC
*'**The** wave overturned my boat.'*

The above data fall out from the assumption that in accusative unaccusatives instrumental case assigned to a subject triggers the <-referential> interpretation of this argument, whereas a nominative subject can have any value as regards this feature. As discussed in the previous chapter, it might not be the instrumental case as such that is responsible for the <-referential> construal of the subject but the absence of agreement with the subject. Thus, an argument that enters into an agreement relation is ambiguous, with the <+referential> available for it, whereas a non-agreeing subject has the <-referential> reading.

[59] The word order in (200a) is distinctly odd in comparison to the one in (200b) in a context where 'wave.INSTR' is discourse-new. It is, however, possible to accommodate the interpretation of this constituent as discourse-given, in which case (200a) is marginally possible.

4.2 A Movement analysis of Russian A-scrambling (Junghanns and Zybatow 1995)

The analysis put forward here can also account for the data that Junghanns and Zybatow (1995) analyse as derived by A-movement. The main argument for an A-movement analysis of neutral scrambling in Russian that Junghanns and Zybatow (1995) present is the assumed lack of focus spreading in such structures. The main motivation behind this assumption is the observation that unspecified nouns resist a <-referential> interpretation in positions that Junghanns and Zybatow (1995) analyse as scrambled positions, as in (201b).

201. a. Odna ženščina podarila mal'čiku j**A**bloko SVIOO
one woman gave boy.DAT apple.ACC
*'A woman gave **a/the** boy an/the apple.'*

b. Odna ženščina podarila jabloko m**A**l'čiku SVOIO
one woman gave apple.ACC boy.DAT
*'A woman gave **the** apple to a boy.'*

(Junghanns and Zybatow 1995:12)

The difference in the interpretation of the objects with respect to definiteness in (201a) and (201b) is presented by Junghanns and Zybatow (1995) as evidence in favour of the unmarked character of the SVIOO order. The sentence in (201b) is analysed as disrupted by A-movement, which consequently results in the unavailability of the <-referential> interpretation for the direct object (see the determiner choice in the translation).

As argued in the previous chapters, an A-movement analysis of Russian neutral scrambling runs into a number of empirical and theoretical problems, which are avoided by the base-generation account. But more importantly, the data in (201) can be accounted for without any reference to movement, as long as the encoding of the <±referential> feature is assumed. The sentences in (201) are analysed by Junghanns and Zybatow (1995) without any preceding context and are therefore interpreted as all-focus sentences. According to the Argument Prominence Hierarchy, the highest feature determining the prominence of arguments in all-focus sentences is

<±referential>. It is therefore this feature that is capable of overriding any lower-ranked feature encoding such as the encoding of the <±animate> feature.

Incidentally, the argument order in (201) is indeed affected by the <±animate> feature. That is, the indirect object in (201) carries a positive value as regards <±animate> feature, whereas the direct object is characterized by a negative value of the same feature. In accordance with the mapping rule in (30), the objects are merged in a marked Goal-Theme order in (201a), which is licensed by their prominence relations within the animacy domain. However, the <±animate> feature can regulate the relative order of arguments in all-focus contexts only when the <±referential> feature is not operative, as in (201a), where the objects have free interpretations with respect to referentiality. That is, whenever the inanimate direct object is interpreted as <+referential> and the animate indirect object as <-referential>, as in (201b), a scrambled structure can no longer be licensed, as it fails to reflect the relative prominence of the objects within the higher-ranked referentiality domain. In other words, the fact that an unmarked structure is used in (201b) despite the Goal argument being more prominent than the Theme argument within the animacy domain signals that a higher-ranked interpretation prohibits a scrambled structure. In an all-focus context that interpretation is indeed referentiality.

If the objects in (201) were not affected by <±animacy> encoding, referentiality would be able to license a scrambled structure in an all-focus context, as in (202b).

202.	a.	Ivan	predstavil	devočku	m**A**l’čiku	SVOIO
		Ivan	introduce	girl.ACC	boy.DAT	
		*‘Ivan introduced **a/the** girl to a/the boy.’*				
	b.	Ivan	predstavil	mal’čiku	d**E**vočku	SVIOO
		Ivan	introduce	boy.DAT	girl.ACC	
		*‘Ivan introduced **the** boy to a girl.’*				

The fact that the <-referential> interpretation is readily available for the direct object as long as both objects are equally prominent with respect to the <±animacy> feature (see (202a)) undermines Junghanns and Zybatow’s (1995) assumption that the unmarked order of objects in Russian is Goal-Theme. Moreover, a marked structure, as in (202b), is possible only when the Goal argument is interpreted as more

prominent than the Theme argument vis-à-vis the <±referential> feature. Importantly, the Goal argument in (202b) must be interpreted as <+referential> but this clearly is not the result of a lack of focus spreading but of referentiality encoding in an all-focus sentence.

If we are on the right track in assuming that the sentences in (201b) and (202b) are in fact all-focus sentences affected by referentiality encoding, we should expect the focus-background encoding to override referentiality encoding (Hans van de Koot p.c.). This prediction is indeed borne out (see (203) and (204)).

203. [Komu odna ženščina podarila jabloko?]CONTEXT
'Who did a woman give an apple to?'

Odna	ženščina	podarila	jabloko	[mal'čiku]FOCUS
one	woman	gave	apple.ACC	boy.DAT

*'A woman gave **a/the** apple to a/the boy.'*

204. [Kogo Ivan predstavil mal'čiku?]CONTEXT
'Who did Ivan introduce to a boy?'

Ivan	predstavil	mal'čiku	[devočku]FOCUS
Ivan	introduced	boy.DAT	girl.ACC

*'Ivan introduced **a/the** boy to a/the girl.'*

The facts presented in this subsection challenge Junghanns and Zybatow's (1995) idea that the lack of focus spreading can be used in support of the A-movement analysis of neutral scrambling. After all, focus spreading is readily available in A-scrambled constructions and the lack of the <-referential> interpretation for scrambled arguments is better analysed as resulting from referentiality encoding rather than from a lack of focus spreading. This is supported by the observation that as soon as focus encoding takes effect, the scrambled argument can be interpreted as <-referential> (see (204)).

4.3 Movement analyses of the Russian OVS (King 1995, Bailyn 2003a, 2003b, 2004 and Slioussar 2007)

Russian neutral scrambling has been consistently analysed in the linguistic literature as resulting from movement, with various scholars attempting to apply the movement approach not only to the reordering of objects in ditransitive constructions but also to scrambled OVS structures. However, any account that sees the neutrally scrambled OVS word order as resulting from A-movement runs into a number of problems. To begin with, it goes without saying that any such account fails to explain the lack of scope reconstruction in such constructions. Moreover, most movement accounts additionally involve a relativized minimality violation. These issues have been addressed in section 3.2 and will not be considered any further here. But even if the behaviour of scrambled arguments with regards to scope reconstruction and locality were ignored, a movement analysis either proposes movement operations that are not supported by empirical evidence or fails to credibly motivate movement operations.

One of the biggest challenges that a movement analysis of Russian monotransitive scrambled structures faces has to do with the position of the subject with respect to the verb. King (1995) tries to resolve this complication by arguing that the underlying structure of Russian monotransitive constructions is VSO, with the verb in Iº and the subject in SpecVP. The SVO structure is derived via movement of the subject to SpecIP and the scrambled OVS via movement of the object to SpecIP.

However, this analysis runs into several problems. First, VSO structures in Russian are quite rare; they are restricted to specific story-telling contexts, where the verb is topicalized. This is supported by the fact that it obligatorily bears the topic intonation (IK3) and by its inability to be preceded by an unaccented adverb (Slioussar 2007).

Second, the analysis of the verb in Iº is not supported by adverb placement tests, as shown in (205) and (206).

205.	a.	Ja	dumaju,	čto	Ivan	často	celuet	Mašu
		I	think	that	Ivan	often	kisses	Masha.ACC

'I think that Ivan often kisses Masha.'

b. * Ja dumaju, čto Ivan celuet často Mašu
I think that Ivan kisses often Masha.ACC

206. a. Ja dumaju, čto Mašu často celuet Ivan
I think that Masha.ACC often kisses Ivan
'I think that Ivan often kisses Masha.'

b. * Ja dumaju, čto Mašu celuet často Ivan
I think that Masha.ACC kisses often Ivan

The data in (205) and (206) demonstrate that in unmarked SVO and in scrambled OVS structures the verb must follow an adverb left-adjoined to the VP, strongly suggesting that the verb is not in Iº.

Bailyn (2003a, 2003b, 2004) argues that OVS structures in Russian should be analysed as related to purely syntactic processes of 'Inversion'. On his account, OVS structures involve A-movement of the object into subject position, Spec-IP, and verb raising into Iº. The movement of the object is motivated not by any discourse factors in this theory but takes place in order to check the EPP feature on I°. EPP can be satisfied by any XP, and is accompanied by the raising of the verb to Iº. The latter movement operation is triggered by a Tense Condition that states that I° has a strong [+T] feature which must be checked in overt syntax in either the IP or CP domain. However, since verb-raising takes place only in OVS structures, it is assumed that the Tense Condition can be satisfied in two ways, namely either by a Nominative subject in SpecIP or by a raised tensed verb. In summary, the motivation behind the movement of the object is the EPP condition, whereas the verb raises to satisfy the Tense Condition on I°. This analysis, however, is not adequately supported by empirical or theoretical evidence.

First, there is independent evidence that the verb in Russian never raises to I°, which is once again based on the placement of adverbs (Slioussar 2007). Bailyn tries to maintain the assumed verb-raising in OVS constructions by comparing them to SVO structures and demonstrating that, while the latter can have an adverb precede the verb, the former cannot, suggesting that V-to-I movement takes place in such structures. However, a closer look at the data suggests that the placement of adverbs is identical in OVS and SVO structures (see (205) and (206) above): in both structures

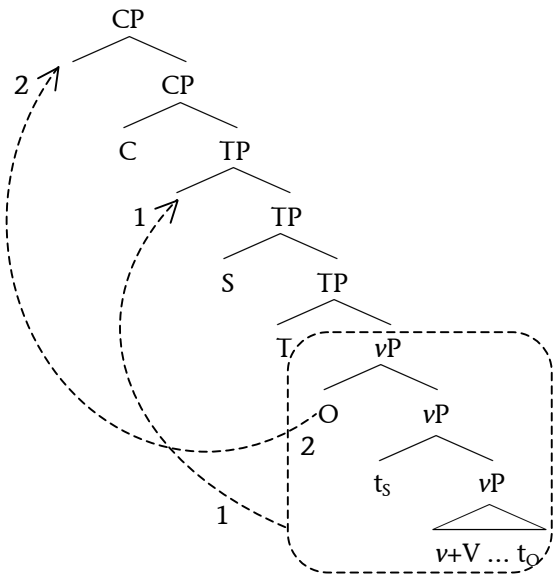
the adverb *must* precede the verb. The (b) sentences in (195) and (196) are to the same degree less felicitous than the (a) sentences, strongly suggesting that the V-to-I raising analysis of OVS constructions cannot be sustained.

Second, an analysis of OVS structures as involving syntactic inversion appears to rely on unmotivated movements. If the EPP condition in Russian can be satisfied by any XP, why is it not consistently satisfied by the subject DP (which would automatically satisfy the Tense Condition on I°)? This structure would involve fewer movement operations and consequently economy considerations should block the occurrence of OVS constructions.

Finally, an EPP-based movement account fails to explain the unavailability of inverted structures in all-focus contexts, where no information-structural encoding takes place. In particular, it remains a mystery why the OVS order is only acceptable when the object is <+prominent> and the subject <-prominent>. More broadly, this analysis has little to say about the overall dependency of word order variation on information-structural factors.

Slioussar (2007) analyses Russian OVS structures as resulting from movement motivated by discourse-factors. However, her analysis also has its drawbacks. In order to maintain the movement approach and account for the unavailability of the V-to-I raising in Russian, Slioussar (2007) argues for a remnant movement analysis of Russian OVS constructions. On this account, the verb phrase containing the verb and the object first moves to one of the specifiers of the tense phrase, after which the object moves to SpecCP, as shown in (207) (Slioussar's Figure 2.1: Derivation of an 'O V S' sentence).

207.



However, apart from the fact that this analysis does not account for the surface scope in OVS constructions or for the observation that the scrambled object passes diagnostics for occupying an A-position, it fails to provide credible motivation for the movement of the verbal phrase. That is, if this movement operation is performed in order for the elements within the *v*P to be interpreted as backgrounded, it is unclear why not all such elements are necessarily linked to this interpretation. Thus, while the object in OVS structures is always <+prominent>, the verb can actually be <-prominent>. Consider the example below:

208. [Čto slučilos' s igruškoj?]$_{\text{CONTEXT}}$
What happened to the toy?

Igrušku	[slomali	deti]$_{\text{FOC}}$	OVS
toy.ACC	broke	children	
'(The) children broke the/a toy.'			

In (208), both the subject and the verb are in focus. Yet, to maintain the remnant movement analysis, the whole *v*P including the verb has to undergo movement for discourse related reasons before the object extraction takes place. Slioussar (2007) argues that the information-structure-related movement of the *v*P to SpecTP takes place in order for the stranded subject to be interpreted as more salient and less accessible than any other elements in the sentence (Slioussar 2007:44). However, as

can be seen from (208) the verb is not less salient or more accessible than the subject in this sentence. It is therefore unclear why the verb has to move along with the object and why it is the OVS and not the OSV order that surfaces.

In short, any theory that assumes *v*P movement for information-structural reasons fails to account for the discourse-neutral status of the verb, i.e. the same structure can contain either a backgrounded or a focused verb. In general, all of the movement theories discussed above fail to derive a structure in which a discourse-neutral verb precedes the subject. In contrast, the base-generation analysis proposed here successfully captures this. Thus, if the OVS structure results from the encoding of the relative information-structural prominence of arguments – that is, the relative prominence of arguments determines the order in which they merge with the verb – it follows that the interpretation of the verb is not reliant on the type of construction (SVO or OVS) it occurs in.

The base-generation analysis defended in this manuscript obviates the problems raised by movement theories of Russian A-scrambling. Moreover, the idea that the verb can form a constituent with the subject to the exclusion of the object in Russian is supported by idiomatic expressions that consist of a verb and a subject:

209. a. Ivana zaela sovest'
Ivan.ACC ate-up conscience
'Ivan's conscience is troubling him' = 'Ivan experienced remorse'.

b. Ivana mučali somnenija
Ivan.ACC tormented doubts
'Doubts tormented Ivan' = 'Ivan experienced doubts'.

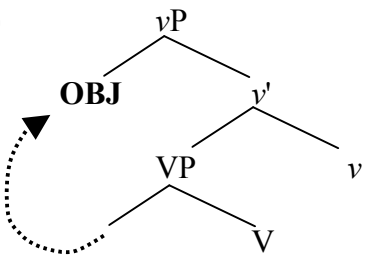
Chtareva (2004)

The Russian verb + subject idioms, as in (209), support the hypothesis that OVS can be base-generated in Russian, as such expressions have idiomatic nominative subjects, idiomatic transitive verbs, and free accusative objects. (Note that the nominative arguments are <-animate>, whereas the accusative must be <+animate> in (209) in line with our previous analysis of idiom formation in Russian). It must therefore be assumed that the subjects in (209) are base-generated as internal arguments of the verb (cf. Chtareva 2004).

4.4 Tucking-in analysis of A-scrambling (Richards 2008)

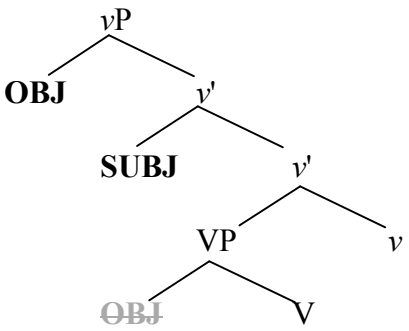
As argued in the previous sub-sections, the base-generation approach to A-scrambling fares better than the movement analyses. However, movement (including remnant movement) and base-generation are not the only approaches to A-scrambling that have been proposed in the literature. Thus, Richards (2008) proposes a novel analysis of Japanese A-scrambling that aims to tackle the problems raised by locality considerations as well as capture the surface scope found in these constructions. His proposal is based on the idea that merge can follow move. On this account, *v* has two specifiers; one filled by External Merge, to which *v* assigns a theta-role, and another filled by Move, "perhaps as one of the steps of scrambling". First, *v* Probes and finds a Goal —the object, which moves, creating a specifier for *v*:

210.



Now *v* needs to create another specifier, to which it will assign an external theta-role. Assuming that 'tucking in' derivations are possible, new specifiers can be created under existing ones. In other words, the external theta-role could be assigned to a new specifier, which is created below the one created in (210) above:

211.

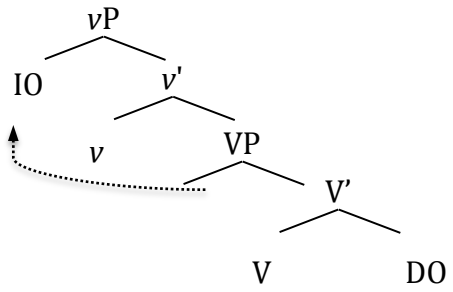


The derivation in (210) and (211) solves the locality problem: movement of the object in (210) does not cross any DP positions, since the subject is merged when movement of the object is complete.

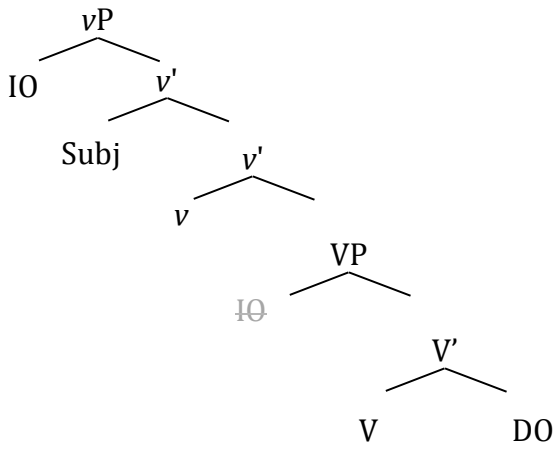
Furthermore, there is no point in this derivation at which the subject c-commands the entire object chain. According to Richards (2008), this property of the derivation has consequences for reconstruction. To be precise, reconstruction is sometimes analyzed, not as selective interpretation of a member of a chain, but as interpretation of earlier stages of the derivation. Although in (211) there is a copy of the object below the subject, there is no stage in the derivation at which the subject c-commands the object. If A-scrambling proceeds via the derivation summarized in (210-211), and if reconstruction is analyzed as involving interpretation of earlier stages of the derivation, then A-scrambling should be unable to reconstruct.

If the analysis proposed in Richards (2008) were applied to Russian A-scrambling, it would account for the property of surface scope and avoid the problem raised by relativized minimality. As a result, it would fair better than the movement theories of Russian scrambling discussed in this chapter. However, nothing in the theory proposed in Richards (2008) seems to stop illicit derivations were an object of a ditransitive verb A-scrambles over a subject. After all, it should be possible to merge the subject of a ditransitive verb beneath one of its moved objects, as in (212) and (213).

212.



213.



However, we have seen that derivations where only one of the objects of a ditransitive verb A-scrambled across the subject, as in (213), are impossible in Russian (see (131) and (132)). The infelicitous example in (132c) that represents the IOSVO order derived in (213) is repeated in (214):

214. [Kto kogo predstavil dekanu?]$_{\text{CONTEXT}}$
Who introduced whom to a/the dean?

#	Dekanu	[Ivan]$_{\text{FOC}}$	predstavil	[stud**E**ntov]$_{\text{FOC}}$	IOSVO
	dean.DAT	Ivan	introduced	students.ACC	

Therefore, the theory of A-scrambling proposed in Richards (2008) can be applied to Russian only if additional restrictions are stipulated to stop the system from overgenerating.

4.5 Other scrambling languages – a brief discussion of German

The hypothesis defended in the present manuscript is that <±animate>, <±human>, <±referential>, <±D-linked> and <±presupposed> are information-structural features, each occupying their own position on the Argument Prominence Hierarchy. To be precise, all of the above interpretations can potentially be part of the information structure of a sentence but the relative prominence of two arguments can be regulated only by one of them at a time. This is because the information-structural features are

ranked with respect to each other, which is mirrored by their position on the Argument Prominence Hierarchy in (88). As a result, whenever a higher-ranked constraint is operative in a sentence, it blocks the application of any lower-ranked constraints, with the latter applicable only when the former is not operative. For instance, the lowest-ranked animacy encoding, which distinguishes between animate and inanimate arguments, can apply only when neither referentiality nor focus-background encoding takes place; referentiality encoding, which distinguishes arguments that have a specific referent in the interlocutors' shared knowledge from those that do not, outranks animacy but still cannot apply whenever focus-background encoding is operative in a sentence; whereas focus-background encoding, which makes a distinction between backgrounded and focused elements, is the highest ranked out of all the cognitive constraints.

Consequently, one type of encoding is possible only when no other types are applicable. Importantly, there is no overlapping of constraints in Russian, that is, there are intersections but no entailment, so the highest-ranked operative constraint is always the one that has an effect on the order of arguments in a sentence, regardless of the interpretations provided by any other cognitive constraints that are ranked lower, i.e. the interpretation of the latter is free.

It must be noted, however, that there is variation among scrambling languages as to how many of the above cognitive interpretations are required to license an A-scrambled structure. Thus, while in Russian a single interpretation licenses scrambled orders, languages that are more restricted in their scrambling possibilities require at least two interpretations to coincide for scrambling to be possible. Thus, Dutch and German, unlike Russian, do not allow scrambling of non-referential backgrounded elements or of referential focused material (van de Koot p.c. and Abels p.c.). Indeed, for these languages scrambling is only licensed by the intersection of focus-background and referentiality encoding. In the German examples in (215) – (217), borrowed from Lenerz (2002), only the unmarked IO-O order is felicitous whenever the direct object is interpreted as a non-specific indefinite:

215. [Wem hast du das Buch gegeben?]$_{\text{CONTEXT}}$
Who did you give the book to?

\

a. Ich habe [dem/einem Stud**E**nten]$_{FOC}$ das Buch gegeben
I have the/a student.DAT the book.ACC given
'I gave the book to the/a student' = unmarked order

\

b. Ich habe das Buch [dem/einem Stud**E**nten]$_{FOC}$ gegeben
I have the book.ACC the/a student.DAT given
'I gave the book to the/a student' = scrambled order

216. [Was hast du dem Studenten gegeben?]$_{CONTEXT}$
What did you give to the student?

\

a. Ich habe dem Studenten [das B**U**ch]$_{FOC}$ gegeben
I have the student.DAT the book.ACC given
'I gave the book to the student' = unmarked order

\

b. * Ich habe [das B**U**ch]$_{FOC}$ dem Studenten gegeben
I have the book.ACC the student.DAT given
'I gave the book to the student' = scrambled order

217. [Wem hast du ein Buch gegeben?]$_{CONTEXT}$
Who did you give a book to?

\

a. Ich habe [dem/einem Stud**E**nten]$_{FOC}$ ein Buch gegeben
I have the/a student.DAT a book.ACC given
'I gave a book to the/a student' = unmarked order

\

b. * Ich habe ein Buch [dem Stud**E**nten]$_{FOC}$ gegeben
I have a book.ACC the student.DAT given
'I gave ta book to the student' = scrambled order

\

c. * Ich habe ein Buch [einem StudEnten]$_{FOC}$ gegeben
I have a book.ACC a student.DAT given
'I gave the book to a student' = scrambled order

As demonstrated in (215b), scrambling of a <+referential> and <+presupposed> direct object is allowed, whereas scrambling of a <+referential> and <-presupposed> (see (216b)) or a <-referential> and <+presupposed> direct object ((see 217b) and (217c)) is impossible.

We have seen that in Russian, examples of the type given in (217b) and (217c) are possible. That is, in Russian, A-scrambling can be licensed purely by the <±presupposed> feature, with the interpretation of arguments with respect to the <±referential> feature being free. The sentence in (216b)), on the other hand, would be ill-formed in Russian as well. This is because the <±presupposed> feature overrides the <±referential> feature in Russian. Therefore, even if the <±referential> feature licensed a scrambled structure (i.e. if the object across which scrambling takes place were <-referential> in an example of the type given in (216b)), the <±presupposed> feature would still override it and demand an unmarked order.

Crucially, German scrambling cannot be licensed by the <±referential> feature even when the <±presupposed> feature is not operative:

218. [Was ist passiert?/ Was hast du gemacht?]$_{CONTEXT}$
What happened?/ What did you do?

\

a. [Ich habe [einem Studenten mein BUch gegeben]]$_{FOC}$
I have a student.DAT my book.ACC given
'I gave my book to a student' = unmarked order

\

b. *[Ich habe [mein Buch einem StudEnten gegeben]]$_{FOC}$
I have my book.ACC a student.DAT given
'I gave my book to a student' = scrambled order

Native speakers of German judge the example in (218b) as less felicitous than the one in (218a), suggesting that referentiality alone cannot license A-scrambling in German.

Notably, Fanselow (2010) argues on the basis of examples like in (219) that definiteness can license German A-scrambling.

219. [Imagine how strangely John behaved today!]$_{\text{CONTEXT}}$

a. Er hat sogar sein Lunchbrot einem Hund gegeben
he has even his lunch sandwich a.DAT dog given
'he even gave his lunch sandwich to a dog.'

b. *Er hat sogar ein Lunchbrot einem Hund gegeben
he has even a lunch sandwich a.DAT dog given
'he even gave a lunch sandwich to a dog.'

Fanselow (2010: 4)

None of the objects are D-linked in (219). Moreover, the entire VP that occurs in the scope of 'even' is focused, strongly suggesting that both objects are <-presupposed>. Yet, scrambling of the definite direct object across the indefinite indirect object is allowed in (219a), whereas a structure with a scrambled indefinite direct object in (219b) is less felicitous. If the examples in (219) involve object-across-object A-scrambling, we must assume that referentiality can in fact license A-scrambling of <-presupposed> objects in German, contrary to our previous conclusion based on the data in (218).

However, two observations undermine an analysis of (219) as involving neutral A-scrambling. First, the context in (219) licenses emphatic construal of the focused VP, which is additionally facilitated by the fact that this VP occurs in the scope of 'even'. That is, the action expressed by the VP is construed as surprising/ unexpected/ extraordinary. In particular, giving one's sandwich to a dog is interpreted as an activity that occupies the lowest position on the scale of activities that John could be expected to do. Emphatic focus will be discussed in Part II of this manuscript. It will be shown to pattern with contrastive focus in syntactic behaviour and interpretative features. This seems to suggest that the reordering that takes place in (219) might be licensed not merely by the definite versus indefinite interpretation but by the need to

invert the order of arguments within the emphatic VP. If so, the sentence in (219) might in fact involve A'-scrambling rather than A-scrambling.

Such a conclusion is supported by our second observation that the prosodic patterns and syntactic structures used in the Russian variants of (219) are very different from those that surface in sentences with neutral object-across-object A-scrambling. Thus, in Russian object-across-object A-scrambling, the prominent object can scramble only across the other object and no further, and it is typically deaccented. In the Russian variants of (219) in (220), however, the object is preverbal and it must carry a prominent intonational contour (i.e. IK3) that is typically assigned to contrastive topics and higher-scope foci in Russian.

220. [Imagine how strangely John behaved today!]$_{\text{CONTEXT}}$

					/		\
a.		On	daže	svoj	buterbrot	otdal	sob**A**ke
		he	even	self's	sandwich	gave	dog.DAT
		'He even gave his sandwich to a dog.'					
					/		\
b.	?	On	daže	buterbrot	otdal	sob**A**ke	
		he	even	sandwich	gave	dog.DAT	
		'He even gave a sandwich to a dog.'					

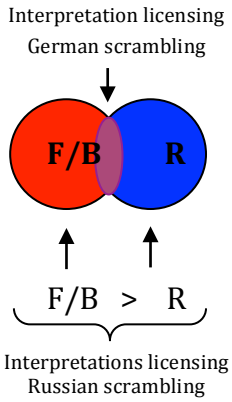
The fact that the direct object precedes the verb in (220) suggests that the syntactic process involved is not the one that has been argued here to alter the order of merger of objects within the ditransitive VP. That is, the direct object in (220) is better analysed not as generated within the VP but as moved and adjoined to the VP. Moreover, the fact that a prominent accent is needed suggests that the moved object A'-scrambles to its surface position.

It is beyond the scope of this manuscript to determine what exactly licenses A'-scrambling of the direct object within the emphatically focused phrase in (220) and (219). What is crucial for our analysis is that the reordering of objects here cannot be analysed as a case of A-scrambling licensed by referentiality/definiteness. Instead, the definiteness effect might be attributed to the fact that A'-scrambling of the direct object takes place in order to create a sort of Topic-Focus structure within the emphatic VP. If so, the preference to move a definite rather than an indefinite patterns

with the observation that topics generally favour specific/definite interpretation (Reinhart 1981). Moreover, the emphatic construal of the VP contributes to this preference as well. Plausibly, topicalization of the direct object signals that what is surprising is not merely that John gave a dog a sandwich but that he did something to *his* sandwich, namely, he gave it away (to a dog). Logically, giving just any sandwich to a dog is not as surprising as giving one's sandwich away. All in all, the example in (219) does not seem to provide enough evidence towards the hypothesis that German A-scrambling can be licensed by referentiality encoding alone. I will therefore keep assuming that only <+referential; +presupposed> objects can A-scramble in German.

The difference between Russian, on the one hand, and German, on the other, can be expressed using the schema in (221) where the red circle represents focus-background encoding and the blue circle stands for referentiality encoding. In Russian, the interpretation symbolized by the red circle prevails over the one denoted by the blue one, with the latter licensing scrambling only when the former is not operative. In German, on the other hand, neither can license scrambling on their own, with only the intersection of two (purple on the schema) certifying the neutral reordering of constituents:

221. Cognitive Constraint Interaction in German and Russian



The data in (215)-(217) demonstrate that in German, the <±referential> feature is dependent on the <±presupposed> and the <±D-linked> features, which seems to be a general interpretative difference between Germanic and Slavic languages. The dependence of the <±referential> feature on the <±D-linked> feature in Germanic languages should, however, not be taken to mean that the two interpretations must be collapsed under one notion. After all, in Russian, each of these interpretations can

separately license scrambling. For this reason I have not adopted the analysis defended by a variety of scholars that a pronoun bound by a universal quantifier is <-D-linked>. In (222), the pronoun does not have a discourse referent but it does have a discourse antecedent, with which it must agree in phi-features. It is therefore better analysed as <-referential> but <+D-linked>.

222. Every police woman$_1$ loves her$_1$/ *his$_1$ job

The German data in (215)-(217) demonstrate another interesting deviation from Russian. Recall that Russian optimizes the structural encoding of information-structural prominence. This regularly results in structures that fail to encode relative thematic prominence. These violations have been argued to be recovered at PF via inflectional morphology. English, conversely, has been shown to behave in an exactly opposite way: thematic prominence is consistently structurally represented in this language, which results in regular violations of the linear information-structural prominence encoding. These violations must be made visible at PF via prosody. Interestingly, German seems to allow either type of interpretative prominence to be syntactically/linearly represented, as long as the resulting violation of the relative prominence encoding via syntactic structure is made visible at PF. The relevant example is (215). The sentence in (215a) structurally represents the thematic prominence but fails to linearly represent information-structural prominence.[60] The latter is made visible at PF via stress shift. In (215b), conversely, the information-structural prominence is linearly represented at the cost of the structure not reflecting the relative thematic prominence. The latter is recovered at PF via m-case markers.

What can be said about German, then, is that it does not have any specific preference as to what type of relative interpretative prominence – thematic or information-structural – is structurally/linearly represented. Although the syntactic

[60] The unmarked order of objects in German is traditionally taken to be Goal-Theme. However, it has been argued that in the absence of the animacy encoding, the order is free, with the Theme-Goal order perceived as neutral by native speakers to the same extent as the Goal-Theme order (Fanselow 1995a, Vogel and Steinbach 1998). In the present manuscript, I will not question the hypothesis that Goal is thematically more prominent than Theme in German. Although intuitively one would expect the thematic hierarchy to be universal, the apparent inconsistency of German thematic encoding with Russian has to be left for further research.

encoding of the information-structural prominence is more restricted in German (see (221)) than in Russian, it is still allowed (see (215b)), unlike in English. The more restricted nature of the information-structural prominence encoding via syntactic structure arguably results in the fact that twisted mapping onto the information-structural representation is freely available in German (see (215a)), unlike in Russian. Another way of putting it is to say that German occupies an intermediate position between the so-called configurational and discourse-configurational languages, as shown in (223).

223.

Thematic prominence encoding via structure		*Information-structural prominence encoding via structure*
English	German	Russian

This concludes our discussion of A-scrambling. The next part of the manuscript is dedicated to A'-scrambling of contrastive categories. It demonstrates that although A'-scrambling should be analysed separately from A-scrambling, the two phenomena are intrinsically linked, with one feeding the other.

II. A'-scrambling[61]

5. Contrastive categories

As mentioned in the introduction to this manuscript, scrambling of contrastive categories is quite different from the neutral reordering of arguments discussed in part I. Thus, it displays properties typical of A'-relations, such as the ability to move long-distance (see (224)), the inability to enter into a binding relation from the head of the movement chain (see (225a)) or take scope in the surface position (see (226)):

\

224. a. [Kn**I**gi]$_{FOC1}$, ja xoču, čtoby Anja čitala t_1 (a ne žurnaly)
books.ACC I want that Anna read (not magazines)
'I want Anna to read books (not magazines).'

/ \

b. [Knigi]$_{TOP1}$, ja xoču, čtoby Anja [podarila K**A**te]$_{FOC}$
books.ACC I want that Anna gave Catherine.DAT

(a žurnaly pust' ostavit sebe)
(and magazines she can keep for herself)
'As for books, I want Anna to give them to Catherine (and magazines she can keep for herself).'

\

225. a. * [Každuju d**E**vočku]$_{I}$, eë$_1$ mama xočet,
every girl.ACC her mum wants

čtoby Ivan poceloval $\boldsymbol{t}_1$ (a ne každogo mal'čika)
that Ivan kissed (and not every boy)

b. * Eë$_1$ mama xočet, čtoby Ivan
her mum wants that Ivan

[61] Chapters 5 and 6 and sections 7.1 and 7.2 are largely based on Titov (to appear).

\

poceloval každuju d**E**vočku
kissed every girl.ACC

\

226. [Každuju otkr**Y**tku]$_1$, ja xoču, čtoby
every postcard.ACC I want that

dva studenta podpisali t_1 (a ne každuju knigu)
two students signed (and not every book)
'I want two students to sign every postcard (not every book).'

∃>∀; *∀> ∃

In this chapter, we will look at two types of discourse-related A'-movement – namely movements involving a *contrastive focus* (henceforth CF), as in (224a), and movements involving a *contrastive topic* (henceforth CT), as in (224b). To recall, unlike A-scrambled discourse-prominent constituents, CFs and CTs must carry prominent intonational contours. In Russian, CF is marked with a falling contour that has been referred to in the Russian linguistic literature as IK2 (see (224a) for an example), whereas CT is marked with a rise in tone on the stressed vowel followed by an immediate fall, a contour that has been dubbed IK3 (see (224b) for an example). These contours are carried by contrastive categories in Russian regardless of whether they undergo long-distance or local movement or stay in situ.

As already mentioned, marking of contrastive categories with prominent intonational contours is not specific to Russian. In English, contrastive categories are also marked with prominent prosodic markers: CF carries a falling contour, also known as the A-accent (Jackendoff 1972), whereas CT is marked with a (fall)-rise contour, also known as the B-accent. In German, Topic-Focus structures receive the so-called hat contour (also bridge contour) with a rise on the CT and a fall on the focus, whereas CFs are marked with a falling intonation.

The fact that contrastive focus and contrastive topic are linked to different intonational contours in many languages including English, German, Dutch and

Russian has led linguists to believe that these are distinct information-structural notions.[62]

Moreover, the two types of contrastive categories seem to be associated with distinct interpretations. Thus, the interpretation that CTs are traditionally taken to be associated with has been described as that of incompleteness or of a set of sets of propositions/ questions (Büring 2003). For example, the sentences in (227) and (228) cannot be construed as offering a full answer to the questions in the context. Instead, they leave the impression that more needs to be said (as suggested by the continuations in the brackets). In (227), information is requested about John, whereas the reply asserts that the proposition 'x ate the beans' is true of Fred but does not say anything about John. Similarly, in (228), the reply conveys that the proposition 'Fred ate x' holds of 'the beans' but it has nothing to say about 'the soup'.

227. [What did John eat?]$_{\text{CONTEXT}}$
\ / \
[Fred]$_{\text{CT}}$ ate [the b**EA**ns]$_{\text{FOC}}$ … (but I don't know about John)

228. [Who ate the soup?]$_{\text{CONTEXT}}$
\ \ /
[Fr**E**d]$_{\text{FOC}}$ ate [the beans]$_{\text{CT}}$ … (but I don't know about the soup)

Contrastive foci, on the other hand, do not convey an interpretation of incompleteness, but rather that of opposition or counter-assertion to the proposition in the context:

229. [Fred ate the beans.]$_{\text{CONTEXT}}$
\
No, Fred ate the [s**OU**p]$_{\text{CF}}$ (not the beans)

However, in the following chapters, I will defend the hypothesis that the apparent dissimilarity between CTs and CFs is due to a difference in the structures that contain

[62] In some languages CFs and CTs receive identical intonational contours but are distinguished through morphology. Japanese is an example of such a language. Japanese CFs and CTs bear identical falling contours but the latter additionally carry the morphological marker '-wa' that is traditionally taken to mark topichood (Tomioka 2010).

them rather than any particular difference in the associated information-structural notions themselves. The structures that host CTs and CFs will be claimed to differ in the nature of an additional focused element obligatorily present in the sentence. CTs and CFs themselves, in contrast, will be shown to be associated with identical interpretations, which results in their identical syntactic distribution, strongly suggesting that they in fact represent one and the same information-structural phenomenon in two different types of construction. The analysis presented in Part II of this manuscript is based on data from Russian and English but is assumed to extend to other languages.

To be fair, the suggestion that CT is a focus-like element is not entirely novel; related ideas can be found in Irurtzun (2007), Sauerland (2005), Tomioka (2010), and Wagner (2008, 2009, to appear). However, the idea that it is the divergent properties of an additional focused element that distinguishes structures hosting a CT from those containing a CF has not, to my knowledge, been previously proposed.

Before we move on to the discussion of the distribution of contrastive categories, I will briefly recapitulate the analysis of the distribution of Russian <-contrastive> categories proposed in Part I of this thesis, because the ideas introduced in chapter 2 will be used here as the basis for the analysis of the distribution of contrastive categories.

5.1 The Distribution of <-presupposed; -contrastive> categories in Russian (a recap)

In chapter 2, we have introduced the feature <±presupposed> and argued that a difference in the value of this feature can license A-scrambled orders. Essentially, this feature is used here to describe the generally accepted notions of background/presupposition and focus, with the former being <+presupposed> and the latter <-presupposed>. In this chapter, I am introducing a new interpretative feature <±contrastive>. Although this feature has no effect on the neutral reordering of arguments, it will be claimed to be responsible for A'-scrambling of contrastive categories.

As before, the interpretative features discussed here are not intended as syntactic, but merely specify interpretative properties of the categories that carry them. Although the <±contrastive> feature has an impact on the distribution of the

categories associated with its positive value, I will once again argue that these distributive effects come about as a result of mapping principles that relate syntactic structures to information-structural representations.

A key hypothesis on which my analysis will rely is that CT, CF and non-contrastive focus all share the feature <-presupposed>. We have seen in chapter 2 that when the relative interpretative prominence of arguments is established on the basis of the <±presupposed> feature, transparent mapping onto an information-structural representation built in accordance with (28) results in <+presupposed> arguments preceding and outscoping <-presupposed> arguments. We have hypothesized that Russian favours transparent mapping onto the information-structural level, with any structural description aiming at structurally representing information-structural prominence. One consequence of this preference is that arguments associated with the interpretation of non-contrastive focus in Russian consistently surface in clause final position, as in (230). This observation is captured by the generalization introduced by Neeleman and Titov (2009). A slightly modified version of it is given in (231).[63]

230. a. [Čto čitaet Anja?]$_{\text{CONTEXT}}$
What does Anna read? Russian

Anja čitaet [kn**I**gu]$_{\text{FOC}}$ SV[O]$_{\text{F}}$
Anna reads book.ACC
'Anna reads the/a book.'

b. [Kto čitaet knigu?]$_{\text{CONTEXT}}$
Who reads the/a book?

Knigu čitaet [**A**nja]$_{\text{FOC}}$ OV[S]$_{\text{F}}$
book.ACC reads Anna
'Anna reads the/a book.'

[63] Neeleman and Titov (2009) do not use the interpretative features discussed here but instead refer to the more familiar notion of focus.

c. [Komu Anja dala knigu?] $_{\text{CONTEXT}}$
Who did Anna give a book to?]

Anja	dala	knigu	[K**A**te]$_{\text{FOC}}$	SVO[IO]$_{\text{F}}$
Anna	gave	book.ACC	Catherine.DAT	

'Anna gave a book to Catherine.'

d. [Čto Anja dala Kate?]$_{\text{CONTEXT}}$
What did Anna give to Catherine?

Anja	dala	Kate	[kn**I**gu]$_{\text{FOC}}$	SVIO[O]$_{\text{F}}$
Anna	gave	Catherine.DAT	book.ACC	

'Anna gave a book to Catherine.'

231. <-presupposed> categories are licensed in clause final position

The generalization in (231) does not consistently hold on the surface. Non-contrastive focus must indeed show up clause-finally, as illustrated in (230).[64] But contrastive categories typically occupy positions further to the left (see Krylova and Khavronina 1988, King 1995, and Brun 2001). However, the claim that will be defended in section 5.3 is that the launching site for the movement of contrastive categories is the position in which their non-contrastive counterparts must surface.

In chapter 2, we have also seen that the relative information-structural prominence of arguments can be established on the basis of a variety of interpretations, with the <±presupposed> feature being but one of them. Thus, we have hypothesized that the relative interpretative prominence of <-presupposed> arguments can be established on the basis of the <±D-linked> feature. As a consequence of that encoding, <+D-linked;-presupposed> arguments are generated after <-D-linked;-presupposed> arguments and therefore the former outscope the

[64] The focused constituents in (230) must surface in clause final position unless they are enriched with emphatic interpretation (Krylova and Khavronina 1988). Emphatic focus is analyzed here as <+contrastive>, which accounts for the fact that it is allowed to undergo A'-fronting in Russian (see the discussion around the examples in (238) in the main text).

latter. This correctly predictes that the moved CTs should outscope the sentence-final NIFs in (232):

232. a. [Kto ty xočeš' čtoby podpisal každyj konvert?]$_{CONTEXT}$
Who do you want to sign every envelope?

/

[Každuju otkrytku]$_{CT1}$, ja xoču, čtoby t_1 podpisali
every postcard.ACC I want that signed

\

[dva stud**E**nta]$_{NIF}$ (a nasčët každogo konverta ne znaju)
two students (and about every envelope not know)
'Every postcard I want to be signed by two students (but I don't know about every envelope).'

∀> ∃; ?∃>∀

b. [Kto ty xočeš' čtoby podpisal dva konverta?]$_{CONTEXT}$
Who do you want to sign two envelopes?

/

[Dve otkrytki]$_{CT1}$, ja xoču, čtoby t_1 podpisal
two postcards.ACC I want that signed

\

[každyj stud**E**nt]$_{NIF}$ (a nasčët dvux konvertov ne znaju)
every student (and about two envelopes not know)
'Two postcards I want to be signed by every student (but I don't know about two envelopes).'

∃>∀; *∀> ∃

The CTs in (232) are linked to a non-identical discourse-antecedent, i.e. to a member of their set. The foci in (232) are, in contrast, unlinked. That is, they refer back to a wh-phrase. As a result of this interpretative difference, CTs are generated above non-contrastive NIFs, which results in a surface scope in (232).[65]

So far we have established that Russian grammar generates structures where <+presupposed> arguments precede <-presupposed> arguments; and, <+D-linked;

[65] For the analysis of focus as NIF in structures that host a CT see section 5.3.

-presupposed> arguments precede <-D-linked;-presupposed> arguments. By hypothesis, <-presupposed> arguments can be either <+contrastive> or <-contrastive>, with the former interpretation licensing A'-scrambling. However, to test this hypothesis, we first need to come up with a coherent definition of contrast that captures the differences in the syntactic behavior of contrastive and non-contrastive constituents in Russian. The next section looks in more detail at the distribution of contrastive categories with the aim to provide such a definition.

5.2 Contrast

The standard assumption in the literature on information structure is that for a constituent to be interpreted as contrastive it must be construed as belonging to a contextually salient set of alternatives (Chafe 1976, Jackendoff 1972, Halliday 1967, Rooth 1985, and Rooth 1992). I will refer to a set of contextually salient alternatives as a *pragmatic set of alternatives*, as opposed to a semantic set of alternatives, which is usually taken to form the basis for the interpretation of foci generally (Krifka 2008). Unlike a semantic set, a pragmatic set of alternatives is relevant specifically for the discourse under consideration. The hypothesis put forward here is that, although the semantic interpretation of focus might involve selection from a set, for a focus to be contrastive, the set of alternatives must become active in the discourse at the point the sentence containing the contrastive element is uttered. *No sooner and no later.* That is, it must be indicated either through a link to the context or within the utterance itself that the set to which the focused constituent belongs indeed contains alternative members that are relevant for the discourse at hand.

For example, the focused object NPs in (233) are **not** contrastive because no contextually salient set of alternatives is available for them.

233. [Kogo Ivan pokormil?]$_{\text{CONTEXT}}$
Who did Ivan feed?

a. Ivan pokormil [kot**A**]$_{NIF}$
Ivan fed cat.ACC
'Ivan fed the cat.'

b. [Boris]$_{CT}$ pokormil [kot**A**]$_{NIF}$ (a nasčët Ivana ne znaju)
Boris fed cat.ACC (but I don't know about Ivan)
'Boris fed the cat (but I don't know about Ivan).'

The NIF 'cat' provides a value for a variable introduced by the wh-phrase in the context, but it is not indicated either through a link to the context or within the utterance itself that there are alternative members of the set to which 'cat' belongs that are relevant for the discourse at hand. That is, it is not made explicit by the utterances in (233) that for the proposition 'y fed x', more than one entity is competing for x. Importantly, the interpretation of a non-contrastive focus is not necessarily exhaustive and further members of the set to which 'cat' in (233) belongs can be added in the following discourse. What is crucial for the non-contrastive reading is merely that the utterance containing a non-presupposed element *does not* pragmatically 'activate' a set that contains the non-presupposed element along with alternative members.

Similarly, in (234), the <-presupposed> object is <-contrastive> because the set to which it belongs and which contains at least two members is made salient *before* the relevant sentence is uttered.[66, 67]

[66] Lee (2003) argues that an answer to a disjunctive contextual question, as in (234), contains a CF. However, if the focus were contrastive in the reply in (234), it would be expected to undergo A'-movement in Russian and it would be marked with IK2. Yet, the most neutral answer to the disjunctive question in (234) keeps the object in situ, with IK1 assigned to it.

Importantly, the context in (234) does not *force* a non-contrastive reading of the object in the reply; it only favors it in the same way as a context of a wh-question favors a reply with a NIF. It is, however, possible to use a variety of strategies to add a contrastive reading to the object. Thus, the object can be enriched with *emphatic* contrastive interpretation (see the discussion around (238)). It is also possible for the reply to the disjunctive question in (234) to override the construal of 'cat' and 'dog' as members of a set of alternatives that have distinct properties with respect to 'Ivan fed x'. As soon as the option of 'cat' and 'dog' having the same property is considered available within the given context, it becomes possible for the reply to activate a contrastive interpretation on the object, as in (i) where the reply overrides the presupposition that alternative properties hold of 'cat' and 'dog' and

234. [Ivan pokormil kota ili sobaku?]$_{\text{CONTEXT}}$
Did Ivan feed the cat or the dog?

Ivan	pokormil	[kot**A**]$_{\text{NIF}}$
Ivan	fed	cat.ACC

'Ivan fed the cat.'

In (234), the reply *does not* activate the interpretation that sees the object as belonging to a pragmatic set along with alternative members; this interpretation is already activated by the contextual question. Therefore, the object is interpreted as <-presupposed>, <+D-linked> and <-contrastive>.

Conversely, in (235) and (236a), the <-presupposed> constituents *must* be construed as contrastive: In (235), the proposition 'Ivan fed x' has two contextually

---

allows for the reading where Ivan fed the dog as well. Note that in the neutral answer in (234) such a reading is impossible.

(i) [Ivan pokormil kota ili sobaku?]$_{\text{CONTEXT}}$
Did Ivan feed the cat or the dog?
/ \

[Kota]$_{\text{CT1}}$	Ivan	pokormil	t_1…	(a vot nasčët sobaki ne pomnju)
cat.ACC	Ivan	fed		(but PRT about dog not remember)

'Ivan fed the cat (but I don't know about the dog).'

[67] Notably, if the contextual question in (234) introduced other members of the set of alternatives but not 'cat', whereas the reply conveyed that 'cat' also belongs to this set, the object would be construed as <+contrastive> because in that case, the interpretation that the object belongs to a set of alternatives would be activated by the reply despite the set being introduced by the context:

(i) [Ivan pokormil xomjaka ili sobaku?]$_{\text{CONTEXT}}$
Did Ivan feed the hamster or the dog?

Ivan	[kota]$_{\text{CF}}$	pokormil	(a ne xomjaka i ne sobaku)
Ivan	cat.ACC	fed	(and not hamster and not dog)

'Ivan fed the cat (not a hamster or a dog).'

salient members of a set that compete for x, 'dog' and 'cat'. This set is not activated until the mention of 'cat' in the answer.[68]

235. [Ivan pokormil sobaku?]$_{\text{CONTEXT}}$
Did Ivan feed the dog?

a. [Kota]$_{\text{CT1}}$ Ivan [pokorm**I**l]$_{\text{NIF}}$ t_1 (a nasčët sobaki ne znaju)
cat.ACC Ivan fed (but about dog not know)
'Ivan fed the cat (but I don't know about the dog).'

b. (Net,) Ivan [kot**A**]$_{\text{CF1}}$ pokormil t_1 (a ne sobaku)
(no) Ivan cat.ACC fed (and not dog)
'Ivan fed the cat (not the dog).'

In (236), the question in the context contains a plural noun. The reply in (236a) treats this noun as generalizing over a set of animals to which 'cat' belongs along with alternative members. Importantly, the construal of the noun 'animals' in the context as generalizing over a set of alternatives is activated by the sentence that contains 'cat' and not by the contextual question itself. As demonstrated in (236b) and (236c), the following discourse can treat this noun as a member of a set of alternatives (see (236b)), or refer back to it without invoking contrast, as in (236c).

236. [Ivan pokormil životnyx?]$_{\text{CONTEXT}}$
Did Ivan feed the animals?

a. [Kota]$_{\text{CT1}}$ Ivan [pokorm**I**l]$_{\text{NIF}}$ t_1 (a nasčët ostal'nyx životnyx ne znaju)
cat.ACC Ivan fed (but about remaining animals not know)
'Ivan fed the cat (but I don't know about the rest of the animals).'

[68] As can be seen from (235), CFs typically move to a position immediately before the verb, whereas CTs usually occupy positions further to the left in Russian. As structures with distinct interpretations must be distinguished either through prosody or context or surface structure, in an ambiguous context, as in (235), in the absence of prosodic encoding (i.e. in written language), structural encoding is the only option. However, when prosody is available (i.e. in spoken language), CT and CF can both move to a sentence-initial or to an intermediate position as long as CT is marked with IK3 and CF with IK2.

b. Net, Ivan [ljud**E**j]$_{CF1}$ pokormil t_1
no Ivan humans.ACC fed
'No, Ivan fed the humans.'

c. Da, Ivan [pokorm**I**l]$_{NIF}$ životnyx
yes Ivan fed animals.ACC
'Yes, Ivan fed the animals.'

Crucially, the set of alternatives to which the object 'cat' belongs in (235) and (236a) becomes active at the point the utterances containing it are produced, *no sooner and no later*.[69]

The interpretation of the contrastive constituents in (235) and (236a) is not exhaustive. For instance, the CF in (235b) is not interpreted as the only member of the set of animals that has the property of having been fed by Ivan. That is, the construal of (235b) is such that the dog has not been fed by Ivan, whereas the cat has been fed by him and some other animals might have been fed by him as well. In fact, more members of the set the CF belongs to can potentially be present in the discourse, suggesting that the semantic set for a CF is *not* closed (contra Kiss 1998, Halliday 1967, Chafe 1976 and Rooth 1992). What distinguishes the contrastive constituents in (235) and (236a) from NIF in (233) and (234) is not the nature of the semantic set they belong to, or whether the number of members is limited in this set, but the fact that the

[69] The reason for maintaining that the set of alternatives must be activated *no later* than the mention of the relevant focused category lies in the fact that late activation of a set is possible for non-contrastive focus, as in (i) below. Here, the set for the non-contrastive new information focus 'cat.ACC' is activated at the time 'dog.ACC' is mentioned. This, however, does not have any effect on the interpretation of the focus as non-contrastive, which is further confirmed by the fact that such focus does not move and is marked with IK1.

(i) [Kogo Ivan pokormil?]$_{CONTEXT}$
Who did Ivan feed?

[Boris]$_{CT}$ pokormil [kotA]$_{FOC}$, a Ivan sobaku
Boris fed cat.ACC and Ivan dog.ACC
'Boris fed the cat and Ivan fed the dog.'

utterance that hosts the former activates the interpretation that the set they belong to contains alternative members relevant for the discourse at hand, whereas the utterance hosting the latter either refers back to an already introduced set, as in (234), or treats the NIF as the only member of its pragmatic set (see (233)).

As mentioned, Russian contrastive constituents may undergo A'-fronting. Notably, the focused objects in (233) and (234) have to remain in situ (in their thematic postverbal positions), strongly suggesting that they are not contrastive. Conversely, in (235) and (236a), the <+contrastive> constituents move (although not demonstrated here, they can also undergo long-distance movement).

Membership of a pragmatic set of alternatives can be indicated not only through a link to an alternative member of a set in the context, as in (235), or a superset, as in (236a); it can also be specified with the help of a special marker. Attachment of either a prosodic marker, e.g. the B-accent in English (see (237a)), or a morphological marker, e.g. the Russian marker -TO (see (237b)), to a discourse-anaphoric subject activates the interpretation that there is at least one more member of the set it belongs to that is significant for the exchange at hand.[70]

237. a. [What did the teachers drink at the party?]$_{\text{CONTEXT}}$

\ / \

[The teachers]$_{\text{CT}}$ drank [w**A**ter]$_{\text{NIF}}$, (but I am wondering what the students drank)

b. [Čto učitelja pili na večerinke?]$_{\text{CONTEXT}}$ Russian

What did the teachers drink at the party?

[70] The morphological marker –TO attaches to discourse-given constituents in Russian to signal that these constituents should not be construed as merely part of the background but must be interpreted as contrastive topics. Whenever the relevant discouse-given constituent undergoes long-disctance movement, attachment of –TO is no longer necessary to yield the interpretation of CT and can be omitted. This is because long-distance movement is not available for merely backgrounded constituents.

/ \

[Učitelja-to]$_{CT}$ pili [v**O**du]$_{NIF}$… (a interesno, čto studenty pili)
teachers - TO drank water.ACC (but interesting what students drank).

'The teachers drank water (but I wonder what the students drank).

In (237), membership of a pragmatic set of alternatives is signalled not through a link to the preceding context but by a property of the utterance itself. Similarly, sentences containing a so-called *Emphatic Focus* (henceforth EF) also activate the interpretation that this type of focus belongs to a pragmatic set of alternatives but this time it is done not with the help of a special marker on the focused constituent but via its marked structural position (see (238)).

238. a. [Kogo ty tol'ko čto videl?]$_{CONTEXT}$ Russian
Who did you just see?

(Predstavljaeš',)
(Imagine)

ja tol'ko čto [čeloveka s ruž'**Ë**m]$_{FOC1}$ videl t_1 !
I just man.ACC with gun saw
'(Can you imagine?) I just saw the/a man with the/a gun!'

b. [Čto ty loviš'?]$_{CONTEXT}$
What are you fishing for?

Ja [r**Y**bu]$_{FOC1}$ lovlju t_1 (čto že eščë) !
I fish.ACC catch (what else)
'I'm fishing for fish (what else can I be fishing for)!'

Here, a <-presupposed> constituent cannot be interpreted as NIF. Yet, the contrastive interpretation is not due to the context. Crucially, the focus in (238) must be construed as occupying a certain scalar position with respect to all alternatives in the set it belongs to. Logically, only two such positions can be indicated when the alternative

members stay implicit, the lowest and the highest. On the first reading, the <-presupposed> constituent is interpreted as the weakest member of its set (see (238a)); the second reading, in contrast, interprets the focused object as the strongest member of its set (see (238b)). We may assume that it is this link with a pragmatic set of alternatives that motivates the movement of the emphatic foci in (238).

The lowest scalar position of the non-presupposed constituent in a set of alternatives in (238a) conveys surprise as to the fact that out of a set of individuals the speaker might have expected to see, it was the least expected 'a man with the gun' that was seen. The interpretation of the non-presupposed object in (238b) is the directly opposite one. This time the focused constituent is perceived as the strongest member as regards all other potential members of the set of alternatives. That is, out of the set of objects that one can be expected to be fishing for, 'fish' is the most obvious choice. It can therefore be said that in (238b) the interpretation is not that of surprise but rather of annoyance as to the fact that one is asked a question that has a rather obvious answer.

Since EF often occurs out of the blue or in a context that does not force a contrastive interpretation (see (238)), it has traditionally not been grouped together with contrastive categories. However, EF must be interpreted as belonging to a pragmatic set of alternatives. This is achieved through shared knowledge of interlocutors about the scalar position of the focused constituent with respect to potential alternatives.[71] Plausibly, no item can be perceived as occupying either the highest or the lowest position in a set if this set lacks alternative members. Since these must become active in the discourse for such an interpretation to be available, our definition of contrast suggests that such foci must be analysed as <+contrastive> and grouped together with CFs.[72]

[71] The fact that knowledge about the scalar position of EF must be shared by the interlocutors is confirmed by the observation that whenever the hearer is unaware of it, a sentence with a moved focus is perceived as odd in contexts that do not license contrast and requires clarification (i.e. the speaker is perceived as being either surprised or annoyed for no apparent reason).

[72] Fanselow and Lenertová (2011) analyze optional A'-scrambling of emphatic foci, as in (i) below, as triggered by an unspecific edge feature of C, with its restrictions attributed to requirements of cyclic linearization. The authors claim that this type of reordering cannot be successfully captured in terms of information structure driven movement. However, the analysis developed here that sees emphatic focus

The analysis of contrast as membership of a pragmatic set of alternatives activated by the utterance containing the relevant non-presupposed element groups CT, CF and EF together as contrastive, whereas simple NIF must be analysed as associated with a non-contrastive reading. At the same time, all these categories are interpreted as <-presupposed>. In the majority of cases, they consist of discourse-new material, and can therefore not be construed as belonging to the background of a sentence. Moreover, in the rare instances where they are <+D-linked>, they still convey non-presupposed information. Thus, a <+D-linked> NIF consistently fulfils the background by providing a value for the variable introduced by a wh-phrase (see (12)), whereas contrastive categories are <-presupposed> simply in virtue of being contrastive. That is, even when a contrastive interpretation is assigned to a discourse-anaphoric constituent, as in (237), it provides this constituent with the non-presupposed information that it must be construed as belonging to a pragmatic set of alternatives. This information is not previously known or taken for granted, hence, the contrastive interpretation must itself be non-presupposed. If so, a <+contrastive> constituent can never be <+presupposed>, which is in-line with our hypothesis that it

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as a subtype of contrastive focus and that assumes (indirect) mapping from syntax to discourse seems capable of accounting for the data in (i).

(i) [What did you see there?]$_{\text{CONTEXT}}$

a. LAvinu$_i$ jsme viděli t_i ! (Cz)
avalanche.ACC aux.1pl seen.pl

b. Viděli jsme LAvinu!

c. [Eine LaWIne]$_i$ haben wir t_i gesehen! (Ge)
an avalanche have we seen

d. Wir haben eine LaWIne gesehen!
'We saw an avalanche!'

Fanselow and Lenertová (2011:6)

is the interpretation of <-presupposed> constituents that can be enriched with <+contrastive> reading.

Now that we have established what it means for a constituent to be <+contrastive>, we can move on to the discussion of the distribution of CFs and CTs.

5.3 The Distribution of contrastive categories [73]

Since CT, CF and NIF are taken here to be <-presupposed>, they are expected to be subject to the generalization in (231) in Russian. However, as already mentioned, this generalization does not hold on the surface, as CF (including EF) and CT are typically fronted.[74]

What the hypothesis put forward here amounts to, then, is that the launching site for the movement of CF and CT is the position in which NIF must surface (Titov 2007, Neeleman and Titov 2009). This follows if CF and CT are a composite of the features <-presupposed> and <+contrastive>. Movement of CF and CT would then be licensed by the positive value of the <±contrastive> feature, but the launching site of that movement would be dictated by (231) and, essentially, by (28):[75]

239. *Distribution of <-presupposed> constituents in Russian* (to be revised)

i. $[_{(\ldots)}\ [$<-presupposed; -contrastive>$]_{NIF}]$

ii. $[_{(\ldots)}\ [$<-presupposed; +contrastive>$]_{CF/EF1}$ …… $\boldsymbol{t}_1$]

iii. $[[_{(\ldots)}$<-presupposed; +contrastive>$]_{CT1\ (\ldots)}\ \boldsymbol{t}_1\ [$<-presupposed; -contrastive>$]_{NIF}]$

[73] This section is partially based on Titov (2007) and Neeleman and Titov (2009).

[74] The judgments in the main text presuppose that the constituents marked as CF bear IK2, while the rest of the sentence is destressed. In Topic-Focus structures, constituents conveying the interpretation of CT bear IK3, whereas NIF is marked with IK1. For further discussion, see Bryzgunova 1971, 1981, Yokoyama 1986, Pereltsvaig 2000, and Krylova and Khavronina 1988.

[75] Movement is said to be licensed rather than triggered by the <+contrastive> feature, since the relevant type of A'-scrambling is optional in many languages including Russian. For further discussion of the issue, see Neeleman and Van de Koot 2008, Neeleman et al. 2009 and section 7.4 of this manuscript.

Note that the focus in Topic-Focus structures, as in (239iii), is analyzed here as <-contrastive>. To recall, for a <-presupposed> constituent to be interpreted as contrastive, the set of alternatives must become active for it at the point the sentence that contains it is uttered. However, nothing in a Topic-Focus utterance indicates that the focused constituent belongs to a pragmatic set of alternatives. That is, such an utterance contains neither a link to a member of a set of alternatives to which the focused constituent also belongs or to a superset it is a member of, nor any overt markers of contrast. Moreover, as demonstrated in (240) and (241), an alternative member does not have to be mentioned in the following context either.[76]

240. [What did John eat at the bbq party?]CONTEXT

\

[Fred]CT ate [b**EE**f burgers]NIF, and John is actually a vegetarian, so he didn't eat at all

241. [What did John eat at the bbq party?]CONTEXT

\

[Fred]CT ate [b**EE**f burgers]NIF, and John might have actually eaten beef burgers as well

The hypothesis that the focus in Topic-Focus structures is a NIF is further supported by two observations. First, in Russian, this focus is assigned IK1 - the accent reserved for NIF, rather than IK2, which marks CF. Second, in Russian, this focus remains in clause final position, whereas CF optionally undergoes A'-fronting.

Indeed, it is the fact that the focus in Topic-Focus structures is a NIF that accounts for the interpretation of incompleteness such structures are associated with. To be exact, a NIF can provide a focus value only for the proposition in the reply but not the one in the context. The contextual proposition is therefore left without a focus value, which subsequently triggers the interpretation of incompleteness and a set of sets of propositions. If the focus in Topic-Focus structures were contrastive, the

[76] As pointed out by Hans van de Koot (p.c.), the example in (241) might be more crucial for the claim that the focus in CT-FOC structures is non-contrastive than the example in (240), as in the latter, the righthand conjunct is interpreted as denying the presupposition (created by the wh-question) that John ate something.

discourse would contain a salient set of at least two focus values: one for the proposition in the reply and one for the contextual proposition. In that case, the interpretation of incompleteness associated with Topic-Focus structures would be inaccessible, as the question in the context would receive an answer. In chapter 6, I show that this is indeed what happens in sentences like (229) that are traditionally taken to contain a CF.[77]

The proposal advanced in this section contradicts the analysis advocated in Bolinger (1961) and Dretske (1972) that sees all foci as contrastive. Contrast is seen here as an extra interpretative property that can be added to a non-presupposed constituent and that licenses its A'-fronting. At the same time, it follows from the theory proposed here that only non-presupposed constituents can be contrastive, as contrastive interpretation is itself non-presupposed.

In previous sections, we have hypothesized that an A-scrambled structure can serve as input to subsequent A'-movement of <+contrastive> constituents, as long as A-scrambling is licensed by the rule in (89). To recall, the rule in (89) accounts for cases where a <+presupposed> object A-scrambles across a <-presupposed> subject, with the consequence that the former linearly precedes the latter. Logically, such a scrambled structure is expected to be able to serve as input to subsequent A'-movement as long as the <-presupposed> subject is <+contrastive>. That is, if CF is analyzed as a composite of the features <-presupposed> and <+contrastive>, the former feature should determine the underlying position of a contrastively focused subject to be below a <+presupposed> object in accordance with (89), whereas the latter feature should license its A'-movement. This hypothesis is supported by the scopal properties of CFs, and in particular by the observation that they take scope in the same position as NIFs. The data fall out from the assumption that any structural description in Russian aims at being transparently mapped onto an information-structural representation that obeys (28), and the generally accepted view that A'-scrambling obligatorily reconstructs for scope.

Recall that Russian exhibits surface scope in sentences with a non-contrastive focus, as, in line with the rule in (89), quantifiers that constitute NIF follow and scope

[77] Admittedly, focus in TOP-FOC structures can be interpreted as emphatic, as this type of contrast makes reference to a scalar position in an implicit set of alternatives and does not have an effect on the availability of an alternative focus value in the discourse.

under quantifiers that belong to the background (see (9), repeated in (242)). The pattern of surface scope breaks down in the case of contrastive foci (see (243)). Even though these are fronted, they systematically take lowest scope. That is, they reconstruct obligatorily to a position below backgrounded quantifiers. Thus, the fronted CF in (243b) takes scope in the same position as the in situ new information focus in (242b).

242. a. [Kto podpisal každuju otkrytku?]$_{\text{CONTEXT}}$
Who signed every postcard?

\

Každuju	otkrytku	podpisali	dva	stud**E**nta
every	postcard.ACC	signed	two	students

'Every postcard was signed by two students.'

∀> ∃; ?∃>∀

b. [Kto podpisal dve otkrytki?]$_{\text{CONTEXT}}$
Who signed two postcards?

\

Dve	otkrytki	podpisal	každyj	stud**E**nt
two	postcards.ACC	signed	every	student

'Two postcards were signed by every student.'

∃>∀; *∀> ∃

\

243. a. [Každuju otkr**Y**tku]$_{\text{CF1}}$, ja xoču, čtoby
every postcard.ACC I want that

dva studenta podpisali t_1, (a ne každuju knigu)
two students signed (and not every book)

'I want two students to sign every postcard (not every book).'

∃>∀; *∀> ∃

\

b. [Každyj studEnt]$_{CF1,}$ ja xoču, čtoby
every student I want that

dve otkrytki podpisal t_1, (a ne každyj docent)
two postcards.ACC signed (and not every lecturer)
'I want every student to sign two postcards (not every lecturer).'

∃>∀; *∀> ∃

It is not surprising that Russian contrastive foci can move. In a wide range of languages, contrastive elements undergo A'-movement. What is surprising is that the position into which contrastive foci reconstruct should be as low as it seems to be. That is, in an all-focus sentence with no encoding of the relative information-structural prominence, a subject outscopes an object in Russian because its position c-commands (and precedes) the object position. However, when subjects are fronted as contrastive foci, they scope under the object, suggesting that the fronting operation is launched from a position below the object. On the other hand, if the rule in (89) is taken into consideration, then a <+presupposed> object in Russian is expected to A-scramble across a <-presupposed> subject, explaining the scopal properties of fronted foci. In other words, an A-scrambled structure, as in (242b), where a <+presupposed> object is interpreted as more prominent than a <-presupposed> subject in line with (89), serves as input to A'-movement of the <-presupposed> subject when the latter is <+contrastive> (see (243b)).

Contrastive Topics, conversely, have been shown to reconstruct above NIFs (see (232)), as this time the relative prominence of arguments is established on the basis of the <±D-linked> feature. At the same time, the generalization in (231) predicts that *all* <-presupposed> constituents, including CTs, must be interpreted in a clause final position. This is because the <±presupposed> is the highest ranked feature on the Argument Prominence Hierarchy in (88) and can therefore not be overridden by any other interpretation. Hence, we can predict that CTs must take scope below <+presupposed> elements. This prediction is indeed borne out:

244. a. [Kogda Ivan xočet, čtoby dva učitelja posetili každogo docenta?]$_{\text{CONTEXT}}$
When does Ivan want two teachers to visit every lecturer?

/

[Každogo studenta]$_{\text{CT 1}}$, Ivan xočet, čtoby dva učitelja
every student.ACC Ivan wants that two teachers

\

posetili t_1 [v subb**O**tu]$_{\text{FOC}}$ (a nasčët každogo docenta ne znaju)
visited on Saturday (and about every lecturer not know)
'As for every student, Ivan wants two teachers to visit him on Saturday (but I don't know about every lecturer).'

∃>∀; *∀> ∃

b. [Kogda Ivan xočet, čtoby každyj docent posetil dvux učitelej?]$_{\text{CONTEXT}}$
When does Ivan want every lecturer to visit two teachers?

/

[Každyj student]$_{\text{CT 1}}$, Ivan xočet, čtoby dvux učitelej
every student Ivan wants that two teachers.ACC

\

posetil t_1 [v subb**O**tu]$_{\text{FOC}}$ (a nasčët každogo docenta ne znaju)
visited on Saturday (and about every lecturer not know)
'As for every student, Ivan wants him to visit two teachers on Saturday (but I don't know about every lecturer).'

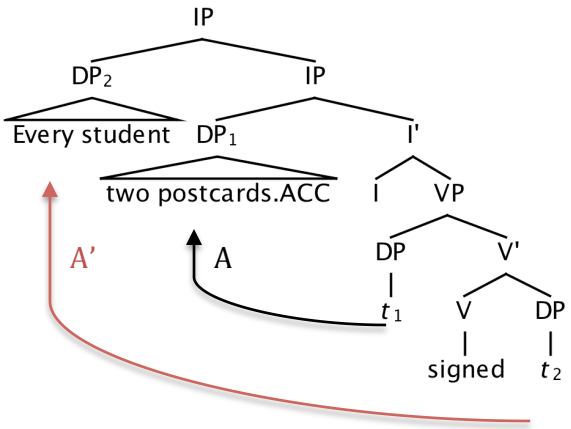
∃>∀; *∀> ∃

The observation that CTs reconstruct below backgrounded arguments but above NIFs is predicted by (89), which interprets a <+presupposed> argument as more prominent than a <-presupposed> argument and a <-presupposed; +D-linked> argument as more prominent than a <-presupposed; -D-linked> argument.

The above reconstruction facts can be captured as follows. Within the standard approach to Russian syntax, an unmarked monotransitive construction has the [$_{\text{IP}}$ S_1 [$_{\text{VP}}$ (t_1) [V O]]] structure. Any theory that attempts to account for the A-scrambled OVS construction has to capture the fact that it exhibits surface scope and that, on the surface, an A-scrambled object precedes an auxiliary verb such as the modal *moč'*

'can'. The current proposal accounts for this by suggesting that that the object in OVS moves out of the VP to SpecIP from an A-scrambled position above the subject. In other words, an A-scrambled monotransitive sentence has the [$_{IP}$ O_1 [$_{VP}$ t_1 [V S]]] structure. Thus, whenever A-scrambling is licensed by the <±presupposed> feature, the [$_{IP}$ O [$_{VP}$ t_1 [V S_{NIF}]]] surface structure is created (see (242)), with the <+presupposed> object outscoping the <-presupposed> subject. This structure serves as input for the [$_{IP}$ S_{CF2} [$_{IP}$ O_1 [$_{VP}$ t_1 [V t_2]]]] construction where the focus is contrastive and A'-moves but reconstructs to the position of its trace, with the scope readings matching the input A-scrambled structure (see (243b)):[78]

245.

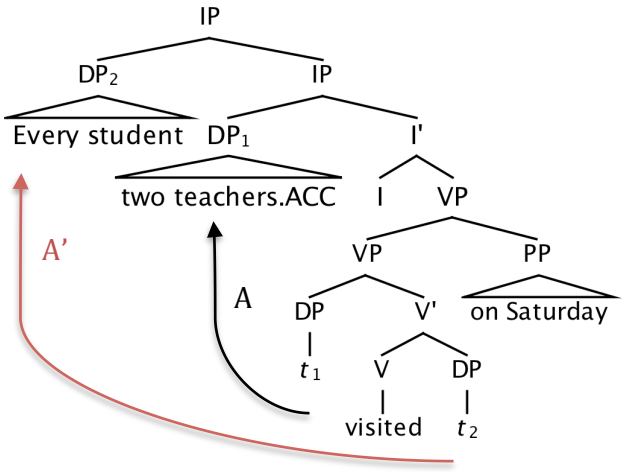


The <±presupposed> feature can also license the [$_{IP}$ O [$_{VP}$[$_{VP}$ t_1 [V S_{CT}]] $Adjunct_{NIF}$]] structure, which additionally contains a focused adjunct.[79] This structure serves as input to the [$_{IP}$ S_{CT2} [$_{IP}$ O [$_{VP}$[$_{VP}$ t_1 [V t_2]] $Adjunct_{NIF}$]]] structure where the <-presupposed> subject A'-moves but reconstructs to the position of the trace which is located, as expected, below the <+presupposed> object (see (244b)).

[78] For presentational convenience, the trees in (245)-(247) do not represent long-distance movement. That is, in the examples in (243b) and (244b), the contrastive categories move long-distance and adjoin to the matrix IP. In the trees in (245)-(247), on the other hand, they adjoin to the IP in which they are generated, which is also a possible structure in Russian.

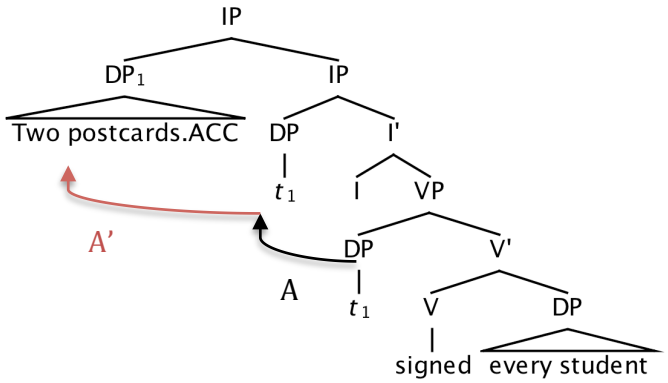
[79] Although there is a very strong preference for a CT to A'-scramble, it is marginally possible for it to remain in the positon in which it is generated.

246.



Finally, whenever A-scrambling is licensed by the <±D-linked> feature, the [$_{IP}$ O_{CT} [$_{VP}$ t_1 [V S_{NIF}]]] structure is created. This structure serves as input to the [$_{IP}$ O_{CT1} [$_{IP}$ t_1 [$_{VP}$ t_1 [V S_{NIF}]]]] structure, as in (232), which unsurprisingly exhibits surface scope.

247.



The above observations extend to ditransitive constructions. Thus, A'-fronted objects with the interpretation of CF reconstruct below quantifiers that belong to a background (see (248)), whereas A'-fronted objects with the interpretation of CT reconstruct above NIFs but below <+presupposed> quantifiers (see (249) and (250), respectively).

\

248.	a.	[Každomu	stud**E**ntu]$_{CF1}$	ja	xoču	čtoby	ty
		every	student.DAT	I	want	that	you

predstavil dvux učitelej t_1 (a ne každomu professoru).
introduced two teachers.ACC (and not every professor.DAT)
'I want you to introduce two teachers to every student (not every professor).'

∃>∀; *∀> ∃

\

b. [Každogo uč**I**telja]$_{CF1}$ ja xoču čtoby ty
every teacher.ACC I want that you

predstavil dvum studentam t_1 (a ne každogo dekana).
introduced two students.DAT (and not every dean.ACC)
'I want you to introduce every teacher to two students (not every dean).

∃>∀; *∀> ∃

/

249. a. [Každomu studentu]$_{CT1}$ Ivan xočet čtoby ty
every student.DAT Ivan wants that you

\

predstavil t_1 [dvux učitel**E**j]$_{FOC}$ (a nasčët každogo docenta ne znaju)
introduced two teachers.ACC (and about every lecturer not know)
'As for every student, Ivan wants you to introduce two teachers to him (but I don't know about every lecturer).'

∀> ∃;?∃>∀

/

b. [Každogo učitelja]$_{CT1}$ Ivan xočet čtoby ty
every teacher.ACC Ivan wants that you

\

predstavil t_1 [dvum stud**E**ntam]$_{FOC}$
introduced two students.DAT

(a nasčët každogo docenta ne znaju)
(and about every lecturer not know)
'As for every teacher, Ivan wants to introduce him to two students (but I don't know about every lecturer).'

∀> ∃;?∃>∀

/

250. a. [Každomu studentu]$_{CT1}$ Ivan xočet čtoby ty
every student.DAT Ivan wants that you

\

predstavil dvux učitelej t_1 [v subb**O**tu]$_{FOC}$
introduced two teachers.ACC on Saturday

(a nasčët každogo docenta ne znaju)
(and about every lecturer not know)
'As for every student, Ivan wants you to introduce two teachers to him on Saturday (but I don't know about every lecturer).'

∃>∀; *∀> ∃

/

b. [Každogo učitelja]$_{CT1}$ Ivan xočet čtoby ty
every teacher.ACC Ivan wants that you

\

predstavil dvum studentam t_1 [v subb**O**tu]$_{FOC}$
introduced two students.DAT on Saturday

(a nasčët každogo docenta ne znaju)
(and about every lecturer not know)
'As for every teacher, Ivan wants you to introduce him to two students on Saturday (but I don't know about every lecturer).'

∃>∀; *∀> ∃

The above data have been presented in terms of the features <±presupposed>, <±D-linked> and <±contrastive>. This is because the Russian data support a decompositional view of CF and CT. In order to explain why CF, CT and

NIF share an underlying position, we must assume that they share some attribute, namely the negative value with respect to the <±presupposed> feature, with the <±D-linked> feature regulating the underlying position of the CT above the NIF. In order to explain why only CF and CT move, we must assume that they have an additional property that new information foci lack, i.e. the positive value as regards the <±contrastive> feature.

Recall that A-scrambling can be licensed not only by information-structural needs but also by binding considerations. In the latter case, a focused binding object that surfaces in an A-scrambled position is interpreted in this position as well (see (141) and (142)). That is, an A-scrambled construction licensed by binding considerations also exhibits surface scope. In this section we have argued that A'-moved contrastive foci are as a rule interpreted in clause-final position, which is the position where new information focus typically surfaces. However, whenever a scrambled construction licensed by binding considerations serves as input to subsequent A'-movement of the focused object, moved contrastive foci involved in binding are predicted not to reconstruct to clause-final position, as they are generated above the constituent embedding the bound pronoun. This prediction is indeed borne out:

251.	[Každogo	stud**E**nta]$_1$,	ja	xoču	čtoby	t_1	pocetili
	every	student.ACC	I	want	that		visited

dva	ego$_1$	rodstvennika,	(a ne každogo docenta)
two	his	relatives	(and not every lecturer)

'Every student I want to be visited by two of his relatives (not every lecturer)'.

∀> ∃; *∃>∀

Similarly, when ditransitive unmarked constructions and A-scrambled constructions licensed by binding considerations, as in (143) and (144), serve as input to subsequent movement of a CF, the latter reconstructs to its thematic position in the former and an A-scrambled position in the latter:

252. Každyj romAn_1, ja xoču, čtoby
every novel.ACC I want that

Anna otoslala t_1 dvum ego$_1$ avtoram (a ne každuju stat'ju)
Anna sent two its authors.DAT (and not every article)
'I want Anna to send every novel to its author (not every article).'

∀> ∃; *∃>∀

253. Každomu Avtoru$_1$, ja xoču, čtoby
every author.DAT I want that

Anna otoslala t_1 dva ego romana (a ne každomu redaktoru)
Anna sent two his novels (and not every editor)
'I want Anna to send every author two of his novels (not every editor).'

∀> ∃; *∃>∀

In (251)-(253), the A'-moved quantifier has to reconstruct above the constituent embedding the pronoun in order to bind it. Reconstruction to a clause-final position would inevitably result in a WCO violation.

WCO effects can also be observed in split-scrambled constructions, as in (254a). Split scrambling involves A'-movement of a constituent with the interpretation of contrastive focus out of a larger syntactic constituent leaving a remnant that is construed as belonging to a background.[80] The presence of a remnant in a clause-final position forces the constituent conveying the interpretation of contrastive focus to reconstruct below the embedded pronoun in (254a), resulting in ungrammaticality of the sentence under a coreferential reading. The sentence in (254b) demonstrates that the ungrammaticality of (254a) is indeed due to a WCO violation.

The sentence in (254c), on the other hand, can be analysed as an A-scrambled structure licensed by binding considerations, where the entire focused object NP *krasivuju devočku* 'beautiful girl' A-scrambles in order to bind the pronoun embedded in the subject NP.

[80] Split scrambling can also target contrastive topics, in which case the remnant has the interpretation of new information focus.

Interestingly, the A-scrambled structure in (254c) can serve as input for split scrambling (see (254d)). In fact, (254d) is the only structure that allows both split scrambling and coreference, supporting the hypothesis that A-scrambling licensed by binding considerations can serve as input for A'-scrambling of CF.[81]

254. a. * D**E**vočku$_1$ eë$_1$ mama ljubit [krasivuju t_1]
girl.ACC her mum loves beautiful

(a ne babušku)
(and not grandma)

b. D**E**vočku$_1$ Ivan ljubit [krasivuju t_1] (a ne babušku)
girl.ACC Ivan loves beautiful (and not grandma)
'Ivan loves a beautiful girl (and not a beautiful grandma).'

c. [Krasivuju D**E**vočku$_1$]$_1$ ljubit eë$_1$ mama OVS
beautiful girl.ACC loves her mum

(a ne babušku)
(and not grandma)
'A beautiful girl is loved by her mum (and not a beautiful grandma).'

d. D**E**vočku$_1$ krasivuju t_1 ljubit eë$_1$ mama
girl.ACC beautiful loves her mum

(a ne babušku)
(and not grandma)
'A beautiful girl is loved by her mum (and not a beautiful grandma).'

[81] I am not using long-distance movement in (254d) because split scrambling becomes less felicitous when the distance between the landing site and the trace is not minimal. That is, even within one clause, split scrambling can become impossible when this clause contains phonologically complex constituents.

In this chapter we have established the definition of contrast and looked at the distribution of contrastive categories in Russian. We have argued that an A-scrambled construction licensed either by (89) or by binding consideration can serve as input to A'-scrambling of the <-presupposed> constituent as long as this constituent is <+contrastive>. Crucially, CF and CT have been demonstrated to exhibit exactly the same distribution, strongly suggesting that they are characterized by the same information-structural features (i.e. <-presupposed; +contrastive; +D-linked>) and must therefore be analysed as one and the same information-structural notion occurring in two different types of construction. The next chapter is dedicated to an exploration of this hypothesis.

6. Contrastive focus versus contrastive topic

So far we have established that both CF and CT are associated with the features <-presupposed> and <+contrastive>, with the former feature accounting for their underlying clause-final position, and the latter licensing their A'-fronting in Russian. The fact that CTs and CFs are characterized by identical interpretative features and exhibit identical syntactic behavior strongly suggests that they represent one and the same information-structural notion. On the other hand, the sentences that host them have quite distinct interpretations. Recall that sentences with a CF have the interpretation of counter-assertion to a proposition in the context, whereas sentences that host a CT have the interpretation of incompleteness. Consequently, the latter can occur in a context that is incompatible with the former, namely, when the non-identical discourse antecedent is not a member of a set of alternatives but rather generalizes over the set to which the <-presupposed> constituent belongs (see (255) versus (256)).

255. [What do your students work on?]$_{\text{CONTEXT}}$

\ / \

Well, [Mary]$_{\text{CT}}$ works on [Icel**A**ndic]$_{\text{NIF}}$, (and John on Russian)…

256. [Did you feed the animals?]$_{CONTEXT}$

\

\# No, I fed [the c**A**t]$_{CF}$ (not the animals)

In (256), the proposition 'I fed the cat' fails to stand in opposition to 'I fed the animals' as the latter entails the former as long as 'the cat' is construed as belonging to the set of animals.[82]

A further difference between the structures that contain CF and CT is that in the former the CF seems to be the only <-presupposed> constituent in the sentence, whereas in the latter there is always an additional <-presupposed> element present in the sentence, namely a NIF. And, as already mentioned, constituents interpreted as CT and those conveying the interpretation of CF receive distinct intonational contours. That is, a CF is marked with a falling contour, whereas a CT receives a (fall)-rise intonation.

However, Molnár (2002) argues on the basis of examples like (257) that NIF (Molnár's *Information Focus*) can also be marked with a (fall)-rise intonation, suggesting that this intonational contour is not exclusive to CTs.

257. [Did you feed the animals?]$_{CONTEXT}$

/

I fed [the cat] Molnár (2002)

However, three observations undermine the analysis of the object in (257) as NIF. First, this object is <+contrastive>, as it is the introduction of 'the cat' into the discourse that activates the construal of 'the animals' as generalizing over a set of animals, of which 'the cat' is a member.[83]

Second, the object in (257) cannot be analyzed as what is traditionally referred to as focus. Even if the <+contrastive> interpretation is taken into consideration, an analysis of the object as a CF fails because the sentence in (257) occurs in a context

[82] To make the opposition possible, a delimiting focus sensitive operator 'only' can be used in (256). In that case, feeding only the cat can stand in opposition to feeding all the animals. The discourse strategies that make use of focus sensitive operators are discussed in detail in chapter 7.

[83] Incidentally, for the object in (257) to be interpreted as NIF, it would have to occur in the context of a question like 'Who did you feed?'.

that is incompatible with the interpretation conveyed by sentences containing a CF. To be precise, the antecedent for the object in (257) is not a member of the same set but generalizes over the set that the object belongs to. As demonstrated in (256), such a context is not compatible with the interpretation conveyed by sentences hosting a CF, strongly suggesting that the <-presupposed> object in (257) is not a CF but in fact a CT. This conclusion is supported by the observation that the sentence in (257) does not have the interpretation of counter-assertion to the proposition in the context. That is, it is not construed as denying the proposition 'I fed the animals'. Instead, it has the interpretation of incompleteness resulting from the contextual question not receiving a full answer: one member of the set of animals has been fed but nothing is being said about the rest of the animals.

The final argument against analysing the object in (257) as a NIF is that there exists a variant of it that realizes a second accent. This in turn removes a potential obstacle to analyzing the object in (257) as a CT. At face value, the object in (257) seems to be the only <-presupposed> element in the sentence, whereas Topic-Focus structures have been shown to additionally contain a NIF. However, a careful examination of the information structure of the sentence in (257) reveals that it does indeed contain an additional <-presupposed> element. To be exact, the question in the context in (257) is a yes/no-question, which by default requests information about the truth-value of a proposition. Consequently, any answer to such a question must contain focus on the truth-value of the proposition, or in other words, *Verum Focus* (henceforth VF). This type of focus is, as a rule, marked on the inflection:

258. [Did you feed the animals?]$_{\text{CONTEXT}}$

\

Yes, I [d**I**d]$_{\text{NIF}}$ (feed the animals)

The sentence in (258) occurs in the same context (i.e. a yes/no-question context) as that in (257), but here the VF is the only <-presupposed> element and hence the only element that can carry the main sentential stress. In (257), by contrast, there is an additional <-presupposed> element that can be prosodically marked. It would seem, then, that English has the option of not marking VF prosodically in sentences of the latter type. It is, however, possible to keep the prosodic marker on the inflection in (257), as in (259).

259. [Did you feed the animals?]$_{CONTEXT}$

\ /

I [d**I**d]$_{NIF}$ feed [the cat]$_{CT}$

Interestingly, the option of not marking VF in such sentences appears to be an example of parametric variation, as other languages, like, for instance, Russian, must contain a prosodic marker (i.e. IK1) on the inflection even in the presence of an additional prosodically marked <-presupposed> element (see (260)).

260. [Ty pokormil životnyx?]$_{CONTEXT}$

Did you feed the animals?

/ \

[Kota]$_{CT}$ ja [pokorm**I**l]$_{NIF}$…

cat.ACC I fed.PAST.MASC.Sg

'*As for the cat, I fed it...'*

The concept of VF opens up new possibilities for the analysis of sentences hosting CF because these most naturally occur in the context of a yes/no-question and must therefore also contain focus on the truth-value, that is, VF. In fact, structures hosting CF and those containing CT quite naturally occur in the same context:

261. [Did John buy a Volkswagen?]$_{CONTEXT}$

\

a. (No), John bought [a Toy**O**ta]$_{CF}$, (not a Volkswagen)

\ /

b. John bought [a Toyota]$_{CT,}$ (but I don't know about a Volkswagen)

262. [Ivan kupil Volkswagen?]$_{CONTEXT}$

Did Ivan buy a Volkswagen?

\

a. (Net), Ivan [Toy**O**tu]$_{CF}$ kupil, (a ne Volkswagen)
(No) Ivan Toyota.ACC bought (and not Volkswagen)
'No Ivan bought a Toyota (not a Volkswagen).'

/ \

b. [Toyotu]$_{CT}$ Ivan [kup**I**l]$_{NIF}$, (a nasčët Volkswagena ja ne znaju)
Toyota.ACC Ivan bought (and about Volkswagen I not know)
'Ivan bought a Toyota, (but I don't know about a Volkswagen).'

It is not surprising that a sentence hosting a CF and one containing a CT occur in the same linguistic context in (261) and (262), as sentences with distinct information structures are often compatible with identical linguistic contexts.[84] Then again, the (a) and the (b) sentences in (261) and (262) both contain a <-presupposed; +contrastive> object and a VF. So, what exactly is distinct in the information structure of the (a) vs. (b)-sentences in (261) and (262) and responsible for the difference in their interpretation (i.e. opposition vs. incompleteness) and intonational patterns?

The hypothesis put forward here is that the main interpretative difference between the (a)-sentences and the (b)-sentences in (261) and (262) is due to a distinct value as regards the <±contrastive> feature carried by the VF. To be precise, the

[84] All the sentences in (i) below have distinct information structures despite occurring in the same context:

(i) [What's wrong?]$_{CONTEXT}$

a. John only showed my book to MARY (and I wanted him to show it to Sue as well)

b. John only showed my BOOK to Mary (and I wanted him to show my articles as well)

c. John only showed MY book to Mary (and I wanted him to show your book as well)

d. John only SHOWED my book to Mary (and I wanted him to read it to her as well)

sentences hosting a CT as in (261b) and (262b) contain a <-contrastive> VF, whereas in (261a) and (262a) the VF is <+contrastive>.[85]

The fact that VF is non-contrastive in the (b)-sentences is expected. We have already argued that the additional <-presupposed> element in a sentence containing a CT is a NIF. To recall, a non-contrastive focus can only provide a focus-value to one proposition and, in accordance with this observation, the VF in the (b)-sentences in (261) and (262) only provides a truth-value for the proposition in the reply but not for the one introduced in the context. The contextual proposition is left without a focus-value, giving rise to the interpretational effect of incompleteness typical of Topic-Focus structures.

The VF in the (a)-sentences, conversely, does not only provide the truth-value 'true' for the proposition in the reply but also treats the proposition in the context as having an alternative truth-value. As a result, the interpretation of belonging to a set of

[85] The data in (261) and (262) demonstrate that CT and CF can be licensed by the same context, which seems to contradict the analysis in Lee 2003 where sentences containing a CT are taken to be introduced by a conjunctive question and sentences hosting a CF by a disjunctive question. However, neither a conjunctive nor a disjunctive question *forces* a particular interpretation on the focused constituent in the reply. It can only *favor* it. Thus, a disjunctive yes/no-question favors the construal of the VF in the reply as contrastive. That is, the most natural reply to such a question activates the interpretation that the alternative proposition has a contrasting truth-value. As expected, a CT cannot co-occur with a *contrastive* VF, in line with Lee's (2003) observations. Yet, as demonstrated in footnote 66, it is possible to override the contrastive construal of the conjuncts in a disjunctive question, in which case a CT can occur in its context. Likewise, CFs can occur in a context of a conjunctive question (see (i) below) and participate in the narrow-down strategy, as long as the delimiting operator is used in order to facilitate a contrastive reading of the VF. (Note that *replacing* CTs cannot participate in the narrow-down strategy). Importantly, Lee's (2003) observations with respect to conjunctive vs. disjunctive contextual questions fall out from the current analysis, as the former favor a reply with a <-contrastive> VF and the latter with a <+contrastive> VF. (Note that the present analysis does not assume that the focus in the most natural reply to a disjunctive question is a CF. Such a reply is taken here to have a contrastive VF and a NIF.)

(i) [Did Ivan feed the cat and the dog?]$_{\text{CONTEXT}}$

\

(Net), Ivan tol'ko [kot**A**]$_{\text{CF}}$ pokormil
No Ivan only cat. ACC fed
'(No), Ivan only fed the cat.'

alternatives becomes active for the VF in the (a)-sentences at the point these sentences are produced, strongly suggesting that this focus is indeed contrastive. As the set of truth-values is a rather closed set that contains only two members, whenever VF is <+contrastive>, the alternative truth-value to the one given to the proposition in the reply is always the opposite one, which accounts for the interpretation of opposition, or counter-assertion, conveyed by sentences hosting a contrastive VF.

As is the case with non-contrastive VF, contrastive VF must be prosodically marked on an inflection whenever the truth-value of a proposition is the only <-presupposed> element in the sentence:

263. [John bought a Volkswagen]$_{\text{CONTEXT}}$

\

(No), he d**I**dn't (buy a Volkswagen).

However, in sentences that contain an additional non-presupposed constituent, as in (261a) and (262a), a contrastive VF cannot be overtly marked. It appears that the availability of prosodic marking of VF in sentences with an additional <-presupposed> constituent is reserved for *non-contrastive* VF found in Topic-Focus structures.

The selective nature of prosodic marking of VF might be a result of an interpretative effect that applies at the discourse level. Assuming that structures with distinct discourse interpretations must be either distinguished at PF or/and disambiguated through context, assigning a particular prosodic pattern to a structure with a particular interpretation is expected to block the association of this pattern with a distinct interpretation *within the same context*. Recall that the same PF representation can be used in a variety of contexts, as the context itself disambiguates the relevant discourse construal. On the other hand, when more than one PF representation can fit a particular context, the nature of the relevant discourse interpretation can be inferred on the basis of prosody. Logically, it should be impossible for the same prosodic representation to stand for more than one discourse interpretation when it is used within the same context unless the interpretative difference is disambiguated through some additional tool, such as distinct syntactic structures or morphology. In the absence of such an additional disambiguation, it is prosody that has to do the job. Consequently, in a context that licenses either a Topic-

Focus structure or a construction with a CF, as in (261) and (262), a prosodically marked VF is interpreted as <-contrastive> and never as <+contrastive>, whereas for the latter interpretation, VF is not allowed to be prosodically realized.[86]

Conversely, whenever the opposite truth-value for a contrastive VF is not merely implied but overtly realized in the context, this focus can no longer be interpreted as non-contrastive. In such a case, the interpretation reserved for Topic-Focus structures is unattainable and therefore no longer blocks the one conveyed by sentences hosting a CF. As expected, a <+contrastive> VF can be prosodically marked in such a context:

264. [Did John buy a Volkswagen?]$_{\text{CONTEXT}}$

\ \ \

No, John d**I**dn't buy a Volkswagen but John/he d**I**d buy [a Toy**O**ta]$_{\text{CF}}$

The discourse in (264) is interpretatively identical to the one in (261a). However, the former contains an overt realization of both truth-values: the value 'true' for the proposition 'John bough a Toyota' and the value 'false' for the contextual proposition 'John bought a Volkswagen'. As can be seen from (264), as soon as both truth-values are overtly present and the VF cannot avoid being construed as contrastive, a <+contrastive> VF can be prosodically realized.

The blocking effect related to prosodic marking of VF can be captured by the Elsewhere Condition (cf. Anderson 1969, Kiparsky 1973), which states that application of a general rule is blocked where a more specific rule can be applied. By hypothesis, the relevant rules apply at the discourse level. Assuming that the general rule states that VF is prosodically realized on an inflection, while the more specific rule maintains that a prosodically marked VF is interpreted as <-contrastive>, it is expected that whenever the <-contrastive> interpretation is contextually achievable for a prosodically realized VF, it blocks the <+contrastive> reading, and the VF is interpreted as <-contrastive> at the discourse level. Conversely, when the non-contrastive interpretation cannot be attained due to the presence of an alternative

[86] A Topic-Focus sentence with a prosodically unrealized VF, as in (261b), is distinguished from a sentence containing a CF by the virtue of CT carrying a B-accent. However, in Topic-Focus sentences with an overt NIF, at least *some* speakers can mark a CT with a falling contour (Alanah McKillen p.c.), leaving the burden of disambiguation to the presence/absence of prosodic marking of VF.

truth-value in the context, a <+contrastive> VF can be prosodically marked. To put it differently, a PF representation with a stressed inflection will be chosen for a context that licenses VF either when this focus is non-contrastive or when the context itself disambiguates it as contrastive. In all other cases, a PF representation with no stress on the inflection will be chosen for a context that licenses a sentence with a VF and a <-presupposed> constituent.

The fact that the alternative truth-value in (261a) is implied but not realized can be accounted for by stipulating that the part that contains it undergoes a deletion operation, as in (265), where the part in angled brackets is not pronounced.

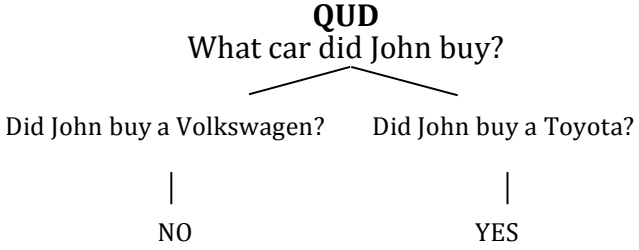
265. [Did John buy a Volkswagen?]$_{\text{CONTEXT}}$

No, <John didn't buy a Volkswagen>, John bought [a Toy**O**ta]$_{\text{CF}}$

The analysis in (265) implies that the <+contrastive> VF fails to be prosodically marked because the alternative truth-value is not pronounced, hence, the more specific rule applies and blocks the application of the general rule.

What remains to be explained is why it is possible to answer a question that asks for the truth-value of the proposition 'John bought a Volkswagen' by providing a value for a different proposition, namely, 'John bought a Toyota'. I would like to argue that this is due to the reply in (261a) treating the question in the context as a subquestion dominated by the question under discussion 'What car did John buy?', with another subquestions, such as 'Did John buy a Toyota?' remaining implicit:

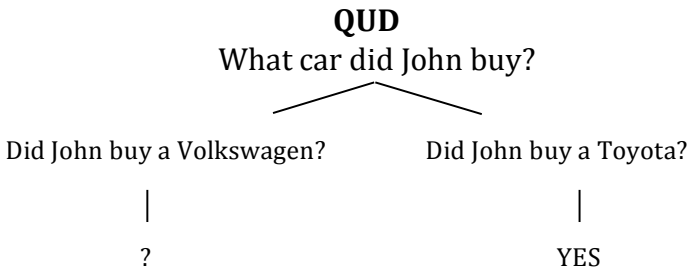
266. <u>Sentence containing CF and <+contrastive> VF</u>



The hypothesis that sentences hosting a CF contain an answer to an implicit question goes hand in hand with the analysis of Topic-Focus structures proposed in Büring 2003. Following Büring's theory of *Discourse-Trees* (D-trees), the Topic-Focus

structure in (261b) can be analyzed as occurring in a context where a question under discussion dominates two subquestions: an explicit question given in the context and an implicit question that is provided with a direct answer by the reply (see (267)). As the VF in (261b) is <-contrastive>, it fails to provide the explicit subquestion with an answer, which results in the interpretation of incompleteness:

267. Sentence containing CT and <-contrastive> VF

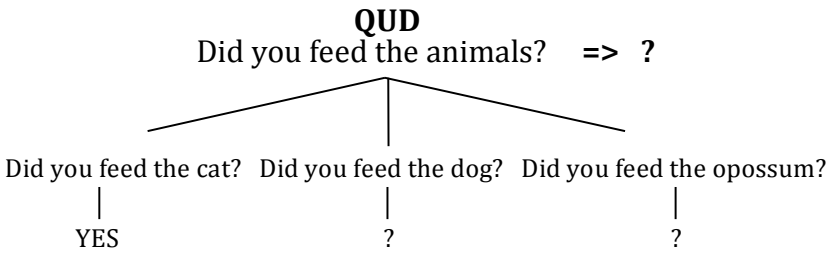


Since the sentence in (261a) occurs in the same linguistic context as the one in (261b), it is plausible that the QUD for it is the same. That is, it also dominates two subquestions, an explicit and an implicit one (see (266)). However, as the VF is contrastive in (261a), both subquestions dominated by the QUD, including the explicit question in the context, receive an answer (see (266)). No questions are left unanswered; hence, no interpretation of incompleteness arises. Instead, the interpretation of opposition, or counter-assertion, results from the fact that the proposition in the context and the one in the reply have opposite truth-values.

Importantly, the interpretive difference between (261a), hosting a CF, and (261b), containing a CT, comes down to the nature of the VF, or more precisely, to its value with respect to the <±contrastive> feature, and not to any particular difference between the CF and CT per se. This outcome quite naturally captures the observation that a sentence hosting a CF cannot occur in a context where the focus is linked to a superset, as in (256). In (256), the reply provides a positive answer to a subquestion but fails to offer a negative answer to the superquestion in the context, as some subquestions remain unanswered (see (268)). Since the alternative truth-value cannot be given to the proposition in the context, VF fails to be construed as contrastive. [87, 88]

[87] As mentioned before, it is possible to achieve <+contrastive> reading for the VF in (256) and (268) by applying a delimiting focus sensitive operator 'only' to the CF. This results in the interpretation according to which 'the cat' is the only entity for which the property of being fed applies.

268.



The above analysis implies that Topic-Focus structures are in fact CF-NIF structures, where the interpretation of NIF can be expressed either on an inflection (VF) or on an XP; whereas sentences hosting what is traditionally referred to as CF always contain a *Contrastive Verum Focus* (henceforth CVF):[89]

269. *Constructions hosting <-presupposed; +contrastive> XPs*

a. CT - FOC => CF - NIF
b. … CF … => CF - CVF

As suggested in (269), CT and CF represent one and the same information-structural category that can occur in two different types of construction. The fact that the

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Consequently, the remaining subquestions receive negative answers and the superquestion in the context obtains a negative truth-value under the assumption that it asks about *all* the animals.

[88] I am assuming that a superset in the superquestion can be represented by either a wh-phrase that opens a semantic set, as in (266) and (267), or by a plural noun that generalizes over a set of entities/individuals, as in (268).

[89] The data on which the analysis relies involves the so-called *replacing* strategy (as in (261) and (262)) but can be extended to include the *narrow-down* strategy, as in (i), as long as the CFs are embedded under the delimiting focus operator, which facilitates contrastive reading on the VF. Consequently, CT and CF can both be "partial" (Büring 1997), as shown in (ii):

(i) [Did you feed the cat and the dog?]$_{\text{CONTEXT}}$
/
a. I fed [the cat]$_{\text{CT}}$ (but I don't remember about the dog)
\
b. No, I only fed [the cat]$_{\text{CF}}$ (but I forgot to feed the dog)

(ii) [Did the dancers wear kaftans?]$_{\text{CONTEXT}}$
\ / \
a. The [female]$_{\text{CT}}$ dancers d**I**d wear kaftans (but I'm not sure about the male dancers)
\
b. No, only the [f**E**male]CF dancers wore kaftans (but not the male dancers)

structures in (269a) and (269b) have distinct interpretation accounts for the difference in intonational contours assigned to the CFs in them. However, English and Russian have different reasons for the distinct prosodic marking.

In English, the blocking effect at the discourse level ensures that the interpretation assigned to a prosodically marked VF in an ambiguous context is <-contrastive>, with the consequence that the relevant sentence has the CF-NIF and not CF-CVF structure. However, prosodic marking of the <-contrastive> VF is optional in this language and can be omitted in case the context unambiguously licenses a <-contrastive> VF (see (257) where the narrow-down strategy disallows a CF-CVF structure). Moreover, it can be omitted even in an ambiguous context (see (261)). In (261), a structure with a CF and a prosodically unrealized VF is ambiguous in interpretation and can be disambiguated only by assigning distinct contours to the CFs, i.e. the B-accent, to achieve the interpretation in (269a) and the A-accent for the reading in (269b), as in (261b) and (261a) respectively. [90]

In Russian, on the other hand, the reason for marking CF in a structure like (269a) with a rising contour IK3 is of a much simpler nature. Russian is a language that does not permit more than one falling intonational contour in one clause. At the same time, the <-contrastive> focus must always be marked with IK1, even a <-contrastive> VF (see (260)). Consequently, whenever CF co-occurs with a NIF, it can no longer be marked with a falling contour, but, being <-presupposed>, it must carry a prominent prosodic marker. This leaves a rising contour the only available option.

As summarized in (270) below, the notion of CT is not needed to account for the distribution of <-presupposed> constituents in Russian and can be easily reduced to that of CF.[91]

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[90] As already mentioned in Footnote 86, some native speakers of English allow A-accent on CT in unambiguous contexts, suggesting that when the IS of a sentence is disambiguated as a TOP-FOC structure by context, prosodic disambiguation becomes redundant. The fact that CT can carry the same prosodic marker as CF further supports the view that CT and CF is one and the same information-structural notion.

[91] Importantly, (270) does not imply that sentences with multiple CFs are impossible. It merely illustrates that a CF may co-occurs with a NIF (or a non-contrastive VF), which results in the interpretation of incompleteness, or with a CVF resulting in the interpretation of opposition. Nothing in the present proposal rules out structures of the following type: CF CF CVF or CF CF NIF (see (i)-(ii)).

270. **Distribution of <-presupposed> elements in Russian**

i. NIF

$[_{CP}$ (…) <-presupposed; -contrastive>$]$[92]

CF CVF

ii. $[_{CP}$ $[_{XP}$<-presupposed; +contrastive>$]_1$ … $[_{I}$ <-presupposed; +contrast>] $t_1]$

CF NIF

iii. $[_{CP}$ $[_{XP}$ <-presupposed; +contrast>$]_1$… t_1 $[_{XP}$ <-presupposed; -contrast>]]

CF VF

iii'. $[_{CP}$ $[_{XP}$ <-presupposed; +contrast>$]_1$… $[_{I}$ <-presupposed; -contrast>] $t_1]$

A CF can be then said to have the following properties:

1. It is associated with the <+contrastive> feature, which licenses its A'-fronting;
2. It is associated with the <-presupposed> feature, which forces its reconstruction to the position where non-contrastive focus surfaces;

What should be impossible is a sentence of the type CF NIF CVF (see (iii)), as it contains both NIF and CVF and the status of the CF cannot be identified.

(i) [Your friends never read anything]$_{CONTEXT}$

That's not true, there is one exception: [John]$_{CF}$ reads$_{CVF}$ [magazines]$_{CF}$

(ii) What did John give to Mary?

[Bill]$_{CF}$ gave [Sue]$_{CF}$ a [book]$_{NIF}$ (but I don't know about John and Mary)

(iii) [What did Bill eat?]$_{CONTEXT}$

* No, [Fred]$_{CF}$ ate$_{CVF}$ [the soup]$_{NIF}$

[92] From clause final position NIF can spread onto the entire CP if the sentence contains no background.

3. It can co-occur with a <-presupposed; -contrastive> element, which results in the interpretation of incompleteness conveyed by the sentence that hosts the CF and a (fall)-rise intonation assigned to the CF;
4. It can co-occur with a <-presupposed; +contrastive> VF, which results in the interpretation of counter-assertion conveyed by the sentence that hosts the CF and a falling intonation assigned to the CF.

The next chapter formalises the interpretation of sentences that host a CF and looks at the interaction of CF with various focus sensitive operators, explaining why some of these operators are incompatible with the interpretation of incompleteness.

7. Interpretation of sentences hosting contrastive categories

7.1 Knowledge within speaker's beliefs

It has been observed by various linguists that certain focus sensitive operators are incompatible with the interpretation of what is traditionally called CT (see (271)). At the same time, it has been claimed that CFs *can* be associated with these operators (see (272)). This appears to undermine the analysis proposed in the previous chapters that sees CTs as identical to CFs.

271. [Ty pokormil kota?]$_{\text{CONTEXT}}$ Russian
Did you feed the cat?

/ \

[Tol'ko sobaku]$_{\text{CT}}$ ja [pokorm**I**l]$_{\text{NIF}}$
only dog.ACC I fed
'*As for only the dog, I fed it.*'

272. [Ty pokormil kota?]$_{\text{CONTEXT}}$ Russian
Did you feed the cat?

\

(Net,)	ja	tol'ko	sob**A**ku	pokormil
no	I	only	dog.ACC	fed

'No I only fed the dog.'

However, I will demonstrate on the basis of a variety of discourse strategies that it is not the CT that is incompatible with focus operators but rather the interpretation of incompleteness conveyed by Topic-Focus structures. This interpretation cannot be achieved when the operators are applied to the structure. Moreover, as shown below, the interpretation of counter-assertion conveyed by structures hosting CF also often clashes with the semantics of focus sensitive operators.

To recall, the focus in Topic-Focus structures is NIF and can therefore only provide a focus value for one (newly introduced) proposition. As a consequence, the proposition that is already present in the context is not given any focus value and can therefore be understood as either having the same focus value as the newly introduced proposition (see (241)) or a different focus value (see (240)). Crucially, as soon as a fixed focus value is given to a contextual proposition, the interpretation of incompleteness associated with CTs becomes unavailable.[93]

(273) illustrates the discourse interpretation conveyed by Topic-Focus sentences.

273. Interpretation of TOPIC-FOCUS (or CF-NIF) structures:

Let's say there is a set of entities <*a*, *b*> and a set of properties <p1, p2>:

[What property holds of *a*?]CONTEXT	*Interpretations that are compatible with the speaker's beliefs:*
[p1]NIF holds of [*b*]CT =>	p1 holds of *a* (see (241))
	p2 holds of *a* (see (240))

[93] As pointed out by Hans van de Koot (p.c.), it is possible to have a sentence with a CT even when a contextual proposition receives a fixed focus value as long as there is another proposition in the discourse that is left without a fixed focus value. In other words, what is crucial for the interpretation of incompleteness is the presence of a proposition in the discourse with no fixed focus value.

The context introduces the entity *a*, and requests information about the property that holds of *a*. The Topic-Focus sentence in the reply, however, fails to provide this information. Instead, it provides information about the property that holds of a newly introduced entity *b*. As the discourse does not establish what property holds of *a*, it can be interpreted as either having the same property as *b* or as having a different property. Crucially, the question in the context is left without a fixed answer.

To formally represent the interpretation conveyed by a sentence hosting a CT, it is necessary to capture the intuition that the proposition in the context does not have a fixed focus value *only* within the speaker's beliefs. Plausibly, discourse-related categories such as CT and CF can only be nested in a discourse where interlocutors exchange their (possibly contradicting) beliefs. Therefore, a sentence containing either a CT or a CF conveys information relevant for the epistemic state of the speaker rather than the facts about the world. Thus, a sentence hosting a CT conveys that the speaker does not know whether the contextual proposition has the same or a different focus value as the newly introduced proposition, whereas a sentence with a CF, in contrast, expresses the speaker's belief that the contextual proposition has an alternative focus value to the newly introduced proposition.

One way of representing the interpretation of sentences containing a CT or a CF is to define belief as a kind of quantification over worlds.[94] Following Heim (1992), I adopt the notion of doxastically accessible worlds. If we assume a function "dox" which takes an individual as an argument and returns the set of all possible worlds which are compatible with that individual's beliefs, then we get the following interpretative possibilities for sentences with VF:

i. If the speaker *s* believes a proposition introduced in the context is true, then for all worlds *w* in Dox(*s*), this proposition is true in *w*.

ii. If the speaker believes a contextual proposition is false, then for all worlds *w* in Dox(*s*), the negation of this proposition is true in *w*.

iii. If the speaker doesn't know whether or not the proposition introduced in the context is true, then there is a world *w* in Dox(*s*) such that this proposition is true in *w*, and another world *w′* in Dox(*s*) such that the negation of this proposition is true in *w′*.

[94] I am very grateful to Rob Truswell for pointing this out to me.

The sentences in (274) illustrate these interpretative possibilities.

274. [Did John buy a Volkswagen?]$_{\text{CONTEXT}}$

a. (Yes), John d**I**d (buy a Volkswagen)

b. (No), John bought [a Toy**O**ta]$_{\text{CF}}$ (not a Volkswagen)

c. John bought [a Toyota]$_{\text{CT}}$ (but I don't know about a Volkswagen)

The interpretation of a sentence that hosts a CF, as in (274b), is such that it includes a negation of the proposition introduced in the context for all worlds *w* in Dox(*s*), whereas the interpretation of a sentence containing a CT, as in (274c), implies that there is a world *w* in Dox(*s*) such that this proposition is true in *w*, and another world *w′* in Dox(*s*) such that the negation of this proposition is true in *w′*.

Since CT and CF are claimed here to be one and the same information-structural notion, it is expected that both have focus semantics. I will adopt a notational variant of focus representation used in Neeleman and Vermeulen (forthcoming), which represents the focus, as well as the set of alternatives to the focus found in the alternative propositions (see (275)). Here, the ordinary value of the sentence is generated by applying the function (corresponding to the background in (274b) and (274c))) to the focus, while the focus value is generated by applying it to members of the set of alternatives:

275. <λ*x*[John bought *x*], Toyota, {Toyota, Volkswagen, Bentley, ...}>

As claimed in the previous section, focus can be additionally supplemented with contrastive interpretation, which is the case with CF, CT and EF. The definition of contrast proposed in the present manuscript suggests that contrast involves quantification over a set of discourse relevant entities {*a*, *b*, *c*,…}. After all, for an element to be construed as contrastive, the interpretation of belonging to a pragmatic set of alternatives must be activated by the sentence that contains this element. Thus, in (274b) and (274c), contrast expresses to what extent the set of (contextually

relevant) cars is contained in the set of things that John bought. The interpretation of both sentences entails that, according to the speaker's beliefs, one element of the set of cars is also an element of the set of things that John bought. The sentence in (274b) containing a CF additionally expresses the speaker's belief that the other contextually relevant member of the set of cars is not contained in the set of things that John bought. In the case at hand this other member is a Volkswagen. The sentence in (274c) with a CT, in contrast, additionally expresses that the speaker does not know whether the other contextually relevant member of the set of cars is contained in the set of things that John bought or not.

Therefore, the interpretation of sentences hosting CF or CT additionally requires quantification over the sets of worlds within the speaker's beliefs. In other words, such sentences involve two types of quantification: quantification over a set of contextually salient entities {*a*, *b*} that can provide a focus-value for a proposition 'John bought *x*'; and quantification over doxastically accessible worlds {*w*, *w'*} that allow for 'John bought *a*' and/or for 'John bought *b*'. Assuming that the discourse in which sentences with a CF or a CT occur is compatible with the interpretation according to which the speaker is given an instruction to express their beliefs as to to what extent the set of (contextually relevant) cars is contained in the set of things that John bought, the following discourse representation arises:

276. Instructions compatible with the context:

    Out of the alternative entities {*a*, *b*},

    in how many doxastically accessible worlds (Dox(*s*)) can *a* fulfill the proposition P?
    in how many doxastically accessible worlds (Dox(*s*)) can *b* fulfill the proposition P?

277. Interpretation of a sentence with a CF:

    a can fulfill P in all worlds in (Dox(*s*)), *b* cannot fulfill P in all worlds in (Dox(*s*)).

278. Interpretation of a sentence with a CT:

a can fulfill P in all worlds in (Dox(*s*)), *b* can fulfill P in *w* and b cannot fulfill P in *w'*.

The fact that *a* can fulfill P is already part of the simple focus representation given in (275). What is specific for the semantics of sentences hosting a CF or a CT is that there is another contextually relevant entity that can fulfill P in some doxastically accessible worlds but not in others: [95]

279. Semantics of sentences hosting a CF:

a. <λ*x*[John bought *x*], Toyota, {Toyota, Volkswagen, Bentley, ...}>

b. ∃*x*[*x* ∈ {Toyota, Volkswagen, Bentley, …} & *x*≠Toyota & ∀*w*[*w* ∈ Dox(*s*) ¬[John bought *x*]]].

280. Semantics of sentences hosting a CT:

a. [<λ*x*[John bought *x*], Toyota, {Toyota, Volkswagen, Bentley, ...}>

b. ∃*x*[*x* ∈ {Toyota, Volkswagen, Bentley, …} & *x*≠Toyota & ∃*w*[*w* ∈ Dox(*s*) & [John bought *x*]] & ∃*w'* [*w'* ∈ Dox(*s*) & ¬[John bought *x*]]]. [96]

[95] The idea behind (280) is similar to the analysis in Hara & van Rooij (2007), for whom the absence of the relevant knowledge on the part of the speaker is also required for the interpretation of CT-FOC structures. Yabushita (2008) criticizes Hara & van Rooij's (2007) analysis by pointing out that the speaker might possess the relevant knowledge but chooses to be secretive about it. However, the interpretation of a CT-FOC construction must not be confused with the specific situation in which it is used. A CT-FOC structure does indeed convey a lack of knowledge on behalf of the speaker but this interpretation is compatible with the situation where the speaker is being secretive or untruthful and uses this construction to hide the truth out of politeness or to deceive the hearer.

[96] Whenever the NIF in a CF-NIF sentence is not a VF but is assigned to a constituent, as in (i), the semantic notation must include two variables, as in (ii), where the function (corresponding to the

The notation in (279b) must be read as follows: 'there exists an entity that is an element of the same set that includes the focus but is not the same entity as the focus and for every world that is an element of a set of doxastically accessible worlds it is not true that John bought this entity'. The notation in (280b), in contrast, states that 'there exists an entity that is an element of the same set that includes the focus but is not the same entity as the focus and there exists a world *w* that is an element of a set of doxastically accessible worlds in which it is true that John bought this entity and there exists a world *w*' that is an element of a set of doxastically accessible worlds in which it is not true that John bought this entity'. In other words, both the positive and the negative truth-value of the proposition 'John bought a Volkswagen' are compatible with an agent's beliefs in (274c) and (280b).

The next section argues that focus sensitive operators alter the semantics of sentences in that they involve a specific quantification over sets that is often incompatible with the quantification involved in the semantics of sentences hosting a CT or a CF.

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background in (i)) is assumed to apply to the focus and to members of the set of alternatives in the overtly specified order:

(i) [What did John buy?]$_{\text{CONTEXT}}$

[Mary]$_{\text{CT}}$ bought a [Toyota]$_{\text{NIF}}$ (but I don't know about John).

(ii) a. <λ*x*λ*y*[*x* bought *y*] Mary, Toyota, {John, Mary, Sue,…}{Toyota, Volkswagen, Bentley, ...}>

b. ∃*x*[*x* ∈ {John, Mary, Sue…} & x≠Mary & ∃*w*[*w* ∈ Dox(*s*) & [*x* bought Toyota]] & ∃*w'* [*w'* ∈ Dox(*s*) & ¬[*x* bought Toyota]]].

Note that since the focus in CT-FOC structures is a NIF, (iib) has nothing to add to its interpretation. The semantics of NIF is already captured by (iia).

7.2 Incompatibility with focus sensitive operators

Before starting the discussion of the semantics of sentences affected by focus sensitive operators, such as the delimiting operator 'only' or expanding operators including negative and universal quantifiers, it is vital to establish whether such operators can be included into the interpretation of narrow focus assigned to a constituent.[97] That is, for a constituent that includes such an operator to be interpreted either as a CF or a CT, it is necessary for this constituent to allow the interpretation of narrow focus.

To recall, the semantics of focus involves selection out of a set of alternatives. For non-contrastive focus, this set is not pragmatically restricted, whereas for CF and CT, alternative member(s) must be active in the discourse. It is therefore expected that whenever the semantics of a focus sensitive operator involves a particular type of quantification over a set that is incompatible with the interpretation that sees the constituent that includes this operator as belonging to a set of alternatives, this constituent cannot carry narrow focus. For instance, in (281), the constituent 'a Toyota' modified by the delimiting operator 'only' is chosen out of a set of cars as the one that can provide a value for the variable in 'John bought *x*' and turn it into a true proposition. The delimiting operator adds an interpretation to this sentence, according to which no other element of the set of cars is included into the set of things that John bought. Crucially, 'only a Toyota' cannot be assigned the interpretation of narrow focus as long as the delimiting effect of the operator is active, as this constituent cannot be interpreted as a member of a set of cars (see (282)).

281. [What car did John buy?]$_{\text{CONTEXT}}$

John only bought [a Toyota]$_{\text{FOC}}$

282. *<λ*x*[John bought *x*], only Toyota, {only Toyota, Volkswagen, Bentley, ...}>

Although in (281) the delimiting operator cannot be construed as included in the constituent that receives narrow focus, it still adds <-presupposed> information to the

[97] By narrow focus, I mean focus that is assigned to a syntactic constituent such as an NP/DP and that does not involve focus spreading onto larger constituents such as VP or IP/CP.

sentence that for every member of the set of cars except Toyota it is not true that John bought it. In other words, it adds the interpretation about the truth-value of alternative propositions. To recall, information about a truth-value of a proposition is expressed by VF. Since the delimiting operator in (281) activates the interpretation that there are alternative propositions relevant for the discourse at hand that have an alternative truth-value to the proposition in the reply, this operator must be analyzed as adding a contrastive VF to the sentence that already has focus on the object, i.e. it is a type of a *marker of contrast* on VF. As a result of the application of this marker of contrast, the sentence in (281) has CF on the object and a CVF.[98]

Similarly, a negative quantifier or a universal quantifier cannot be included in a set of cars in (283) and (284) because their semantics involves generalization over a set of alternatives, rather than selection out of such a set (see (285) and (286), respectively.[99]

283. [What car did John buy?]$_{\text{CONTEXT}}$

John bought no car.

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[98] Admittedly, whenever a contrastive focus embedded under 'only' undergoes A'-fronting, the delimiting operator has to linearly precede it. If 'only' is not included in the interpretation of focus and can therefore not be part of the fronted constituent, an alternative account of this observation is required (Hans van de Koot, p.c.). However, the fact that in a variety of languages, including English, 'only' can occur in adverbial rather than adnominal position suggests that focus particles can adjoin to non-arguments. It is therefore plausible that the delimiting operator adjoins to the root CP in order to c-command a fronted contrastive focus in the aforementioned constructions (see also Büring and Hartmann 2001 for an analysis of German focus particles as consistently adjoining to non-arguments).

[99] The fact that phrases including the aforementioned operators cannot be construed as belonging to a set of cars in the above examples is further confirmed by the impossibility of forming a coordinate structure with one conjunct containing one such phrase and the other containing an alternative member of the set of cars:

(i) a. *John bought a Volkswagen and only a Toyota

b. * John bought a Volkswagen and no car

c. *John bought a Volkswagen and all cars

284. [What car did John buy?]$_{\text{CONTEXT}}$

John bought every car.

285. *<λx[John bought x], no car, {no car, Volkswagen, Bentley, ...}>

286. *<λx[John bought x], every car, {every car, Volkswagen, Bentley, ...}>

Since the negative quantifier and the universal quantifier generalize over a set of cars in (283) and (284), it is impossible to construe the constituent that includes such a quantifier as belonging to a set of alternatives. As a result, 'no car' and 'every car' cannot be assigned narrow focus (see (285)) and (286)).

Crucially, the replies in (283) and (284) do not directly answer the contextual question by selecting an entity out of a set of cars and stating that this entity belongs to the set of things that John bought. Instead, they either challenge or confirm the validity of the proposition 'John bought a car' by assigning the value true or false to it. In other words, the sentences in (283) and (284) also contain VF. In (283), the VF is contrastive, as the sentence rejects the presupposition that John bought a car. Hence, both truth-values are active in the discourse in (283). In (284), in contrast, the VF is non-contrastive, as it confirms that the contextual proposition has the value true.

However, assigning a truth-value to the contextual proposition is only part of the semantics of the sentences affected by expanding focus operators, as these additionally provide the interpretation according to which 'John bought *x*' is either false or true for every *x*. In other words, (283) does not only convey that 'John bought a car' is false, it additionally expresses that no member of the set of cars exists for which it is true. Similarly, the sentence in (284) does not only convey that 'John bought a car' is true, it additionally expresses that no member of the set of cars exists for which it is false.

Therefore, the sentences affected by the focus sensitive operators above must be analyzed as containing two types of quantification: quantification over a set of truth-values and quantification over a set of contextually relevant entities, with the latter incompatible with the semantics involving selection out of a set of alternatives. Hence, these operators cannot be included in a constituent with the interpretation of

narrow focus, unless the delimiting or the expanding effects are neutralized (see below). It is therefore expected that they cannot be either a CT or a CF.

On the other hand, sentences affected by these operators are often compatible with the interpretation of counter-assertion but not that of incompleteness, yielding the false impression that the grammaticality of the former but not the latter is due to a difference between CT and CF. The next subsections discuss the interpretative clashes between the semantics of sentences affected by focus sensitive operators and those containing CTs, showing that these are not due to a difference between CT and CF as such but to the clash between the type of quantification over the set of truth-values that sentences affected by focus-sensitive operators involve and the quantification over the set of worlds that sentences hosting either a CT or a CF involve.

7.2.1 Incompatibility with the delimiting focus operator 'only'

A discourse strategy that makes use of 'only' to modify a <-presupposed; +contrastive> constituent results in a positive answer to an alternative subquestion and a negative answer to the subquestion in the context and *all* the other potential subquestions (see (287a) and (288)). No subquestions are left unanswered; hence, no interpretation of incompleteness is available (see (287b)).

Conversely, the interpretation of counter-assertion conveyed by sentences containing a contrastive VF, as in (287a), is compatible with such a strategy because the proposition 'John only fed the dog' does stand in opposition to 'John fed the cat'. Consequently, the proposition in the context and the one in the reply have opposite truth-values and the VF is indeed contrastive in the reply.

287. [Did John feed the cat?]$_{\text{CONTEXT}}$

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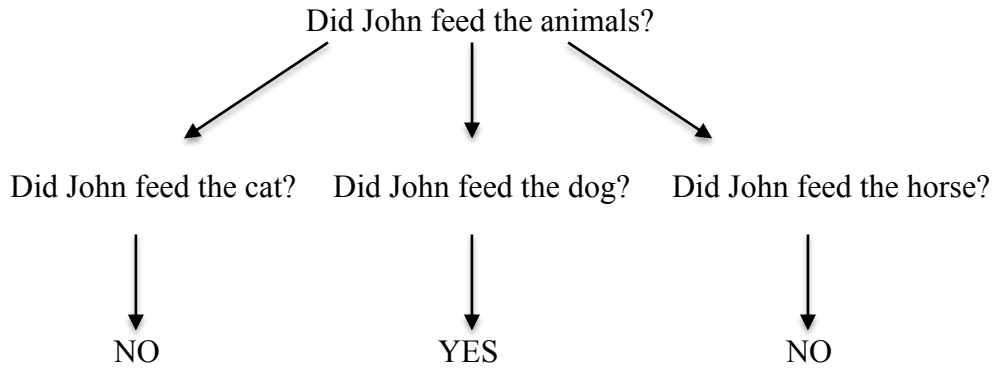
a. No, John only fed the dog.

/

b. # John only fed the dog (but I don't know if John fed the cat).

288.



Assuming that the interpretation added by the delimiting operator to the semantics of a sentence with a simple focus, as in (289a), is the one given in (289b), it is expected to be compatible with the speaker's beliefs given in (279) but not with those in (280)[100], as the latter requires that there exists an entity that is an element of the set of animals but is not the same entity as the focus and that there exists a world *w* within (Dox(*s*)) where it is true that John fed this entity.

289. a. <λ*x*[John fed *x*], a dog, { a cat, a dog, a horse ...}>

b. ∀*x*[*x* ∈ {a cat, a dog, a horse…} & *x*≠ a dog ¬[John fed *x*]].

Interestingly, the delimiting effect of the focus operator 'only' can be neutralized if the operator modifies not the entire focused constituent but only a part of it. For instance, in (290) and (291), 'only' does not refer to the poets but to a particular century they lived and worked in. As a result, it is possible to imagine a set of poets where all members are modified by 'only', as in 'only 20th century poets', 'only 19th century poets', 'only 18th century poets' etcetera. Unsurprisingly, such a strategy allows for selection out of a set of alternatives and therefore for the interpretation of narrow focus on the object in (290), as the delimiting operator is unable to alter the semantics of the sentence. In other words, whenever all the subquestions dominated

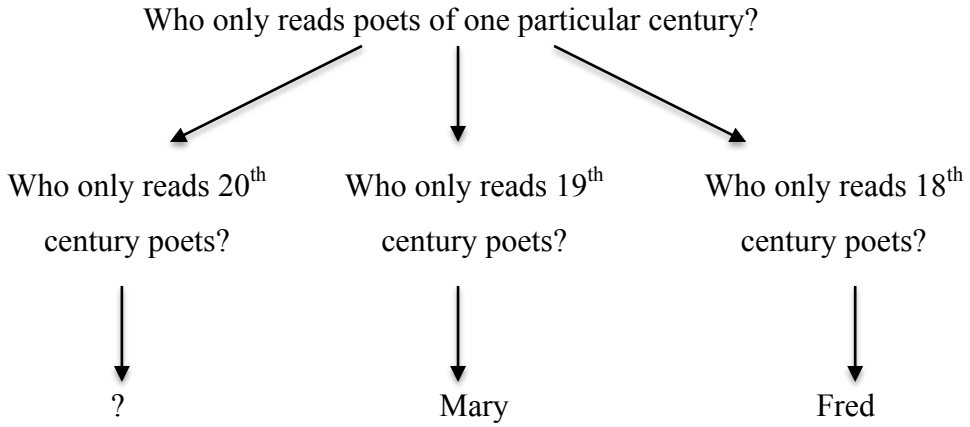
[100] I am assuming that whenever 'John fed a dog' is embedded under the delimiting operator, which forces the semantics given in (289), the interpretation of incompleteness illustrated in (280) becomes unattainable for it. One of the consequences of the fact that this interpretation is absent in such a case is that the PF does not mark the sentence with the prosodic markers reserved for a CF-NIF structure.

by the superquestion contain 'only', the focus operator has no effect on discourse dynamics:

290. [Who only reads 20th century poets?]$_{CONTEXT}$

Mary only reads 19th century poets (but I'm not sure who only reads 20th century poets)

291.



In (291), the superset in the superquestion is represented by a plural noun that is modified by the focus operator 'only'. All the subsets in the subquestions are associated with this operator as well. In such a context the delimiting operator cannot affect conversational dynamics and yield a fixed answer to the proposition in the context. Consequently, it is possible for the question in the context to remain without a focus value and the interpretation of incompleteness is obtainable (see (290)).

7.2.2 Incompatibility with expanding focus operators

In general, sentences hosting a CT are incompatible with expanding operators such as universal and negative quantifiers because these have an effect on the availability of a fixed answer to the superquestion and subsequently to **all** the subquestions. Thus, *universal quantifiers* that modify a <-presupposed; +contrastive> constituent alter the sentence in such a way that it provides a **positive** answer to the superquestion and therefore to all the subquestions it dominates, including the one in the context (see (292a) and (293)). Hence, no interpretation of incompleteness is available (see

(292b)), as the question in the context receives a fixed (positive) answer. Moreover, CF is also incompatible with this strategy (see (292c)), as all the subquestions have the same truth-value 'true' on the verum focus and the latter fails to be contrastive.[101]

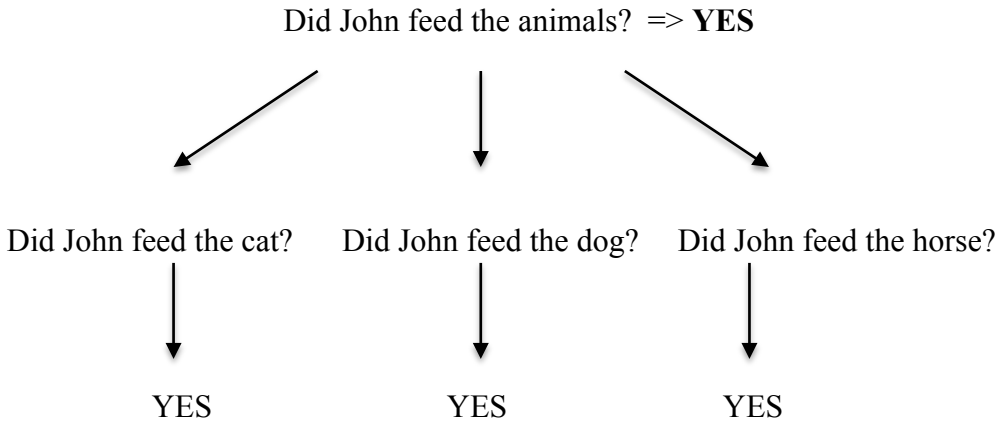
292. [Did John feed the cat?]$_{\text{CONTEXT}}$

a. Yes, John fed all the animals /everyone (including the cat).

b. # John fed all the animals (but I don't know if John fed the cat)

c. # (No), John fed all the animals (not the cat)

293.



Assuming that a sentence containing a universal quantifier has the semantics given in (294), it is expected that neither (279) nor (280) is compatible with it, as they both require that there exists an entity that is an element of the set of animals and that there exists a world within (Dox(*s*)) in which it is not true that John fed this entity, whereas (294) demands that the proposition 'John fed *x*' is true for every entity that is an element of the set of animals.

294. $\forall x$ [$x \in$ {a cat, a dog, a horse, ...} [John fed x]].

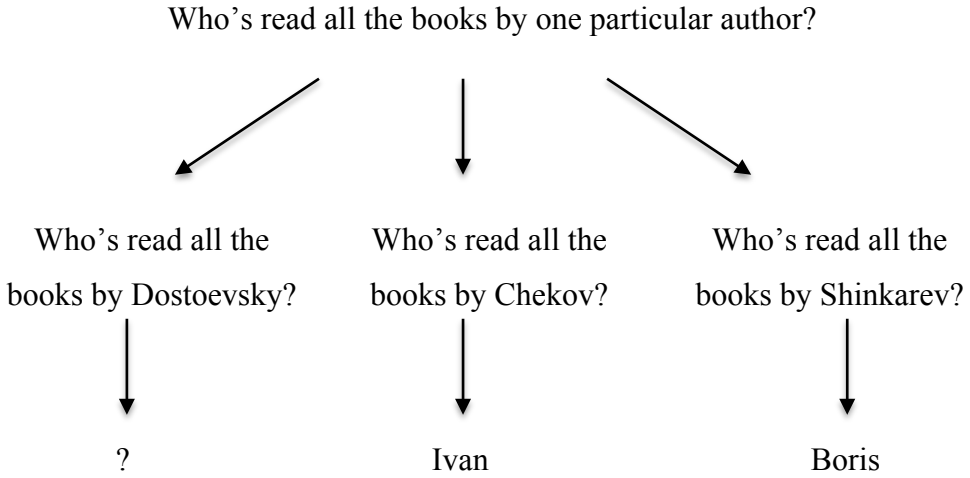
[101] The only way in which the VF in (292c) can be construed as contrastive is by interpreting the contextual proposition 'John fed the cat' as exhaustive (e.g. John only fed the cat). In such a case, the proposition 'John fed all the animals' can stand in opposition to 'John only fed the cat' as the former questions the exhaustive reading of the latter.

However, whenever the universal quantifier modifies a superquestion, and hence is contained in every member of the set of alternatives, it fails to have an effect on conversational dynamics:

295. [Who's read all the books by Dostoevsky?]$_{\text{CONTEXT}}$

Boris has read all the books by Shinkarev (but I'm not sure who's read all the books by Dostoevsky)

296.



In (295) and (296), 'all' does not interpretatively modify books as such but only books by a particular author. As a result, one can imagine a set of all books in general that contains subsets of all books by Shinkarev and all books by Dostoevsky etcetera. Consequently, selection out of a set of alternatives and therefore the interpretation of narrow focus becomes possible in such a context.

Unsurprisingly, CTs are compatible with such a discourse-tree (see (295)), because the expanding effect is neutralized here, just as the delimiting effect was neutralized in the tree in (291). Moreover, CF is also compatible with such a strategy as it allows for the verum focus to be contrastive (see (297) where 'all cats' and 'all dogs' can be construed as members of the set of all animals).

297. John fed all the dogs, not all the cats.

The discourse strategy making use of *negative quantifiers*, on the other hand, affects the reply in such a way that it provides a **negative** answer to the superquestion and

therefore to all the subquestions it dominates, including the one in the context (see (298a) and (299)). Hence, no interpretation of incompleteness is available (see (298b)) because the question in the context receives a fixed answer.

A sentence with a contrastive VF, on the other hand, is compatible with this strategy (see (298c)) because the proposition 'John fed no animals' does stand in opposition to 'John fed the cat'. Consequently, the proposition in the context and the one in the reply have opposite truth-values and VF is indeed contrastive in the reply.

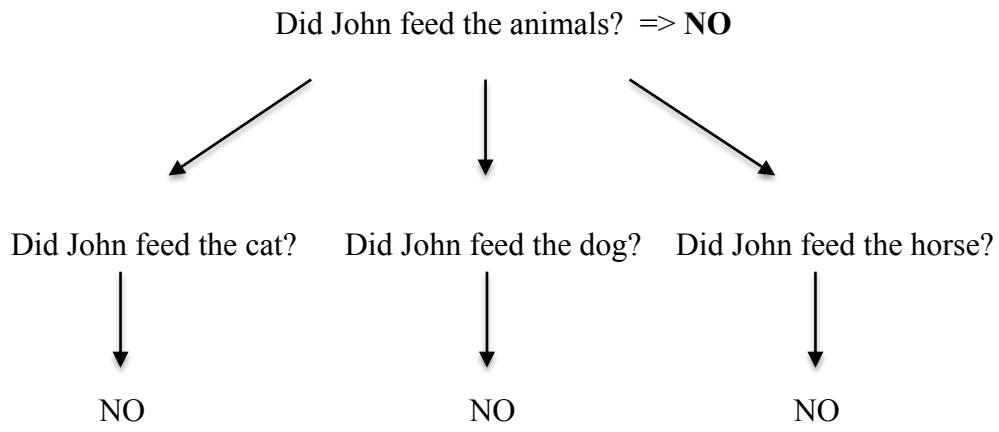
298. [Did John feed the cat?]$_{\text{CONTEXT}}$

a. No, John fed no animals/no one (including the cat).

b. # John fed no animals (but I don't know if John fed the cat)

c. (No), John fed no animals.

299.



Assuming that a sentence containing a negative quantifier has the interpretation given in (300), it is expected to be compatible with the speaker's beliefs given in (279) but not those in (280), as the latter requires that there exists an entity that is an element of a set of animals and that there exists a world *w* within (Dox(*w*)) in which it is true that John fed this entity, whereas (300) demands that the proposition 'John fed x' is false for every entity that is an element of the set of animals.

300. $\forall x$ [$x \in$ {a cat, a dog, a horse, …} ¬[John fed x]].

The strategy of contextual neutralization that can be applied to the delimiting focus operator and to universal quantifiers is unavailable for negative quantifiers because of the latter's direct association with the negative interpretation. To be precise, a question containing a negative quantifier cannot serve as a superquestion dominating a number of subquestions because a negative quantifier cannot act as a superset. A superset can be represented either by a plural noun with the interpretation that allows for subsets, or a wh-phrase that opens a semantic set. A negative quantifier, on the other hand, refers to an empty set. That is, while 'all animals' can form a superset for 'all cats' and 'all dogs'; and 'only smelly animals' can form a superset for 'only smelly cats' and 'only smelly dogs'; 'no animals' cannot form a superset for 'no cats' and 'no dogs'. In other words, negative quantifiers fail to be construed as belonging to any sort of set of alternatives. It is therefore expected that negative quantifiers can never be contained in a constituent with the interpretation of narrow CF in any type of construction.[102]

The above analysis supports the view that the notion of contrastive topic should be reduced to that of contrastive focus. CTs and CFs are both associated with identical interpretative features, which results in their identical syntactic behavior in Russian. The interpretive difference between the structures that host CT and CF is due to the nature of an additional focused element present in the sentence. Thus, a sentence hosting what is traditionally referred to as a CT additionally contains a NIF. The latter provides a focus value for an alternative proposition but fails to provide a focus value for the proposition in the context. The fact that the proposition in the context is left without a focus value results in the interpretation of incompleteness characteristic of Topic-Focus sentences.[103]

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[102] If a set of quantifiers of the type {no *x*, some *x*, all *x*} is imagined, then both the negative quantifier and the universal quantifier can be understood as occupying the edge positions on a scale, making the interpretation of *emphatic* foci available for them.

[103] The analysis presented here assumes that the difference in the interpretation of sentences that host either a CT or a CF is based on the value with respect to the <±contrastive> feature carried by an additional <-presupposed> element present in the sentence. This assumption accounts for the overwhelming majority of examples. There are, however, examples like in (i) below, which suggest that a more fine-grained classification of the additional element is needed. This is because the focus in the CT-FOC construction in (i) is not strictly speaking a NIF. That is, although the sentence in (i) does not provide a focus value to the proposition in the context, it is modified by the focus operator 'only', which results in an activation of alternative propositions that contain alternatives to 'a Toyota' and that

A sentence hosting what is conventionally analyzed as CF, conversely, contains a contrastive verum focus. This type of focus not only provides a truth-value for the alternative proposition but also treats the proposition in the context as having a contrasting truth-value. As both propositions receive a focus value, no questions are left unanswered and no interpretation of incompleteness arises. Instead, the presence of opposite truth-values results in the interpretation of counter-assertion.

Therefore, both CT and CF should be collapsed under one notion of CF that can occur in two different types of construction. Depending on the nature of the additional non-presupposed element present in the sentence that hosts a CF, two different interpretations arise.

The hypothesis that both notions, CT and CF, are associated with the features <-presupposed> and <+contrastive> successfully captures the observation that only these two notions can be associated with contrastive interpretation. Rather than claiming that Topics and Foci can be enriched to yield a contrastive interpretation, we can now simplify the grammar by stating that any non-presupposed constituent can be contrastive. This outcome is not as strong as stating that focus is always contrastive – because, as above illustrated, <-presupposed> can be <-contrastive> – but it entails that contrast is always non-presupposed. Indeed, according to the definition of contrast proposed here, a contrastive constituent always conveys the non-presupposed information that it belongs to a pragmatic set of alternatives. Consequently, even when no additional non-presupposed information is communicated by this constituent, it still must be analyzed as <-presupposed>.

The next section extends the discussion to other types of topics found in Russian and argues that these have the semantics that is parallel to that of CTs in that it also

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have an alternative truth-value. A way of capturing this would be to distinguish <+contrastive; +D-linked> elements from <+contrastive; - D-linked> categories. The former would include CTs, CFs and D-linked CVFs, whereas the latter would include EFs as well as VFs whose <+contrastive> construal is activated by a focus sensitive operator. If contrast activated without a reference to the previous context is characterized as unlinked, we can hypothesize that this type of contrast is allowed to co-occur with CTs, which would also account for the fact that EFs can easily co-occur with CTs.

(i) [What did Fred buy?]$_{\text{CONTEXT}}$

[John]$_{\text{CT}}$ bought only [a Toyota]$_{\text{FOC}}$, but I don't know what Fred bought

involves quantification over a pragmatic set of alternatives as well as quantification over worlds. Importantly, it will be claimed that A'-scrambling is not exclusively licensed by a <+contrastive> interpretation that involves selection out of a pragmatic set of alternatives, but by a broader notion of quantification over a pragmatic set of alternatives, of which contrast is only a part.

7.3 Other types of Russian topics

7.3.1 Partitive CTs

Franks and House 1982 observe that Russian has topicalization that involves an NP in the genitive plural form whose scope is determined by an argument of the clause, as in (301).

301. Romavov na stole bylo dva
novels.GEN.PL on table were.3rd.SG.Neuter two
'There were two novels on the table.'

(Franks and House 1982:157)

The head of the numeral phrase in (301) belongs to the type of Russian numerals (i.e. two, three and four) that take a genitive singular NP complement. Interestingly, while the topicalized NP *romanov* 'novels' carries a genitive case marker, it is, surprisingly, in a plural form. Franks and House 1982 argue that the topic NP cannot have been extracted from the argument *dva* 'two', exactly because the latter assigns the genitive singular, not the genitive plural. Hence, they propose that the genitive NP is an external topic that forms a constituent with a covert quantifier, which accounts for the genitive case marking. On their account, the overt quantifier raises at LF, licensing the null quantifier of the genitive constituent. However, as Franks and House (1982) themselves point out, the genitive topics, as in (301), are quite different from other external topics found in Russian (i.e. nominative topics) in that the genitives in (301) are not (obligatorily) followed by a pause. Moreover, the genitive topics require a quantifying expression in the clause that refers back to the genitive NP. Needless to say this cannot be said about other external topics.

I would like to argue that the above construction is better analyzed as a result of discourse-related A'-movement of the internal CT *romanov* 'novels'. The plural form of the CT results from the fact that the CT A'-moves not from the complement-to-the-numeral position but from the position of the complement to the head of a phonologically null NP that is the complement to the numeral. I propose that the complement-to-the-numeral position is occupied by an NP whose head is a <+D-linked> phonologically null noun that refers back to a discourse-salient superset of the set to which the CT belongs and that assigns partitive case to the CT (rather than genitive).

Let us first look at the possible contexts for the occurrence of the sentence given in (301). First of all, it can only occur in the context of a question that asks about the quantity of the novels rather than about the nature of the object lying on the table:

302. [Skol'ko romanov bylo na stole?]$_{\text{CONTEXT}}$
How many novels were there on the table?

[Romavov]$_{\text{CT}}$	na	stole	bylo	[dv**A**]$_{\text{FOC}}$…
novels.GEN.PL	on	table	were.3$^{\text{rd}}$.Sg.Neuter	two

'As for novels, there were two of them on the table.'

303. [Čto bylo na stole?]$_{\text{CONTEXT}}$
What was on the table?

#	[Romavov]$_{\text{CT}}$	na	stole	bylo	[dv**A**]$_{\text{FOC}}$
	novels.GEN.PL	on	table	were.3$^{\text{rd}}$.Sg.Neuter	two

This suggests that the focus in a structure of the type given in (301) can only be on the numeral, explaining why a question that licenses focus on the entire argument cannot precede it. That is, the sentence in (301) has a typical CT-FOC structure with the interpretation of NIF carried by the numeral and the interpretation of a CT conveyed by the fronted NP *romanov* 'novels'. The CT-FOC (or CF-NIF) structure of the sentence in (301) is further confirmed by the fronted NP carrying IK3 and the numeral IK1.

Moreover, the sentence in (301) has the interpretation of incompleteness that is typical of CT-FOC sentences. That is, the question in (302) can be answered by a simpler construction that does not involve a CT:

304. [Skol'ko romanov bylo na stole?]$_{\text{CONTEXT}}$
How many novels were there on the table?
\
Na stole bylo [dv**A**]$_{\text{FOC}}$ romana
on table were two novels.GEN.SG
'There were two novels on the table.'

The sentences in (302) and (304) are not only structurally different, their interpretation is also distinct: while (304) simply answers the question about the quantity of novels, (302) additionally conveys that there were more items on the table that are relevant for the discussion at hand for which the quantity is not known. Recall that a similar discourse-interpretation is conveyed by sentences hosting a discourse-anaphoric CT modified by –TO (see (237b)). However, in (302), there is no need need to use the morphological marker to denote a CT-FOC interpretation, as the relevant interpretation is disambiguated by the structure itself.

The sentence in (301) does not have to contain a *discourse-anaphoric* CT and can occur in a context that licenses a narrow-down or a replacing CT (see (305) and (306), respectively), but in each case, the statement containing the CT is incomplete in the sense that more items on the table, for which the quantity is not known, are considered as relevant for the discourse at hand:

305. [Skol'ko predmetov bylo na stole?]$_{\text{CONTEXT}}$
How many items were there on the table?
/ \
[Romavov]$_{\text{CT}}$ na stole bylo [dv**A**]$_{\text{FOC}}$…
novels.GEN.PL on table were.3$^{\text{rd}}$.SG.Neuter two

(a nasčët ostal'nyx predmetov ne znaju)
(but about other items not know)
'As for novels, there were two of them on the table (but I don't know about other items).'

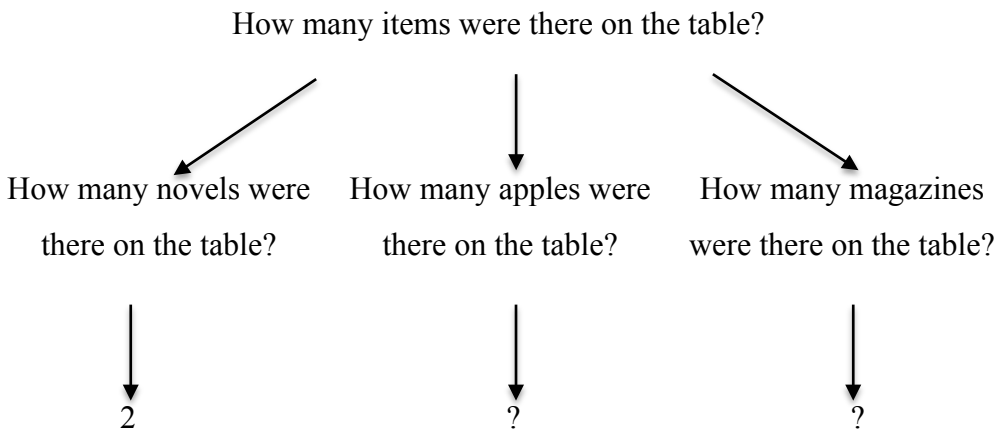
306. [Skol'ko jablok bylo na stole?]$_{\text{CONTEXT}}$
How many apples were there on the table?

/				\
[Romavov]$_{\text{CT}}$	na	stole	bylo	[dv**A**]$_{\text{FOC}}$…
novels.GEN.PL	on	table	were.3$^{\text{rd}}$.SG.Neuter	two

(a nasčët jablok ne znaju)
(but about apples not know)
'As for novels, there were two of them on the table (but I don't know about apples).'

Therefore, the interpretation of the topicalized constituent in (301), (302), (305) and (306) involves selection out of the set of items that were on the table:

307.



We have already seen that non-agreeing Russian numeral phrases, as in (301), are represented in syntax as QPs rather than NPs, which results in them having a non-

specific reading.[104] Since the focus in (301) is on the numeral alone and not on the entire argument, and the sentence can only answer a question about the quantity of novels, the numeral phrase must be represented in syntax syntax as a QP. As a result, the sentence cannot have an agreeing verb:

308.	*	Romanov	na	stole	byli	dva
		novels.GEN.PL	on	table	were.3rd.PL	two

As expected, the topic NP in (301) has a non-specific construal.[105] To be precise, its interpretation involves identification of a set of entities out of which a subset is selected. That is, the CT *romanov* 'novels' identifies a set of items that were lying on the table (see the superset in the superquestion in (307)) and selects a subset of novels for which the focus-value (i.e. the quantity) is provided. Importantly, even when the CT refers back to an identical discourse-antecedent, as in (302), the sentence itself activates the superset, as it conveyes that novels is just a subset of a set of items on the table that are relevant for the discourse at hand. Therefore, the superset for novels becomes discourse-salient at the point the sentence is uttered. This superset can include all the items on the table, or it can be more specific and refer to a particular type of items on the table, such as, for instance, all the reading materials on the table, or all the books on the table, etcetera.

The interpretation that involves identification of a set of entities out of which a subset is selected is known as *partitive* interpretation. In many languages, including Russian, partitive interpretation is expressed by an NP carrying partitive case. Partitive case is often analysed as an instance of inherent case[106] that is incompatible

[104] The observation that numeral phrases in sentences with default agreement cannot be interpreted as specific is further supported by the fact that such QPs cannot take an apparent wide scope typical of specific phrases (see (i) below).

(i)	Govorjat,	čto	každyj	examen	provalilo	dva	studenta
	they-say	that	every	exam.ACC	failed.3rd.Sg.Neuter	two	students

'They say that every exam was failed by two students.'

[∀>∃;*∃>∀]

[105] This goes against the claim made in Reinhart 1981 that topics are always specific/referential.

[106] Kiparsky (1997) demonstrates that partitive case behaves syntactically like a structural case but is at the same time semantically conditioned.

with the interpretation of definiteness and is assigned if no case (Nominative or Accusative) is assigned otherwise (Belletti 1988). In Modern Russian, the partitive forms are used only sporadically (Paus 1994), and partitive interpretation can in principle be expressed even with 'normal' genitive forms. Moreover, genitive and partitive forms typically coincide in Russian, with only few exceptions involving mass nouns:

309.	V	stakane	bylo	dostatočno	čaja/ čaju
	In	glass	was. 3rd.SG	enough	tea.GEN/PART
	'There was enough tea in the glass.'				

310.	Na	stole	stojalo	tri	stakana	čaja/ čaju
	On	table	stood.3rd.SG	three	glasses	tea.GEN/PART
	'There were three glasses of tea on the table.'					

The NP *čaju* 'tea.PART' in (309) and (310) has a form that is different from the 'normal' genitive form *čaja* 'tea.GEN' The former has been refered to in the linguistic literature as 'quantificational genitive' (Kiparsky 1997) and has been argued to be an instance of partitive case (Jakobson 1936, Neidle 1988, Franks 1995) similar to its Finnic counterpart that is used to express partiality/indefiniteness (Koptjevskaja-Tamm 2001).

When the NP in (310) is fronted as a CT, it is more natural to use the partitive form for it than the genitive form:

311. [Skol'ko stakanov s napitkami stojalo na stole?]$_{CONTEXT}$
How many glasses with drinks stood on the table?

		/				\	
a.		[Čaju]$_{CT}$	na	stole	stojalo	[tr**I**]$_{FOC}$	stakana…
		tea.PART	on	table	stood.3rd.Sg	three	glasses
		'As for tea, there were three glasses of it on the table.'					
		/				\	
b.	?	[Čaja]$_{CT}$	na	stole	stojalo	[tr**I**]$_{FOC}$	stakana…
		tea.GEN	on	table	stood.3rd.Sg	three	glasses

The sentence in (311b) is as infelicitous as the one in (312b):

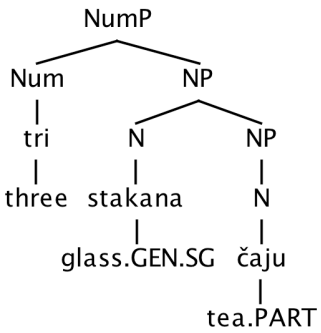
312. [Skol'ko predmetov bylo na stole?]$_{\text{CONTEXT}}$
How many items were there on the table?

		/				\
a.		[Romanov]$_{\text{CT}}$	na	stole	bylo	[dv**A**]$_{\text{FOC}}$…
		novels.GEN.PL	on	table	were.3$^{\text{rd}}$.Sg.Neuter	two
		'As for novels, there were two of them on the table.'				
		/				\
b.	?	[Romana]$_{\text{CT}}$	na	stole	bylo	[dv**A**]$_{\text{FOC}}$…
		novels.GEN.Sg	on	table	were.3$^{\text{rd}}$.Sg.Neuter	two

The parallelism between (311) and (312) suggests that the structure of (312a) might be similar to the one in (311a), with the CT *romanov* 'novels' carrying not only partitive interpretation but also partitive case. As partitive interpretation and partitive case can only be assigned to quantitavely indeterminate nouns, such as plural and mass nouns, it is unsurprising that (312b) is infelicitous.

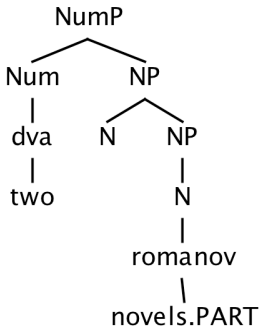
The question that remains to be answered is what head assigns partitive case to the CT in (312a). Since the numeral can only take a genitive singular complement, this head is not an optimal candidate for assigning partitive case. Moreover, in (311a), it is not the numeral that takes the partitive NP as its complement. There, inherent partitive case is assigned to the topic NP by the head of the genitive singular NP that is the complement to the numeral:

313.



By analogy, we can hypothesize that the numeral in (312a) also takes an NP complement whose head assigns inherent partitive case to the topic NP but here the head of the complement to the numeral is phonologically null:

314.



Assuming that the analysis in (314) is on the right track, we must now determine what the nature of the null head of the NP is. As a starting point, it is worth noting that the numeral in (312a) can take an NP complement with an overt head that assigns partitive case to its complement NP:

315. [Skol'ko predmetov bylo na stole?]$_{\text{CONTEXT}}$
How many items were there on the table?

/ \

[Romanov]$_{\text{CT}}$	na	stole	bylo	[dv**E**]$_{\text{FOC}}$	štuki…
novels.PART	on	table	were	two	pieces.GEN.SG
jablok	(na	stole	bylo)	tri	(štuki),
apples.PART	(on	table	were)	three	(pieces.GEN.Sg)
a	žurnalov	(na	stole	bylo)	četyre	(štuki)
and	magazines.PART	(on	table	were)	four.	(pieces.GEN.Sg)

'There were two pieces of novels on the table, (three (pieces of) apples and four (pieces of) magazines).'

The sentence in (315) contains a non-referential semantically contentless overt noun that assigns partitive case to the NP *romanov* 'novels'. Interestingly, it is also possible to use a semantically contentful noun for the same purpose. Namely, the one that refers back to the superset out of which the subset of novels is selected:

316. [Skol'ko predmetov bylo na stole?]$_{\text{CONTEXT}}$
How many items were there on the table?

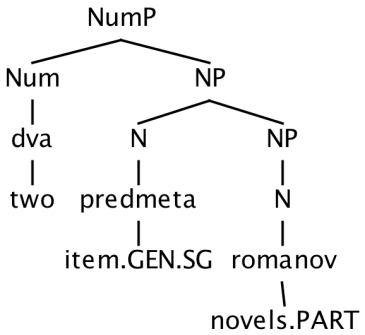
/ \

[Romanov]$_{\text{CT}}$	na	stole	bylo	[dv**A**]$_{\text{FOC}}$	predmeta
novels.PART	on	table	were	two	items.GEN.Sg
jablok	(na	stole	bylo)	tri	(predmeta),
apples.PART	(on	table	were)	three	(items.GEN.Sg)
a	žurnalov	(na	stole	bylo)	četyre (predmeta)
and	magazines.PART	(on	table	were)	four. (items.GEN.Sg)

'There were two pieces of novels on the table, three (items of) apples and four (items of) magazines.'

The NumP in (316) has the structure that is identical to the one given in (313):

317.



In (317), the numeral selects a genitive singular NP complement whose head refers back to the superset in the QUD. This head, in turn, takes the partitive NP as its complement.

In the Topic-Focus structures in (315) and (316), the head of the genitive singular NP is either contentless or <+D-linked>. As all other discourse-anaphoric or contentless elements, the head of the genitive singular complement to the numeral must be destressed (when pronounced).

As already mentioned, the superset for (301) does not have to refer to all the items on the table and can include only a specific type of items lying on the table, such as for instance books:

318. [Skol'ko knig bylo na stole?]$_{CONTEXT}$

How many books were there on the table?

/ \

[Romanov]$_{CT}$	na	stole	bylo	[dv**E**]$_{FOC}$	knigi
novels.PART	on	table	were	two	books.GEN.Sg
stixov	(na	stole	bylo)	tri	(knigi),
poems.PART	(on	table	were)	three	(books.GEN.Sg)

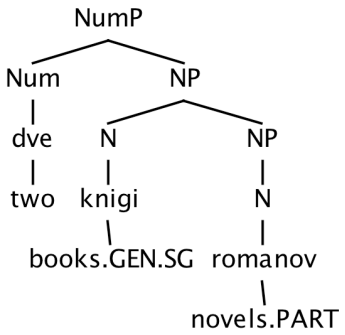
\

a	slovarej	(na	stole	bylo)	četyre	(knigi)
and	dictionaries.PART	(on	table	were)	four.	(books.GEN.Sg)

'There were two books of novels on the table, (three (books of) apples and four (books of) magazines).'

The structure for the NumP in (318) is given in (319):

319.



Notably, in the absence of topicalization the noun assigning partitive interpretation must be overtly present:

320. a. Na stole bylo dve knigi romanov
on table were two book.GEN.SG novels.PART
'There were two books of novels on the table.'

b. * Na stole bylo dve romanov
on table were two novels.PART

However, as contrastive topicalization itself forces partitive interpretation of the CT *romanov* 'novels' and hence the salience of the superset in the discourse, the head of the genitive NP can be covert in a CT-FOC sentence. Arguably, the option of leaving the head of the releant NP covert relies on two factors: (i) recoverability of its discourse-referent from the semantics of the sentence, and, (ii) flexibility of its semantic referent. In (301), the covert head of the NP complement to the numeral is obligatorily interpreted as referring back to a discourse-salient superset of which the CT is a subset. Yet, the semantic referent for the superset is not defined. That is, the null head can refer to any type of superset - either of all items on the table, or all reading materials on the table, or all books on the table - suggesting that the null head has an implied discourse-referent but not necessarily a specific semantic referent.

As shown in (316) and (318), the overt head of the genitive NP may be interpreted as having a specific semantic referent. Yet, as demonstrated in (315), this head can be semantically empty and non-referential. I would like to propose that whenever the semantic referent for the head of the genitive NP is open but the discourse-referent is salient due to the obligatory partitive interpretation of the CT, the noun assigning partitive case to the CT can be covert, as its referent is interpreted but not defined.[107] In the latter case, the null head has to agree in phi-features with its partitive complement because the partitive NP is the only constituent carrying an m-case marker. As a result, the numeral also agrees with the partitive NP in gender features.

[107] Similarly, optional arguments of predicates can be omitted because they are interpreted but not defined.

Since the partitive topic in (301) is a CT, its interpretation must involve quantification over a pragmatic set of alternatives as well as quantification over a set of worlds. Assuming as before, that CTs have focus semantics, the contrastive reading for the sentence in (301) can be represented as in in (321).

321. a. <λ*x*λ*y* [*x* items of *y* were on the table], 2, novels,{1, 2, 3, ...}{novels, apples, pens, magazines, …}>

b. ∃*y*[*y* ∈ {novels, apples, pens, magazines, …}& *y*≠novels & ∃*w*[*w* ∈ Dox(*s*) & *x*=2] & ∃*w'* [*w'* ∈ Dox(*s*) & *x*≠2]]

In this subsection we have argued that an analysis of (301) as a typical case of a CT-FOC structure goes hand in hand with the hypothesis that the fronted CT carries partitive case assigned by a null head of the complement to the numeral whose referent is interpreted but not defined. The next subsection looks at another type of topic found in Russian, namely, generic topics. It will be argued that the interpretation of generic topics also involves quantification over a pragmatic set of alternatives and quantification over a set of worlds. However, it will be shown that the two types of quantification found with generic topics are quite different from those involved in the interpretation of CTs, with the outcome that Russian A'-scrambling must be licensed not strictly by <+contrastive> interpretation that involves selection out of the set of alternatives but by any type of quantification over a pragmatic set of alternatives.

7.3.2 Generic topics

In section 7.1, we have argued that sentences hosting CF or CT involve two types of quantification: (i) quantification over a discourse-salient set of alternatives, and, (ii) quantification over a set of worlds within the speaker's beliefs. In this subsection, we will look at a further type of topic, namely, *generic topics* (henceforth GTs), as in (322), and demonstrate that their interpretation also involves quantification over a pragmatic set of alternatives and over a set of worlds.

322. [Začem ty stol'ko pirožnyx na stol vyložila? Kto vse eto s"est?]$_{CONTEXT}$
Why did you put so many cakes on the table? Who'll eat all of this?

	/		\
Ničego.	[Sladkoe]$_{GT}$	ljubjat	[vs**E**]$_{FOC}$
nothing	sweets-treats.ACC	love	everyone

'Don't worry. Everyone loves sweet treats.'

The term generic topic is used here to refer to constituents that are topicalized in generic statements, as in (322).[108] GTs are not perceived as contrasted with a member of a set of alternatives (replacing topics) or as selecting out of such a set (narrow-down topics).[109] Instead, they generalize over a set of alternatives. In a sense, they are the mirror image of narrow-down topics.

We have seen that the expanding strategy is incompatible with the interpretation coveyed by sentences hosting either a CF or a CT. This is because the interpretation of both requires that there exists an entity *x* that is an element of the set of alternatives {x, y, …} and that there exists a world within the speaker's beliefs in which it is not true that a proposition P can be applied to *x*, whereas an expanding strategy demands that the proposition P can be applied to every entity that is an element of the set of alternatives.

However, it is clear that the expanding strategy itself involves quantification over a pragmatic set of alternatives, namely, a GT generalizes over such a set. An activation of a pragmatic set of alternatives is therefore necessary for the interpretation of a sentence hosting a GT. Yet, a generalization over a set is interpretatively quite distinct from a selection out of a set. As a result, generic topics are not perceived as contrastive. That is, the GTs themselves are not construed as contrasted to any other entity or individual, and the sentences that host them do not have the interpretation of incompleteness typical of sentences containing CTs.

Nevertheless, the syntactic behaviour and prosodic realization of GTs is identical to that of CTs in Russian, strongly suggesting that Russian A'-scrambling is licensed not merely by the <+contrastive> feature but by the broader

[108] Neither partitive CTs nor GTs are referential suggesting that topics do not have to be specific (contra Reinhart 1981).

[109] Recall that our definition of contrast requires that the relevant interpretation is activated by the sentence itself.

<+quantificational> feature that refers to quantification over a pragmatic set of alternatives. That is, the constituent that undergoes A'-scrambling must be <+pQ>, where pQ stands for pragmatic quantification.[110]

In the previous sections, we have argued that the interpretation of CFs and CTs involves not only quantification over a pragmatic set of alternatives but also quantification over a set of worlds. The worlds for CTs and CFs are defined in terms of speaker's beliefs. That is, within the speaker's beliefs may exist worlds in which some propositions are true and others are false. Generic statements, conversely, convey that a certain proposition is either always true or always false. Moreover, it is always true or false not within a specific speaker's beliefs but within the knowledge that is assumed to be shared if not by everyone than by the majority. For instance, the statement in (322) conveys that it is part of the common knowledge that the proposition 'x loves y', where x is a member of a set of individuals and y is a member of a set of sweets, generally applies to every member of both sets.

To capture the type of quantification over worlds that is conveyed by sentences hosting GTs, I would like to adopt the idea proposed by Fox and Sauerland (1996) that generic statements of the type given in (322) involve quantification over situations, with the focus of the sentence providing the restriction on the domain of application of the generic interpretation:

---

[110] Fanselow and Lenertová (2011) consider data involving A'-scrambling of generic topics, as in (i) below, but seem to assume that an analysis that makes reference to information structure is unable to account for them.

(i) a. [Den Josef]$_i$ mag jeder t_i . (Ge)
the.ACC Josef likes everybody.NOM

b. Josefa$_i$ (každý) uznává (každý) t_i (Cz)
Josef.ACC everybody.NOM appreciates everybody.NOM
'Everybody appreciates Josef.'

Fanselow and Lenertová (2011:1)

323. Every situation *s*, such that [sweets are loved by **someone** in *s*]*Restrictor* is a situation in which [sweets are loved by everyone]*Nucleus*

Generic statements can therefore be seen as activating a set of situations in each of which the proposition 'x loves sweets' applies to everyone. If the set of situations is represented as a set of doxastically accessible worlds, the interpretation of (322) can be formalized as in (324).

324. $\forall x$ [$x \in$ {John, Mary, Sue,…} & $\forall y$ [$y \in$ {cakes, lollypops, chocolate, ...}& $\forall w[w \in \text{Dox}(s)$ [x loves y]]].

Since GTs involve generalization over a set of entities/individuals and a quantification over a set of situations, they can quite easily occur out of the blue. That is, no previous context is required for a statement that conveys that every member of some set of entities or individuals has a certain property in all situations.

We have seen in the previous chapters that in Russian, the much favoured transparent mapping of syntactic structures onto information-structural representations built in accordance with (28) results in NIF following background and in A'-fronted CF and CT reconstructing for scope below background in the default case. However, as <+pQ; -presupposed> constituents tend to surface in non-final A'-scrambled positions in Russian, the information-structural level must include an additional well-formedness constraint that makes reference to pragmatic quantification. Moreover, given the optional status of A'-scrambling, the mapping rule in (30) must be analyzed as allowing more flexibility when associating syntactic structures with information-structural representations that encode the <+pQ> feature. The next section introduces the relevant well-formedness constraint and proposes an analysis that captures the optional status of the transparent mapping onto an information-structural representation that obeys this constraint.

7.4 Optionality of A'- scrambling

The argument put forward in the present manuscript is that the syntax of languages like Russian is sensitive to information-structural interpretations that refer to pragmatic presupposition and pragmatic quantification. Thus, A-scrambled orders are licensed by the interpretative need for <+presupposed> material to linearly precede <-presupposed> constituents. Whenever the interpretation of a <-presupposed> constituent involves quantification over a pragmatic set of alternatives, it is allowed to undergo A'-movement but is interpreted in the launching site dictated by (28).

On the other hand, A'-scrambling in Russian, although much favored, is optional. That is, it is possible to interpret a clause-final focus in (325), below, as contrastive, as long as IK2 is placed on it.[111]

325. [Ivan kupil Volkswagen?]CONTEXT
'Did Ivan buy a Volkswagen?'

a. Net, Ivan kupil [Toy**O**tu]CF (a ne Volkswagen)
no Ivan bought Toyota.ACC (and not Volkswagen)
'No, Ivan bought a Toyota, (not a Volkswagen).'

b. Net, Volkswagen kupil [Bor**I**s]CF (a ne Ivan)
no Volkswagen.ACC bought Boris (and not Ivan)
'No, Boris bought a Volkswagen, (not Ivan).'

To account for the optionality of A'-scrambling, I would like to partly adopt the theory introduced by Bobaljik and Wurmbrand (2008) and Wurmbrand (2008) that they refer to as the ¾ signature. The core idea behind this theory is that there exist 'soft' (violable) constraints (economy conditions) that value a particular type of correspondence between LF and PF representations. For instance, UG includes an economy condition that favors isomorphism between LF (scope) and PF (linear order) representations, which is dubbed by the authors as ScoT (for Scope Transparency).

[111] Sentences like those in (325) are judged by native speakers as less felicitous than their A'-scrambled variants (Brun 2001).

These constraints are uni-directional: LF (broadly construed) is calculated first, and determines PF (surface word order). The interaction of these constraints yields a 'signature effect', which Bobaljik and Wurmbrand call the ¾ signature. That is, taking one LF property and one PF property, what we frequently find is that three of the four logical combinations are grammatical, which results in the occurrence of optionality.

To remain faithful to the present analysis, instead of adopting ScoT – an economy condition that favours correspondence between LF and PF, I would like to argue that the faithfulness constraint operative in Russian is the one that favours transparent mapping of syntactic structures onto an information-structural template (i.e. (30)). As before, I will assume that the mapping from syntax onto the discourse is indirect. That is, what is mapped onto the information-structural template is a PF representation that inherits syntactic markedness. In other words, the mapping is between two hierarchically flat representations but since PF is sensitive to the syntactic structure in its input, certain information about the nature of this structure can be read off the PF representation.

In the case of argument A'-scrambling, the marked nature of the syntactic representation that is input to PF can be detected on the basis of it containing a movement operation, or more precisely, a displaced argument. PF recovers the marked nature of the syntactic representation in its input by placing a prominent intonational contour (i.e. IK2 or IK3) on the moved argument.

The isomorphism condition between syntax and information structure has already been touched upon when A-scrambled structures regulated by the rule in (89) were discussed. In that case, the isomorphism between syntax and information structure can be said to be fully satisfied in Russian, with no optionality present. That is, an unmarked structure that fails to be mapped transparently onto an information-stuctural representation that obeys (28) is consistently replaced by a marked structure that obeys (28) whenever both structures can be generated by syntax.[112, 113]

Assuming that movement is a syntactic process, an A'-scrambled structure can also be analysed as resulting from the need for transparent mapping onto a discourse

[112] We have seen that this observation holds unless an unmarked structure for a given truth-conditional interpretation fails to be generated altogether.

[113] The current analysis predicts that there could be languages that have the option of producing unmarked structures that require twisted mapping onto information structure along with marked structures that do not. We have argued that German is one such language.

template that obeys an information-structural well-formedness constraint that makes reference to pragmatic quantification (see also Neeleman et al 2009, Neeleman and van de Koot 2008 for an analysis of A'-scrambling as marking contrastive scope). It should be noted, however, that the interpretation that an A'-scrambled structure captures is not one that is unavailable for a structure without movement. Quite the contrary, the latter can easily fit exactly the same context and convey exactly the same discourse interpretation as the former (see (325)). However, as will be shown below, the reverse is not true: the structure with A'-scrambling is not capable of capturing all the discourse interpretations as the structure without movement. As a result, the former is compatible with fewer contexts than the latter.

It can therefore be hypothesized that A'-scrambling restricts the set of available discourse interpretations, disambiguating in this way the information-structural interpretation of the sentence. Therefore, the interpretative effect that an A'-scrambled structure achieves has to do not with capturing an interpretation that its unmarked variant fails to express but with excluding an interpretation that the unmarked variant includes.

Let us first briefly consider how the ¾ signature works for the data discussed by Bobaljik and Wurmbrand (2008) where the interpretative effect achieved at the discourse level has to do with the transparent mapping onto a particular information-structural template. We will then apply the ¾ signature analysis to the data, where the relevant interpretative effect has to do with the exclusion of a particular interpretation.

As an example of the former, I will discuss Dutch data involving A'-scrambling across a <-presupposed> constituent that Bobaljik and Wurmbrand (2008) borrow from Neeleman and van de Koot 2008. Neeleman and van de Koot (2008) assume that in informational-structural representations focus-background structures can be part of a comment, but topic-comment structures cannot be embedded in a background. In other words, the IS representation in (326b) is ill-formed.

326. Information structure.

a. topic [COMMENT FOCUS [BACKGROUND ...]]

b. ***FOCUS [BACKGROUND topic [COMMENT ...]]**

If this assumption is combined with the hypothesis that A'-scrambling marks (part of) the comment/background of a moved topic/focus, then the data pattern in (327) and

(328) can be accounted for: A'-scrambling of the focused constituent across a topic is disallowed (see (327b)), whereas a topic can undergo optional A'-scrambling across a focus (see (328b)).

327. A: *Hoe zit het met FRED? Wat heeft HIJ gegeten?*
'What about Fred? What did he eat?'

B: *Nou, dat weet ik niet, maar...*
'Well, I don't know, but...'

a. *ik geloof dat* [*Wim*]$_T$ [*van de BONEN*]$_F$ *gegeten heeft*
I believe that Wim from the beans eaten has
'I believe that Bill has eaten from the beans.'

b. *#ik geloof dat* [*van de BONEN*]$_F$ [*Wim*]$_T$ t$_F$ *gegeten heeft*
I believe that from the beans Wim t eaten has

328. A: *Hoe zit het met de SOEP? Wie heeft DIE gegeten?*
'What about the soup? Who ate that?'

B: *Nou, dat weet ik niet, maar...*
'Well, I don't know, but...'

a. *ik geloof dat* [*WIM*]$_F$ [*van de bonen*]$_T$ *gegeten heeft*
I believe that Wim from the beans eaten has
'I believe that Bill has eaten from the beans.'

b. *ik geloof dat* [*van de bonen*]$_T$ [*WIM*]$_F$ t$_T$ *gegeten heeft*
I believe that from the beans Wim t eaten has
'I believe that Bill has eaten from the beans.'

Bobaljik and Wurmbrand (2008) argue that the data in (327) and (328) can be accounted for by applying the ¾ signature analysis to it. The analysis is based on the idea that the canonical (base) order among arguments is privileged in a particular sense. Bobaljik and Wurmbrand (2008) assume that movement is "costly" and thus requires a motivation in order to offset those costs, an assumption they express as *MOVE (cf. the idea of movement as a Last Resort in Chomsky's 1995 version of

Minimalism). Movement is permitted when it provides a better reflection of some aspect of interpretation than the sentence would without movement. In the cases at hand, the topic-focus structure may or may not align with the canonical order. When the two are misaligned, movement provides a better reflection of the topic-focus relations, but the trade-off is a non-canonical, and thus costly, word order. Under Bobaljik and Wurmbrand's (2008) approach, such a trade-off generally results in the appearance of optionality. But in the case of (327b), there is no trade — movement is unmotivated, and hence disallowed.

Table 1, below, illustrates the Dutch paradigm from Bobaljik and Wurmbrand's (2008) perspective. The relevant LF notion here is Information Structure.[114] ScoT values faithfulness of PF to this structure, and A'-scrambling is "free" (not feature-driven or required for convergence), but costly (*MOVE). The interaction of the constraints in Table 1 results in the emergence of the ¾ paradigm:

T 1: Dutch		**LF_{IS}**	**PF**	ScoT	***MOVE**
(327a)	✓	A [TOP] » B [FOC]	A [TOP] » B [FOC]	✓	✓
(327b)	* (A'-scrambling)	A [TOP] » B [FOC]	B [FOC] » A [TOP]	*	*
(328a)	✓	B [TOP] » A [FOC]	A [FOC] » B [TOP]	*	✓
(328b)	✓(A'-scrambling)	B [TOP] » A [FOC]	B [TOP] » A [FOC]	✓	*

In our terms, the Dutch data can be analysed as involving transparent mapping from PF onto information structure, as long as it is assumed that PF makes certain syntactic information visible. The ¾ signature analysis successfully captures the observation that a marked syntactic representation is allowed only when it reflects some aspect of interpretation better than its unmarked variant. In the case at hand, a marked A'-scrambled representation maps transparently onto an information-structural template that obeys the well-formedness constraint that requires the following information-structural partitioning: TOP » FOC, whereas the unmarked structure without movement requires twisted mapping.

Let us now move on to the analysis of optionality of A'-scrambling that does not cross any other <-presupposed> elements. We have hypothesized that this type of A'-

[114] Bobaljik and Wurmbrand (2008) adopt (326) but express is as TOP » FOC. They also seem to assume that information structure is part of LF.

scrambling restricts the set of available discourse interpretations, disambiguating in this way the information-structural interpretation of the sentence. In particular, we have observed that an A'-scrambled constituent is obligatorily interpreted as <+pQ>, whereas a <-presupposed> constituent that does not A'-scramble admits a <-pQ> construal. We can therefore hypothesize that discourse includes, along with (28), a well-formedness constraint that makes reference to pragmatic quantification:

329. *Information Structural Well-Formedness Constraint*

$[_{IP} <+pQ>_1 \ldots \ t_1] \ [_{IP} \ldots <-pQ>]$

Transparent mapping onto the discourse template that obeys the constraint in (329) results in an A'-scrambled constituent being interpreted as <+pQ> and an in situ constituent as <-pQ>. The interpretative license for A'-scrambling can therefore be stated as in (330).

330. *Interpretative licence for A'-scrambling* *(to be revised)*
Interpret an argument in an A'-scrambled position as <+pQ> .

Note that the licence in (330) says nothing about the interpretation of focus in clause-final position. This is because an unmarked structure with no movement does not require an interpretative licence. Consequently, an unmoved focus should admit both <+pQ> and <-pQ> readings. In other words, a clause-final focus is interpretatively ambiguous. Although other tools such as prosody can be used to disambiguate the interpretation of a clause-final focus, they are not always available. Thus, in the written language, the interpretation of focus as regards the presence or absence of a <+pQ> reading can only be disambiguated by means of structure and to a certain extent context. There is therefore a tendency to interpret a clause final focus as <-pQ> unless there is an adequate overt indication that such focus is enriched to yield a contrastive interpretation.

I would like to argue that the ambiguity of the sentence-final focus is a result of the option of twisted mapping onto the information-structural template that obeys (329). That is, although the constraint in (329) is inviolable, twisted mapping onto an information-structural template that obeys it should allow for a moved focus to be

<-pQ> and the unmoved focus to be <+pQ>. As argued below, the first option is ruled out by economy, whereas the second is not.

Hence, A'-scrambling provides a better reflection of the information structure of the sentence by distinguishing <+pQ> focus from <-pQ> new information focus via placing the focus in a position where the <-pQ> reading is impossible, but the trade-off is a costly structure.

Under Bobaljik and Wurmbrand's (2008) approach, such a trade-off generally results in the appearance of optionality (see (325) above and (331)). Conversely, in sentences that contain new information foci, as in (332) and (333), there is no trade, so movement is unmotivated, and hence disallowed:[115]

331. [Ivan kupil Volkswagen?]CONTEXT
'Did Ivan buy a Volkswagen?'

a. Net, Ivan [Toy**O**tu]CF1 kupil t_1 (a ne Volkswagen)
no Ivan Toyota.ACC bought (and not Volkswagen)
'No, Ivan bought a Toyota, (not a Volkswagen).'

b. Net, Volkswagen [Bor**I**s]CF kupil t_1 (a ne Ivan)
no Volkswagen.ACC Boris bought (and not Ivan)
'No, Boris bought a Volkswagen, (not Ivan).'

332. [Čto Ivan kupil?]CONTEXT
'What did Ivan buy?'

a. Ivan kupil [Toy**O**tu]NIF
Ivan bought Toyota.ACC
' Ivan bought a Toyota.'

b. # Ivan [Toy**O**tu]NIF1 kupil t_1
Ivan Toyota.ACC bought

[115] The replies in in (332b) and (333b) are possible only under the emphatic interpretation, which is analyzed here as contrastive.

333. [Kto kupil Volkswagen?]CONTEXT
'Who bought a Volkswagen?'

a. Volkswagen kupil [Bor**I**s]NIF
Volkswagen.ACC bought Boris
'No, Boris bought a Volkswagen.'

b. # Volkswagen [Bor**I**s]NIF1 kupil t_1
Volkswagen.ACC Boris bought

Table 2, below, illustrates the Russian focus paradigm. The mapping between PF and information-structure is mediated by (30) – a condition that favours a particular type of correspondence between PF representations and discourse templates. We have previously hypothesized that PF is sensitive to certain syntactic information in its input. In the case of A'-scrambling, it detects the presence of a misplaced argument in a marked syntactic representation containing A'-scrambling and makes visible the marked nature of the syntactic representation in its input through stress-shift to the argument and placement of a specific intonational contour on it (e.g. IK2).[116]

The information-structural constraint in (329) demands that a misplaced argument is <+pQ> and otherwise <-pQ>. Grammar produces PF representations that either reflect this interpretative restriction or not and therefore either satisfy the information-structural requirement or not. On the other hand, *MOVE forces syntax to produce simple structures. Following Bobaljik and Wurmbrand (2008), I assume that A'-scrambling is "free" (not feature-driven or required for convergence), but costly (*MOVE).

[116] The stress-shift operation in the case of A'-scrambling cannot be considered a marked operation, as there is no alternative PF representation without a stress-shift. That is, whenever a syntactic representation contains A'-scrambling, the Nuclear Stress Rule can no longer apply.

T 2: Russian		IS	PF	(30)	*MOVE
(a)	✓	$[_{IP}$<+pQ>$_1 \ldots t_1][_{IP} \ldots$<-pQ>$]$	$[_{IP} \ldots$<-pQ>$]$	✓	✓
(b)	* (A'-scrambling)	$[_{IP}$<+pQ>$_1 \ldots t_1][_{IP} \ldots$<-pQ>$]$	$[_{IP}$<-pQ>$]_1 \ldots t_1]$	*	*
(c)	✓	$[_{IP}$<+pQ>$_1 \ldots t_1][_{IP} \ldots$<-pQ>$]$	$[_{IP} \ldots$<+pQ>$]$	*	✓
(d)	✓ (A'-scrambling)	$[_{IP}$<+pQ>$_1 \ldots t_1][_{IP} \ldots$<-pQ>$]$	$[_{IP}$<+pQ>$_1 \ldots t_1]$	✓	*

Table 2 illustrates the interpretative effect of A'-scrambling that involves abolition of the <-pQ> reading. The information-structural constraint here distinguishes <+pQ> focus from <-pQ> focus via A'-movement. Grammar produces PF representations with or without A'-scrambling. The ¾ paradigm demonstrated in Table 2 results from three out of four combinations satisfying at least one of the two constraints. Thus, the structure with no A'-scrambling in T.2(a) satisfies both constraints as it contains no movement and the <-pQ> focus surfaces in clause-final position. The structure in (b), conversely, violates both constraints, as it does not only contain movement, it contains movement that does not get rid of the <-pQ> reading. That is, for an A'-scrambled focus to be interpreted as <-pQ> twisted mapping onto (329) is required. Notably, the structure in T.2(b) fails to be licensed by (330). The structure in (c) satisfies *MOVE, as it does not involve movement, but violates (30) because it does not linearly represent the information structure of the sentence and must therefore contain twisted mapping. Finally, the structure in (d) violates *MOVE but satisfies the information-structural condition. The data in (334) and (335) illustrate the emerging ¾ paradigm:

334. Čto Ivan kupil?
'What did Ivan buy?'

a. Ivan kupil [Toy**O**tu]$_{NIF}$
Ivan bought Toyota.ACC
'Ivan bought a Toyota.'

b. # Ivan [Toy**O**tu]$_{NIF1}$ kupil t_1
Ivan Toyota.ACC bought

335. Ivan kupil Fiat?
'Did Ivan buy a Fiat?'

\

a. (Net) Ivan kupil [Toy**O**tu]$_{CF}$
no Ivan bought Toyota.ACC
' No, Ivan bought a Toyota.'

\

b. (Net) Ivan [Toy**O**tu]$_{CF}$ kupil t_1
no Ivan Toyota.ACC bought
' No, Ivan bought a Toyota.'

As can be seen from (334a) and (335a), the unmarked structure without A'-scrambling is allowed regardless of the presence/absence of the <-pQ> reading, as it always satisfies *MOVE and is therefore the most economical structure. The marked structure with A'-scrambling, conversely, is allowed iff the moved constituent is <+pQ> (see (334b) and (335b)).

Therefore, the ¾ signature analysis successfully captures the interaction of the information-structural constraint in (329) and the principles of economy that results in the appearance of optionality of A'-scrambling. However, we have not yet said anything about the positions targeted by movement. In Russian, a <+pQ> focus tends to move to a position immediately before a verb. However, it is also possible for it to move further to the left within the clause, as well as undergo long-distance movement. Although, it can be postulated that a displaced <+pQ> constituent can in principle adjoin to any maximal projection (e.g. VP or IP), it is still unclear what licenses a longer chain, considering that movement to a VP-adjoined position already serves the purpose of disambiguating this constituent as <+pQ>. Ideally, structures with a longer A'-chain should be interpretatively distinct from structures with a shorter A'-chain. Otherwise, one is expected to block the other by economy.

We have hypothesized that A'-scrambling restricts the set of available discourse interpretations, disambiguating in this way the information-structural interpretation of the sentence. Thus, an A'-scrambled <-presupposed> constituent is obligatorily <+pQ> whereas the interpretation of an in situ focus is ambiguous with respect to the <±pQ> interpretation. We may therefore expect that each step of A'-scrambling has an interpretative effect in that it restricts the set of available discourse interpretations

even further. By hypothesis, the nature of this restriction has to do with the availability of contrastive (or pragmatically quantificational) interpretation for various constituents in the sentence.

Here is how this restriction applies in Russian. A Russian SVO sentence with no movement (or stress-shift) can be interpreted as

(i) having no contrastive constituents at all (see (336a)), or
(ii) having a contrastively focused object (see (336b)), or
(iii) having a VP-wide contrastive focus (see (336c)), or
(iv) having an IP-wide contrastive focus (see (336d)):

336. a. Čto proisxodit?
What's happening?
\
[Ivan moet pos**U**du]$_{NIF}$ [SVO]$_{NIF}$
Ivan washes dishes.ACC
'Ivan is washing the dishes.'

b. Ivan moet mašinu?
Is Ivan washing a car?
\
(Net), Ivan moet [pos**U**du]$_{CF}$ SV[O]$_{CF}$
(no) Ivan washes dishes.ACC
'(No) Ivan is washing the dishes.'

c. Ivan delaet uroki?
Is Ivan doing his homework?
\
(Net), Ivan [moet pos**U**du]$_{CF}$ S[VO]$_{CF}$
(no) Ivan washes dishes.ACC
'(No) Ivan is washing the dishes.'

d. Ty skazal, čto Boris delaet uroki?
Did you say that Boris was doing homework?

(Net), ja skazal, čto …
(no) I said that …

\

[Ivan moet pos**U**du]$_{CF}$ [SVO]$_{CF}$
Ivan washes dishes.ACC
(No) I said that Ivan is washing the dishes.'

Emphatic interpretation aside (it will be considered below), a Russian S O_1 V t_1 sentence with an A'-scrambled object

(i) cannot be interpreted as having no contrast at all (see (337a))
(ii) cannot be interpreted as having IP-wide contrast (see (337d) but
(iii) can be interpreted as having a contrastively focused object (see (337b)), or
(iv) having a contrastively focused VP (see (337c)):

337. a. # Čto proisxodit?
What's happening?

\

[Ivan pos**U**du]$_{CF}$ moet *[$SO_1V\ t_1$]$_{NIF}$
Ivan dishes.ACC washes
'Ivan is washing the dishes.'

b. Ivan moet mašinu?
Is Ivan washing a car?

\

(Net), Ivan [pos**U**du]$_{CF}$ moet S[O]$_{CF1}$V t_1
(no) Ivan dishes.ACC washes
'(No) Ivan is washing the dishes.'

c. Ivan delaet uroki?
Is Ivan doing his homework?

\

(Net), Ivan [pos**U**du moet]$_{CF}$ S[O$_1$V t_1]$_{CF}$

(no) Ivan dishes.ACC washes

'(No) Ivan is washing the dishes.'

d. # Ty skazal, čto Boris delaet uroki?

Did you say that Boris was doing homework?

(Net), ja skazal, čto …

(no) I said that …

\

[Ivan pos**U**du moet]$_{CF}$ *[O$_1$SV t_1]$_{CF}$

Ivan dishes.ACC washes

(No) I said that Ivan is washing the dishes.'

Finally, a Russian O$_1$ S V t_1 with an A'-scrambled object and no emphatic construal

(i) can be interpreted as having a contrastively focused object (see (338b)) but

(ii) cannot be interpreted as having no contrast at all (see (338a)), and

(iii) cannot be interpreted as having a VP-wide contrast (see (338c)), and

(iv) cannot be interpreted as having an IP-wide contrast (see (338d)):

338. a. # Čto proisxodit?

What's happening?

\

[Pos**U**du Ivan]$_{CF}$ moet *[SO$_1$V t_1]$_{NIF}$

dishes.ACC Ivan washes

'Ivan is washing the dishes.'

b. Ivan moet mašinu?

Is Ivan washing a car?

\

(Net), [pos**U**du]$_{CF}$ Ivan moet $[O]_{CF1}$V S t_1

(no) dishes.ACC Ivan washes

'(No) Ivan is washing the dishes.'

c. # Ivan delaet uroki?

Is Ivan doing his homework?

\

(Net), [pos**U**du]$_{CF}$ Ivan [moet]$_{CF}$ $[O_1]_{CF}$S[V t_1]$_{CF}$

(no) dishes.ACC Ivan washes

'(No) Ivan is washing the dishes.'

d. # Ty skazal, čto Boris delaet uroki?

Did you say that Boris was doing homework?

(Net), ja skazal, čto …

(no) I said that …

\

[Pos**U**du Ivan moet]$_{CF}$ $[O_1SV\ t_1]_{CF}$

dishes.ACC Ivan washes

(No) I said that Ivan is washing the dishes.'

If (336) and (337) are compared, one can see that all four interpretations are available for the former, but A'-scrambling of the object to the preverbal position in the latter removes the non-contrastive interpretation and restricts the scope of contrast to VP-wide and object NP-wide contrast.

Similarly, if (337) and (338) are compared, it becomes apparent that movement to the preverbal position results in more constituents allowing contrastive interpretation than movement to the pre-subject position. Thus, the former captures two out of four interpretations, whereas the latter only captures one out of four interpretations.

To sum up, a Russian SVO structure is compatible with a discourse in which either the entire IP is interpreted as contrastive (assuming it is embedded), or only the

VP, or only the object NP, or there is no contrast at all, while each step of A'-scrambling of the object NP gradually removes contrastive interpretation from one of the above constituents, narrowing down the set of possible contexts.

If the sentences in (336)-(338) are construed as licensed by emphatic interpretation, this results in more word order freedom. However, the observation that each step of A'-scrambling restricts the scope of pragmatic quantification holds. Thus, (337a) and (337d) are possible when the entire IP is emphatic. A'-scrambling in these sentences can therefore be seen as achieving an additional scalar interpretation associated with emphasis. As argued above, this interpretation is also linked to pragmatic quantification. We can therefore hypothesize that the step of movement that places the object in preverbal position restricts the interpretation of the sentence, making it incompatible with a context that forces IP-wide focus but disallows emphatic interpretation for this IP.

Similarly, the sentence in (338c) becomes felicitous under emphatic interpretation of the focused VP. However, (338d) is ruled out even if the IP is emphatic, strongly suggesting that a sentence with a longer A'-chain is compatible with fewer contexts than one with a shorter chain (or no movement at all).

Since an A'-scrambled structure expresses an interpretation that is also available for the corresponding structure without movement, it is unsurprising that A'-scrambling is not obligatory. After all, all the necessary interpretations can be captured by a structure without movement. On the other hand, A'-scrambling does have an interpretative effect. Namely, it restricts the scope of pragmatic quantification, disambiguating in this way the interpretation of the sentence.

Admittedly, it is quite hard to imagine a context that does not itself unambiguously license contrast on a particular constituent in the sentence (unlinked, i.e. emphatic, contrast aside). A'-scrambling can therefore be seen as a strategy that facilitates parsing of a sentence by restricting the interpretation of pragmatic quantification to particular syntactic constituents.

To give an example, the structure with a preverbal object in (339a) and (339b) is compatible with object NP-wide and VP-wide contrast, respectively. That is, by the time the object is uttered, it can be inferred that either the object itself or the object and the verb are contrastive, but the choice between the two interpretations has to be postponed until the verb is uttered. The structure with a pre-subject object, as in

(339c), *must* be interpreted as having an object NP-wide contrast at the point the object is uttered, as no other interpretation is available for it (see (339d)), unless 'writing an article' is either a very unexpected or a very predictable activity for Ivan. The latter emphatic construal, however, is possible only if this information is recoverable from the shared knowledge of the interlocutors.

339. [Ivan čitaet knigu?]$_{\text{CONTEXT}}$
Is Ivan reading a book?

\

a. (Net), Ivan [stat'j**U**]$_{\text{CF1}}$ čitaet t_1
(no) Ivan article.ACC reads

\

b. (Net), Ivan [stat'j**U**$_1$ pišet t_1]$_{\text{CF}}$
(no) Ivan article.ACC writes

\

c. (Net), [stat'j**U**]$_{\text{CF1}}$ Ivan čitaet t_1
(no) article.ACC Ivan reads

\

d. # (Net), [stat'j**U**]$_{\text{CF1}}$ Ivan [pišet t_1]$_{\text{CF}}$
(no) article.ACC Ivan writes

The sentence in (339d) is distinctly odd precisely because the option of having a discourse-new verb is unexpected, as the pre-subject contrastively focused object demands that the material crossed by A'-scrambling is interpreted as backgrounded. It can therefore be hypothesized that A'-scrambling to a pre-subject position is a linguistic clue that facilitates parsing of the construal where the object is the narrow contrastive focus of the sentence, whereas overriding this reading results in oddness and essentially a parsing difficulty.

The oddness of (339d) can in turn be interpreted by the hearer as signaling that the IP must be construed as emphatic. Such a construal, however, is contextually conditioned. That is, unless the hearer is aware of the fact that 'writing an article' occupies either the highest or the lowest postion on the scale of activities Ivan is

expected to do within the speaker's beliefs, the hearer will reject emphatic construal of (339d).

If A'-scrambling is analysed as a strategy that simplifies mapping onto information structure, then the interpretative licence for it should make reference to a restriction of the set of constituents included in the pragmatically quantificational scope of the sentence:

340. *Interpretative licence for A'-scrambling* *(final version)*
Interpret each step of A'-scrambling of X as restricting the set $\{X, \ldots\}_{pQ}$, where $\{X, \ldots\}_{pQ}$ is the set of syntactic constituents included in the scope of pragmatic quantification.

The interpretative licence in (340) captures the observation that A'-scrambling disambiguates the interpretation of a sentence by restricting the number of constituents that allow contrastive interpretation, which, by hypothesis, facilitates parsing of the correct construal of the sentence.

The licence in (340) also predicts that an A'-fronted focus can only be interpreted as being in the scope of pragmatic quantification, as it is obligatorily included in the set $\{X, \ldots\}_{pQ}$. If so, it is expected that a NIF can never undergo A'-scrambling because it does not involve a selection out of a pragmatic set of alternatives and can therefore not belong to $\{X, \ldots\}_{pQ}$. Therefore, our previous version of the interpretative licence for A'-scrambling in (329) can be seen as a special case of (340) that refers to an abolition of the <-pQ> interpretation of the A'-scrambled constituent.

This concludes our discussion of A'-scrambling. The next chapter summarizes the findings of this manuscript and calls attention to issues that have to be left for further research.

8. Conclusion

The above-presented theory of argument order alternations covers two types of NP/DP argument reordering in Russian. One is claimed to involve base-generation and the

other A'-movement. The former is argued to encode the relative interpretative prominence of arguments. That is, the variation in base-generated representations reflects information-structural prominence relations at the post-grammatical level of discourse, with the outcome that a marked syntactic structure represents a discourse interpretation that the corresponding unmarked structure fails to express.

At the heart of the proposal lies the hypothesis that grammar creates alternative (i.e. marked) representations either in syntax or at PF in order to produce enough representations to cover all possible argument prominence relations at the post-grammatical level of discourse. Whenever a marked representation is created in syntax, PF no longer needs to create a marked prosodic representation, as the information-structural prominence relations can be read off the PF representation based on the linear order of arguments. Hence, PF assigns default stress via the Nuclear Stress Rule to both representations, marked and unmarked. In addition, PF inherits the syntactic markedness represented in the costly syntactic structure in form of a late assignment of a theta-role linked to a more complex object in the predicate's ordering tier. The inverse order of assignment of theta-roles in the syntactic structure is made visible in the PF representation via morphological markers. The resulting inherently marked PF representation is used at the discourse level for the interpretation that the corresponding unmarked structure fails to capture.

As argued above, there exists an alternative strategy to generating marked representations in syntax, which is occasionally employed even in scrambling languages. That is, whenever syntax generates only one, i.e. unmarked, representation, PF must create a marked representation in prosody. A prosodically marked PF representation is used at the discourse level for exactly the same interpretation as the inherently marked PF representation, namely, the one that the corresponding unmarked PF representation fails to represent. Crucially, when syntax does not generate a marked representation (and PF must do it in prosody), there is no need to make visible via morphology the thematic prominence relations at PF – they can be read off the PF representation on the basis of the linear order of arguments. Information-structural prominence, on the other hand, cannot be detected from the linear order of arguments at PF. This is why it must be made visible via prosody.

The above analysis is argued here to account for the difference between configurational and discourse-configurational languages. The former encode thematic prominence in syntax and information-structural prominence at PF via prosody, the

latter typically linearly represent information-structural prominence and make thematic prominence visible at PF via morphology. However, the latter strategy is not consistently available even in discourse-configurational languages, in which case even this type of language resorts to the former technique. Thus, even in Russian – a language that has a strong preference for the linear encoding of information-structural prominence – syntax may fail to generate a structure that maps transparently onto a discourse template that linearly represents the prominence relations. In this case, PF encoding of information-structural prominence becomes the only option available. What can be said about Russian then is that prosodic encoding of information-structural prominence is a last resort operation in this language.

Other languages, such as, for instance, German, have been argued to freely use either of the two strategies. Thus, in German double object constructions, narrow focus on the indirect object can be either prosodically represented via stress shift to the indirect object or linearly encoded via object-across-object scrambling.

From the theoretical perspective, the fact that prosodic encoding of information-structural prominence is available cross-linguistically begs the question why the alternative strategy would ever be employed. By hypothesis, linear encoding allows a larger variety of interpretations to be captured. For instance, interpretations such as animacy and referentiality can be encoded via linear order of arguments but not via prosody. Yet, a language can always resort to morphological encoding of referentiality. Moreover, interpretations such as animacy are already lexically specified and it is unclear why they need to be grammatically encoded to begin with. Although there is a good reason to believe that animate interpretation contributes towards discourse-linking and hence participates in Communicative Dynamism, a more detailed answer to the above questions has to be left for further research.

The second part of this manuscript has been devoted to A'-scrambling. It argues that marked base-generated structures can feed A'-scrambling as long as the moved constituent is associated with a discourse interpretation that involves quantification over a pragmatic set of alternatives. It is therefore this interpretation that is claimed to license A'-scrambling. However, A'-scrambling does not result in the moved constituent obtaining the relevant interpretation. On the contrary, the <+pQ> interpretation is available for syntactic constituents in an appropriate context even without movement. A'-scrambling is therefore argued here to be licensed by a restriction of $\{X,\ldots\}_{<pQ>}$ – the set of syntactic constituents that involve pragmatic

quantification. That is, each step of A'-scrambling removes at least one member of the set.

Different types of category that involve pragmatic quantification have been considered. The difference between these has been partly attributed to the type of quantification they involve. Some have been claimed to involve selection out of the set, which can be represented as a set-member-replacing strategy, or a set-narrowing strategy, or a selection of the stronger/weaker member out of the set. Others have been claimed to involve generalization over the set.

Categories involving pragmatic quantification have been argued to be able to co-occur in a given sentence either with a <+contrastive> <-presupposed> or a <-contrastive> <-presupposed> element. The difference between categories that are traditionally referred to as contrastive topic and contrastive focus has essentially been attributed to the difference in the value of the <±contrastive> feature of the co-occurring <-presupposed> element. The prosodic difference between CTs and CFs has been analysed as a PF strategy for prosodically distinguishing representations that are used for distinct information-structural interpretation at the discourse level but may be licensed by the same context.

It has also been argued that, depending on the value of the co-occuring <-presupposed> element with respect to the <±contrastive> feature, a given sentence might be either compatible or not with a particular type of quantification conveyed by a focus sensitive operator.

The above-presented theory should ideally be expanded in the future to include reordering of arguments of categories other than NP/DP, as well as of adjuncts. The analysis of the PF interface as a link between syntax and discourse that makes certain information visible either via prosody or morphology could be expanded to include other languages. From this issue Japanese is of particular interest, as it uses morphology for information-structural encoding (e.g. –wa), as well as for thematic prominence encoding (case markers, in particular). As some information-structural information is already morphologically encoded, prosodic encoding becomes redundant. Thus, in Japanese, CTs and CFs carry identical prosodic markers (i.e. both have a sharp F0-rise and trigger post-focal pitch compression) but are morphologically distinguished (i.e. –wa is attached to the CT) (Tomioka 2010 and Vermeulen p.c.).

Japanese also seems to present an interesting "twisted" parallel to Russian in terms of information-structural encoding at PF. Thus, certain interpretations that are

prosodically represented in Russian have a morphological counterpart in Japanese, and vice versa. For instance, the Russian prosodic marker IK3 seems to encode exactly the same interpretation as the Japanese morphological marker –wa. That is, both are carried by generic topics, scene-setting topics, contrastive topics and discourse-anaphoric constituents (Kuno 1972, 1973, Vermeulen p.c.).

Since CTs and merely discourse-anaphoric constituents carry the same intonational marker in Russian, a *discourse-anaphoric* CT must be distinguished from merely discourse-anaphoric constituents through some other marker. For that purpose, Russian uses the morphological marker '-TO', which is attached to a discourse-anaphoric CT. In Japanese, CTs and merely discourse-anaphoric constituents (or the so-called aboutness topics) are marked with the same *morphological* marker –wa. In order to distinguish discourse-anaphoric CTs from merely discourse-anaphoric constituents, Japanese uses a *prosodic* marker for CTs, i.e. a sharp F0-rise with post-focal pitch compression.

In Russian, discourse-new CTs are not marked with '-TO' because they cannot be confused with merely discourse-anaphoric constituents to begin with –, i.e. they are already disambiguated as CTs through context. Mitsuaki Shimojo (1995) argues that in Japanese, in a context that forces contrastive interpretation (i.e. where the relevant constituent can no longer be construed as non-contrastive), prosodic marking becomes redundant and can be omitted. He claims that the examples in (341) and (342) below can be read without a prominent intonation on the wa-NPs because the context already disambiguates these NPs as contrastive.

341. John wa sono hon o yonda ga Mary wa yomanakatta
John that book OBJ read:PST but Mary read:NEG:PST
'John read the book, but Mary didn't.'

342. A: asita siken ga aru kedo mada
tomorrow exam exist but yet

hon o zenzen yondenai
book OBJ at-all read:NEG'
'(I) have an exam tomorrow, but (I) haven't read the book at all.'

B:	John	wa	sono	hon	o	yonda	tte
	John		the	book	OBJ	read:PST	QT

'(I've heard) John has read the book.'

The above facts are very interesting from the perspective of the present analysis, which sees CTs as <+D-linked> and <-presupposed>, with the former feature capturing their link to the discourse and the latter their focal nature. Recall that CTs are argued here to be discourse-prominent because they contain a D-link to a contextually salient set of alternatives, and they are <-presupposed> because they always convey <+pQ> interpretation, which itself is non-presupposed. It is therefore plausible that PF uses the same marker for <+D-linked> constituents (IK3 in Russian; -wa in Japanese) and the same marker for <-presupposed> constituents (zero morphological marker in Russian, and a sharp F0-rise prosodic marker in Japanese) but distinguishes <+D-linked> and <-presupposed> CTs from <+D-linked> and <+presupposed> backgrounded constituents by placing a distinct marker on the <-presupposed> category (-TO in Russian, sharp F0-rise with post-focal pitch compression in Japanese), and distinguishes <+D-linked> and <-presupposed> CTs from <-D-linked> and <-presupposed> NIFs by placing a distinct marker on the <+D-linked> category (IK3 in Russian and –wa in Japanese). In other words, in Russian, CTs and background have identical intonation but the former is distinguished from the latter by carrying –TO. In Japanese, CTs and background (or aboutness topics) have identical –wa marking but the former is distinguished from the latter by being marked with a sharp F0-rise with post-focal pitch compression. In Russian, CTs and NIFs have the same zero morphological marker but are distinguished through prosody (rising IK3 on CT and falling IK1 on NIF). In Japanese, CTs and NIFs have the same intonation (Uchida p.c.)[117] but are distinguished via morphology (-wa on CT). This interesting 'twisted' parallel between Russian and Japanese in information-structural encoding at PF presents a basis for further investigation of the PF component as conceived of in this thesis.

[117] It might be that the F0 boost is slightly less prominent on NIF than on CF and CT in Japanese (Vermeulen p.c.). However, in the literature on the prosody of focus in Japanese, the contour assigned to NIF is not distinguished from that carried by CF and CT, suggesting that, even if there is a slight difference in prominence, it is no sufficient to distinguish a NIF from a CT.

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