Scrambling and Interfaces[*]

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This paper proposes a novel analysis of the Russian OVS construction and argues that the parametric variation in the availability of OVS cross-linguistically depends on the type of relative interpretative argument prominence 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.

Keywords: Information Structure, Russian Scrambling, PF Interface

1   Introduction

The issue of the parametric variation in the availability of OVS constructions cross-linguistically is intrinsically linked to the question of what licenses this type of argument reordering interpretatively and formally. In this paper, I explore two related hypotheses. First, I argue that OVS requires a formal license. That is to say, it is permitted only in case the grammatical functions (or, more precisely, the relative thematic prominence relations) of the arguments can be established by means other than their surface structural position. For instance, morphological case marking on Russian NPs allows the assignment of grammatical functions without reference to a specific syntactic position.

The second hypothesis defended here is that whenever the thematic prominence relations of arguments are recoverable without reference to

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syntactic structure, syntax is used to encode relative information-structural (henceforth IS) prominence of arguments. As a result, for a given numeration, SVO and OVS can be truth-conditionally identical, but OVS is used iff it maps transparently onto the IS template in (1), as SVO requires twisted mapping.[1]

(1)   *Information   Structure*
        ARGUMENT   ARGUMENT
        [+IS-prominent]   >>   [-IS-prominent]

When the object is interpreted as IS prominent and the subject as non-prominent, transparent mapping onto the discourse template in (1) leads to a failure to align the thematic prominence of arguments with overt c-command. As will be shown below, such misalignment results in a structure that is more costly than its canonical counterpart, as OVS has more information content. I will argue that the costly nature of the OVS must be made visible at the PF interface either via morphological case (henceforth m-case) or agreement markers (see Bobaljik (2006) for arguments that agreement and m-case are at PF). That is, PF detects the marked nature of the OVS structure in its input and makes it visible in its representation. The resulting PF representation can therefore be said to be marked *by inheritance* from syntax. By economy, a marked PF representation cannot be linked to a discourse interpretation that is already captured by its unmarked variant, resulting in the above-mentioned interpretative restriction on OVS. Hereafter, when mapping from syntax onto IS is mentioned, the above indirect mapping through PF is assumed.

Crucially, in a language that disallows costly syntactic representations, e.g. English, thematic prominence is consistently structurally represented. This,

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[1] The IS template in (1) is an abstract representation of the principle of Communicative Dynamism (Firbas 1964, 1971, 1984, 1992, Sgall et al. 1986), according to which, elements that are contextually prominent (for instance, in virtue of being present in the context) precede those that convey information that is not yet prominent in the discourse.

however, results in a failure to linearly represent IS prominence when the two prominence relations misalign. In this case, IS prominence is made visible at the PF interface via a marked prosodic operation of stress shift to the subject. By economy, the resulting *prosodically* marked PF representation cannot be used in the same context as its unmarked variant. Consequently, it is used only when the object is IS prominent and the subject is IS non-prominent, which is exactly the interpretation captured by the *inherently* marked PF representation in Russian.

Thus, the grammar of both Russian and English produces two PF representations (unmarked and marked) for a numeration containing a mono-transitive verb. The generation of the alternative, i.e. marked, representation is taken here to be a universal phenomenon. That is, the grammar of any language must be capable of producing enough representations to capture all IS interpretations at the post-grammatical level of discourse. The parametric variation, on the other hand, results from the fact that a PF representation can be either prosodically marked or marked by inheritance from syntax.

The paper is organised as follows. Section 2 argues that Russian OVS structures have properties of A-scrambling and are better analysed as base-generated. Section 3 discusses the formal and interpretative restrictions on the generation of OVS structures. Section 4 discusses the parametric variation in the availability of OVS constructions.

2   The Syntax of OVS

2.1   A or A'-scrambling?

Russian OVS displays several properties typical of A-relations (Ionin 2001, King 1995). It does not give rise to weak crossover effects (see (2)), is clause-

bounded (see (3)), does not give rise to scope-reconstruction (see (4)) and feeds anaphoric binding (see (5)).[2,3,4]

(2)   Každuju devočku$_1$ ljubit   EË$_1$ MAMA
           every   girl-ACC   loves   her   mum-NOM
           'Every girl is loved by her mum.'

(3)   [Who do you want to kiss Anna?]$_{\text{CONTEXT}}$

     a.   Ja xoču, čtoby Anju   pocelovala KATJA
          I   want   that   Anna-ACC kissed   Catherine-NOM
          'I want Catherine to kiss Anna.'

     b. # Anju$_1$,   ja   xoču, čtoby KATJA   pocelovala t_1
          Anna-ACC I   want   that   Catherine-NOM kissed

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[2] 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. Contrastive categories undergo optional A'-scrambling in Russian and are therefore allowed to move long-distance.

[3] In (4a), the apparent wide scope reading of the existential quantifier is accessible due to the availability of a specific interpretation for the indefinite.

[4] Ionin (2001) argues on the basis of the examples like (i) that scrambling in Russian OVS structures does not feed anaphoric binding, suggesting that the derived position of the object is not an A-position.

(i)   a. * Roditeli   drug druga$_1$ videli   DETEJ$_1$
             parents-NOM each other-GEN saw   children-ACC

      b. * Detej$_1$ videli   roditeli   DRUG DRUGA$_1$
             children-ACC saw   parents-NOM each other-GEN

However, the ungrammaticality of (ib) 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 (ib). It is beyond the scope of the present paper to investigate this selective behaviour of the Russian reciprocal. What matters is that embedding the reciprocal in an inanimate argument, as in (5b), results in a grammatical sentence, strongly suggesting that anaphoric binding is possible in Russian scrambled OVS sentences.

c. # Anju$_1$, ja xoču, čtoby t_1 pocelovala KATJA
Anna-ACC I want that kissed Catherine-NOM

(4) a. Každuju otkrytku podpisali DVA STUDENTA
every postcard-ACC signed two students-NOM
'Every postcard was signed by two students.' $\forall > \exists ; ? \exists > \forall$

b. Dve otkrytki podpisal KAŽDYJ STUDENT
two postcards-ACC signed every student-NOM
'Two postcards were signed by every student.' $\exists > \forall ; * \forall > \exists$

(5) a. * Vystrely drug druga$_1$ ubili MILICIONEROV$_1$ SVO
shots-NOM each other-GEN killed milicia-men-ACC

b. Milicionerov$_1$ ubili vystrely DRUG DRUGA OVS
milicia-men-ACC killed shots-NOM each other-GEN
'Milicia men were killed by each others shots.'

Following Mahajan's (1990) diagnostics for A and A'-position, the sentences in (2)–(5) should be analysed as involving A-scrambling.[5] However, A-movement analyses of Russian OVS structures face a number of problems discussed in the next subsection.

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[5] 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 2004). However, the examples in (i) and (ii), below, demonstrate that WCO violations and scope reconstruction do obtain whenever an A'-moved quantifier undeniably crosses an argument, suggesting 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, into which the object binds and which it outscopes (Titov 2007).

(i) * [Každuju devočku]$_{TOP1}$, eë$_1$ mama xočet, čtoby t_1 poceloval IVAN
every girl-ACC her mum-NOM wants that kissed Ivan-NOM

(ii) [Každuju devočku]$_{TOP1}$, dva mal'čika xotjat, čtoby t_1 poceloval IVAN
every girl-ACC two boys-NOM want that kissed Ivan-NOM
'Two boys want every girl to be kissed by Ivan (but I don't know about every grandma).' $\exists > \forall ; * \forall > \exists$

2.2 Base-generated OVS

An account that sees Russian OVS structures as involving A-movement must speculate that there is no scope reconstruction in the A-chains formed by this operation (see (4)). However, a Russian passive does allow for scope reconstruction of the A-moved argument. That is, unlike the A-scrambled structure in (4b), the minimally distinct passive in (6) is scopally ambiguous.

(6)   [Dve otkrytki]$_1$ byli   podpisany t_1 KAŽDYM STUDENTOM
        two   postcards-NOM were signed   every   student-INSTR
        'At least two postcards were signed by every student.' $\exists > \forall$; $\forall > \exists$

Since the A-moved indefinite can take scope below the VP-adjoined instrumental in (6), an A-movement account of OVS predicts that the object should be able to take scope below the subject, contrary to fact (see (4b)).

Moreover, an A-movement account of OVS additionally involves a Relativized Minimality violation (Rizzi 1990), as it allows for A-movement of object NPs across c-commanding subject NPs.
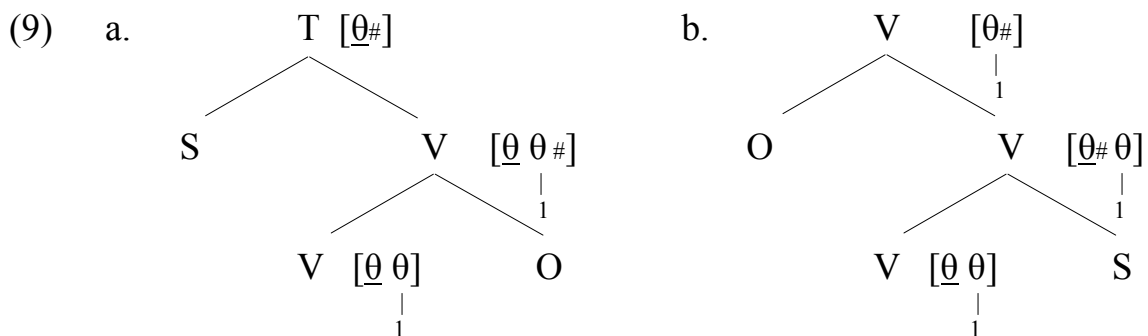
Finally, one of the biggest challenges that an A-movement analysis of OVS structures faces has to do with the position of the subject with respect to the verb. One way to resolve this complication is to assume that the verb either moves to, or is generated in I°, with the subject in SpecVP (Bailyn 2004, King 1995). However, such an analysis is not supported by adverb placement tests:

(7) a.   Ja dumaju, čto Ivan   často celuet Mašu
         I   think   that Ivan-NOM often kisses Masha-ACC
         'I think that Ivan often kisses Masha.'

    b. * Ja dumaju, čto Ivan   celuet često Mašu
         I   think   that Ivan-NOM kisses often Masha-ACC

(8) a.   Ja dumaju, čto Mašu   často celuet Ivan
          I   think   that Masha-ACC often kisses Ivan-NOM
          'I think that Ivan often kisses Masha.'

     b. * Ja dumaju, čto Mašu   celuet často Ivan
          I   think   that Masha-ACC kisses often Ivan-NOM

In both SVO and OVS, the temporal adverb marking the left edge of the VP
must precede the verb, strongly suggesting that the verb remains within the VP.

The problems faced by A-movement analyses can be avoided if it is
assumed that OVS is base-generated. Here, I adopt the base-generation analysis
developed in Neeleman and van de Koot (2012) (henceforth NvdK). According
to NvdK, scrambled structures are costly because they involve late assignment
of a θ-role that is linked to the predicate's ordering tier, as in (9b).[6]

(9) a.   T [θ#]   b.   V   [θ#]
                                                              |
                                                              1
              S   V [θ θ#]   O   V [θ# θ]
                                  | |
                                  1   1
                        V [θ θ]   O   V [θ θ]   S
                           | |
                           1   1

The most economical order of assignment of θ-roles is the one that maximally
reduces the content of the projecting predicate (see (9a)). 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 (9b)). 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

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[6] Theta-role assignment is assumed to apply under direct domination, which forces copying
     of a θ-role to the first node above an argument ('#' signals satisfaction of a θ-role).

a linked θ-role 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.

An analysis that sees the Russian OVS as base-generated avoids the locality problem and accounts for the surface scope and the position of the subject with respect to the verb. Moreover, it is further supported by the observation made by Chtareva (2004) that Russian has idiomatic expressions that consist of a verb and a subject:

(10)   Ivana   zaela   sovest'
         Ivan-ACC   ate-up conscience-NOM
         'Ivan's conscience is troubling him' = 'Ivan experienced remorse'.
                                                           Chtareva (2004)

The Russian verb + subject idioms, as in (10), have idiomatic nominative subjects, idiomatic transitive verbs, and free accusative objects. It must therefore be assumed that the subject in (10) is base-generated as an internal argument of the verb (cf. Chtareva 2004).

According to NvdK, costly base-generated structures, as in (9b), require an interpretative and a formal license. The next section discusses formal and interpretative restrictions on the generation of OVS in Russian.

3   Formal and Interpretative Restrictions on OVS

3.1   Interpretative license

In the introduction, we have hypothesized that OVS is possible iff it maps transparently onto the discourse template in (1). That is, while the unmarked SVO order can be used in a context that licenses identical IS interpretations of subject and object (see (11b) and (11c)), in the OVS construction the object must be IS prominent and the subject IS-non-prominent (see (12)).

(11) a. $S_{[+prominent]}$ V $O_{[-prominent]}$ c. $S_{[+prominent]}$ V $O_{[+prominent]}$

   b. $S_{[-prominent]}$ V $O_{[-prominent]}$ d. *$S_{[-prominent]}$ V $O_{[+prominent]}$

(12) $O_{[+prominent]}$ V $S_{[-prominent]}$

By hypothesis, the unmarked SVO can capture three out of four interpretations in (11) but it is replaced with the marked OVS whenever OVS maps transparently onto (1) while SVO requires twisted mapping, as in (11d).

In Russian, the relative interpretative prominence of arguments can be established on the basis of a variety of interpretations, all of which are ranked with respect to each other (Titov 2012). For example, in an all-focus context, OVS can be licensed by definiteness/specificity:[7]

(13)   [What happened?]$_{\text{CONTEXT}}$

   a.   MAŠU   UKUSILA OSA
         Mary-ACC stung   wasp-NOM
         'Mary was stung by a wasp.'

   b. # OSA   UKUSILA MAŠU
        wasp-NOM   stung   Mary-ACC

However, whenever the context forces a narrow focus interpretation of one of the arguments, this type of encoding overrides all other interpretative requirements:

(14)   [Who did a wasp sting?]$_{\text{CONTEXT}}$

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[7] The arguments in (13) additionally involve an interpretative distinction as regards the <±human> feature. However, in Russian, this feature is overridden by the higher-ranked <±referential> feature that distinguishes between definite/specific NPs and non-specific indefinites (Titov 2012). Hence, it must be the <±referential> feature that licenses a marked structure in (13a).

    a.   Osa   ukusila MAŠU
        wasp-NOM   stung   Mary-ACC

  b. # MAŠU   ukusila osa
        Mary-ACC stung   wasp-NOM
        'Mary was stung by a wasp.'

The relative interpretative prominence of arguments is established in (14) on the basis of the IS interpretation that distinguishes new information focus (NIF) from background/presupposition. I will represent this IS interpretation using the binary feature <±presupposed> and assume that background is always <+presupposed>, whereas focus is <-presupposed>.

I will assume that a syntactic constituent can be associated with this IS interpretation as a result of mapping principles that relate syntactic structures to IS templates. That is, I reject the view that syntactic representations contain features such as [Focus] or [Background] and assume instead that IS interpretations are encoded at the postgrammatical level of discourse (Reinhart 2006). The postulation of IS features in syntax requires that one stipulates that they are either stored in the mental lexicon or added to constituents in the course of the derivation. However, being a focus or a background is not a lexical property — a syntactic constituent can be categorized as such only when used in a specific context. Moreover, adding IS features in the course of the derivation demands a weakening of the Inclusiveness Condition of Chomsky (1995), according to which only those features can figure in syntactic computations that represent properties of lexical items (see also Szendrői 2001, Neeleman and Szendrői 2004, den Dikken 2006 and Fanselow and Lenertová 2011).

I will therefore argue that the interpretative license for OVS is provided by transparent mapping onto (1), with the outcome that, when the IS prominence of arguments is established on the basis of the <±presupposed> feature, the object is <+presupposed> and the subject <-presupposed> (see (16b)). The

sentence in (15b), conversely, is ruled out by economy — the unmarked order in (15a) already captures the reading where both arguments are <-presupposed>.

(15) a. ANJA   POCELOVALA KATJU   [SVO]FOCUS
         Anna-NOM kissed   Catherine-ACC
         'Anna kissed Catherine.'

    b. # KATJU   POCELOVALA ANJA   [OVS]FOCUS
         Catherine-ACC kissed   Anna-NOM

(16) a. # ANJA   pocelovala Katju   [S]FOCUSVO
         Anna-NOM   kissed   Catherine-ACC

    b.   Katju   pocelovala ANJA   OV[S]FOCUS
         Catherine-ACC kissed   Anna-NOM
         'Anna kissed Catherine.'

3.2 Formal license

Above, we have hypothesized that PF inherits the markedness of a scrambled syntactic structure in its input and makes it visible in its representation via morphology. That is, the present analysis relies on the idea that m-case must be distinguished from syntactic licensing, with m-case being treated as a morphological phenomenon (Bobaljik 2006, Harley 1995, Marantz 2000, McFadden 2002, 2003, 2004, Schütze 1997, Sigurðsson 1991, 2003, Yip, Maling and Jackendoff 1987, Zaenen, Maling & Thráinsson 1985). 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. Following Bobaljik (2006), 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 Marantz's (1991) proposal 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.

Marantz suggests that the assignment of morphological cases proceeds via the disjunctive hierarchy given in (17), with the dependent case assigned to the lower NP in the domain.

(17)   *Case Realization Disjunctive Hierarchy*   Domain: government by V+I

    a.   lexically governed case

    b.   dependent case (ACC, ERG)

    c.   unmarked / default case

I adopt the view that m-case assignment depends on the output of narrow syntax but maintain that it is not the hierarchical positions of two competing NPs but rather the nature of the θ-roles they satisfy that must be known in order to correctly allocate the dependent case. I propose that, whenever more than one NP is eligible to receive m-case from the case-assignment rules, the algorithm in (17) determines that the NP satisfying the θ-role linked to the predicate's ordering tier receives the dependent accusative case. The other NP receives the unmarked nominative case. I assume that the thematic interpretations are ordered in keeping with the thematic hierarchy, and the corresponding θ-roles

are ordered through linking to the ordering tier. The algorithm in (17) 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 (i.e. linked) θ-role and therefore to the least prominent thematic interpretation, as in (18).

(18) 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.'

Following Bobaljik (2006), I assume that the accessibility of a given NP for controlling agreement on the predicate is determined by m-case, suggesting that agreement is part of the post-syntactic morphological component operating at PF. In Russian, a violation of the structural encoding of thematic prominence can be made visible at PF via agreement markers, as shown in (19), where the thematically prominent argument (i.e. the argument that satisfies the θ-role that does not have a link to the ordering tier) shows agreement with the verb.

(19) a.   Stakan   pereveshivaet   tarelki   SVO
        glass-SG-NOM/ACC   outweighs-SG   plates-PL-NOM/ACC
        'The/a glass outweighs (the) plates.'

     b.   Stakan   pereveshivajut   tarelki   OVS
        glass-SG-NOM/ACC   outweigh-PL   plates-PL-NOM/ACC
        'The/a glass is outweighed by (the) plates.'

In Russian, m-case and agreement markers are used at PF in order to recover the thematic prominence relations, which in turn makes visible the markedness of the OVS structure. This provides the formal license for OVS — the thematic prominence relations are recovered without reference to structural positions. As

expected, whenever thematic relations are not morphologically recovered at PF, an OVS structure is impossible even in Russian:[8]

(20)   [What's new with mother?]$_{\text{CONTEXT}}$

Mat'   NAVESTILA   DOČ'   SVO/*OVS
mother-NOM/ACC   visited   daughter-NOM/ACC
'Mother visited daughter.'
'*Daughter visited mother.'

In (20), the context licenses focus on the constituent containing the verb and the postverbal argument. Crucially, this argument must be interpreted as the object. The impossibility of interpreting the sentence in (20) as OVS must be attributed to the lack of formal license, as the interpretative license for an OVS structure is available in (20). Unsurprisingly, once the formal license is provided, OVS interpretation becomes available (see (21)).

(21)   [What's new with mum?]$_{\text{CONTEXT}}$

Mamu   NAVESTILA   DOČ'   OVS
mum-ACC   visited   daughter-NOM/ACC
'Daughter visited mum.'

Our analysis of Russian OVS structures as being licensed by the relative IS prominence encoding of arguments predicts that the IS interpretation of verbs in such constructions is free. After all, non-arguments cannot take part in such encoding. Consequently, verbs in OVS must allow for both, <–presupposed> and <+presupposed>, readings. This prediction is borne out (see (21) and (22)).

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[8]   The formal license for OVS can be provided by the formal properties of the linguistic context (Titov 2012). Thus, if the reply in (20) is used in the context of either *Kto navestil mat'?* 'who-NOM visited   mother-NOM/ACC' or *Kogo navestila mat'?* 'who-ACC visited mother-NOM/ACC', the grammatical function of the morphologically unidentifiable focused argument is established on the basis of the m-case carried by the wh-phrase in the contextual question, to which the focus is linked.

(22)   [Who visited mum?]_{CONTEXT}

       Mamu   navestila   DOČ'
       mother-ACC   visited   daughter-NOM/ACC
       'Daughter visited mum.'

The next section discusses the difference between Russian and English in the choice of prominence, thematic or IS, that is encoded in syntax and at PF.

4   Russian Versus English

Let us now see how the proposed system works for English and Russian. In English, syntax never produces representations in which thematic prominence misaligns with overt c-command. This means that for a numeration containing a monotransitive verb, English syntax generates only one representation for a given truth-conditional interpretation, i.e. SVO. When this representation is passed onto PF, PF creates a pair of representations, unmarked and marked, in prosody. The unmarked representation results from the default assignment of stress through the Nuclear Stress Rule (NSR), whereas the marked prosodic representation is brought about by the marked operation of stress shift. Both prosodic operations conform to the focus rule in (23) below. That is, the rule in (23) overrides the default NSR in English in the same way as transparent mapping onto (1) overrides the default thematic prominence alignment with overt c-command in Russian, whenever a marked representation is needed at the discourse level.

(23)   *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)

The marked prosodic structure is created in PF in order that there are enough representations to capture all possible IS relations at the discourse level. By economy, the marked PF representation involving stress shift to the subject is used only for the discourse interpretation that the unmarked representation fails to express, namely narrow focus on the subject.

Since the syntactic structure that is input to PF is unmarked in English, recovery of thematic prominence relations via morphology becomes redundant. That is, thematic relations are already structurally/linearly represented. The IS relations, on the other hand, are not linearly encoded. Therefore, they must be made visible at PF via prosody:

(24)   [Who kissed Mary?]CONTEXT

        JÓHN kissed Mary.

In Russian, syntax generates a pair of representations: an unmarked one, in which thematic relations are aligned with overt c-command (i.e. SVO), and a marked one with an uneconomical discharge of theta-roles (i.e. OVS). PF detects the marked nature of the marked representation in its input. Since the alternative representation is already generated in syntax, PF no longer needs to create a pair of representations itself. It therefore simply applies the default NSR operation to both representations. However, as theta relations are not structurally encoded in the OVS representation, PF must recover these via morphology. The resulting two PF representations are prosodically unmarked but one of them is marked by inheritance from syntax. The markedness of the OVS order is represented in the PF representation through m-case or agreement markers. By economy, the inherently marked PF representation is used only for the discourse interpretation that the unmarked representation fails to express. When the relative IS prominence of arguments is established on the basis of the

<±presupposed> feature, OVS is used for narrow focus on the subject (or the constituent that includes the subject and the verb).

To conclude, the difference between English and Russian can be captured by the assumption that English creates PF representations that are prosodically marked/unmarked, whereas Russian produces PF representations that are marked/unmarked by inheritance from syntax. As English uses structure to represent thematic prominence relations, the IS prominence relations must be made visible at PF via prosody. In Russian, conversely, IS prominence relations are linearly encoded. As a result, thematic prominence relations must be recovered at PF via morphological markers.

What can be said about Russian, then, is that it optimizes the syntactic encoding of IS prominence. However, even in this language, a syntactic structure that maps transparently onto (1) can fail to be generated for a given numeration and truth-conditional interpretation, as it would violate a syntactic constraint, such as for instance the c-command requirement on binding (see (25b)). In such rare cases, Russian behaves exactly like English and resorts to prosodic encoding of IS prominence (see (25a)):

(25)   [Kogo   ljubjat ego roditeli?]$_{\text{CONTEXT}}$
          who-ACC love   his parents
          'Who is loved by his parents?'

   a.   IVÀNA$_1$ ljubjat ego$_1$ roditeli
        Ivan-ACC love   his   parents
        'Ivan is loved by his parents.'

   b. * Ego$_1$ roditeli ljubjat IVANA$_1$
        his   parents love   Ivan-ACC

Prosodic encoding of IS prominence can therefore be seen as a last resort operation in Russian — it applies only when syntactic encoding is unavailable. English, conversely, consistently encodes IS prominence in prosody. Having

discovered two languages with opposite preferences for the choice of the linguistic tool used for the encoding of IS and thematic prominence, we might expect to find languages that have a free choice as to whether to represent thematic prominence in syntax and IS prominence via prosody, or linearly encode IS prominence and recover thematic prominence via morphology. Indeed, Lenerz (2001) demonstrates that in German double object constructions either strategy is freely available. That is, whenever the indirect object is the narrow focus of the sentence, and the IS prominence relations can no longer be captured by the unmarked SVIOÒ structure, they can be either prosodically represented via stress shift to the indirect object, or linearly encoded via object-across-object scrambling. In other words, in German, the relevant PF representation can be either prosodically marked or marked by inheritance from syntax, but the latter option is available iff the thematic prominence relations of objects are formally identified.

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