THE OVS CONSTRUCTION

Abstract: This paper offers an in-depth analysis of the Russian OVS construction in an attempt to account for the parametric variation in the availability of OVS cross-linguistically. It is argued that the Russian OVS construction is base-generated and is employed in order to encode the relative information-structural prominence of arguments. It is proposed that, cross-linguistically, syntactic encoding of information-structural prominence relations via neutral scrambling is available exclusively to languages that are capable of encoding thematic prominence relations of arguments at PF. Conversely, languages that lack PF encoding of thematic prominence are obliged to syntactically represent this prominence relation, which results in the unavailability of syntactic encoding of information-structural prominence. A consequence of this is that when information-structural and thematic prominence relations misalign, only one of them can be syntactically represented. An interpretive relation that fails to be syntactically encoded must be made visible at PF.
Keywords: Syntax, Prosody, Morphology, Information Structure, Scrambling.

1. Introduction

This paper is concerned with neutral NP argument reordering and the question of what licenses it interpretively and formally. The term neutral argument reordering (or neutral scrambling) is used here to refer to a scrambling operation that reverses the canonical order of arguments without obscuring the neutral prosody of the sentence. In Russian, the canonical word order in a monotransitive construction is SVO. However, given an appropriate context, all five scrambled orders in (1b–f) are possible for the same numeration and truth conditional interpretation. Yet, not every order in (1) can have neutral prosody manifested by the most deeply embedded constituent receiving the main sentential stress via the Nuclear Stress Rule (NSR) (Chomsky and Halle 1968), with the rest of the sentence having the option of being destressed and deaccented.

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

In fact, only the orders in (1a,b,c) can have neutral prosody, while (1d,e,f) require a prominent intonational contour either on a fronted argument, as in (1d), or the fronted verb, as in (1e), or the fronted VP, as in (1f), because fronting here can only be an instance of A'-scrambling, which is an operation that is cross-linguistically linked to marked prosody, with the fronted category carrying an intonational contour associated either with topic or focus (Neeleman et. al 2009, Neeleman and Titov 2009, Titov 2012a, 2012b and 2013b, Neeleman and van de Koot 2008 and 2016). Crucially, out of the three orders with neutral prosody, only (1b) involves argument reordering. It is therefore this neutrally scrambled OVS order that is the subject of this study.

In my analysis of scrambling, I adopt the economy-driven interface-based approach to information-structural (IS) encoding (Reinhart 1995, 2006, Neeleman and van de Koot 2008, Titov 2013a, 2017a and 2017b), whereby a scrambled structure is analysed as syntactically marked with respect the canonical structure and is chosen by the interface system if and only if it achieves an interpretive effect that the unmarked structure fails to express. In what follows, I account for the marked syntactic nature of

the Russian OVS construction and establish the interpretive effect it achieves. The paper is organized as follows. Section 2 argues that the Russian OVS construction has properties of A-scrambling and favours an analysis that refers to a variation in base-component. Section 3 maintains that OVS is licensed by the encoding of the relative IS prominence of arguments, which requires linear precedence of an interpretively prominent argument with respect to a non-prominent argument (Titov 2012a, 2013a and 2017a). Section 4 discusses the formal restrictions on OVS. Section 5 proposes that the availability of OVS cross-linguistically is reliant on the type of prominence, thematic or IS, that a language syntactically represents (Titov 2013a). Section 6 concludes the paper.

2. The Syntax of OVS

2.1 Base-generated Scrambling

The Russian OVS construction exhibits properties of A-scrambling (Mahajan 1990). That is, an object in OVS binds into a subject (see (2) and (3) for variable and anaphoric binding, respectively) and outscopes it (see (4)).[1] (Throughout, SMALL CAPS mark the constituent carrying the main sentential stress.)

2. Každuju devočku$_1$ ljubit eë$_1$ MAMA
   every girl.ACC loves her mum
   'Every girl is loved by her mum.'
3. Policejskix$_1$ ubili vystrely DRUG DRUGA$_1$
   policemen.ACC killed shots each other
   '(The) policemen were killed by each other's shots.'
4. a. Každuju otkrytku podpisali dva STUDENTA
      every postcard.ACC signed two students
      'Every postcard was signed by two students.' ∀> ∃; ?∃>∀
   b. Dve otkrytki podpisal každyj STUDENT
      two postcards.ACC signed every student
      'Two postcards were signed by every student.' ∃>∀; *∀> ∃

Two analyses of the object being in an A-position above the subject are in principle conceivable, i.e., it has either A-moved across the subject (Bailyn 2004) or else it is base-generated in an A-position above the subject. If we assume that it has A-moved to SpecIP from its thematic complement to V position, we must be able account for the position of the verb with respect to the subject. After all, the surface order we end up with is OVS and not OSV. In other words, we must assume that the verb has either moved to Iº (Bailyn 2004), or is generated in Iº (King 1995), with the subject remaining in SpecVP. However, tests based on the position of the verb with respect to a low adverb or a negation, which mark the left edge of the VP (Emonds 1978, 1985, Chomsky 1989, Pollock 1989), do not support an analysis that sees the verb as moving out or being generated outside of the VP, as a low adverb and a sentential negation can never follow the verb in either SVO or OVS in Russian, contra Bailyn 2004 (see (5)–(8)) (see also Slioussar 2007 for the same observation).[2]

[1] The question mark in front of the wide scope reading of the existential quantifier in (4a) is due to the consistent availability of a specific construal of the indefinite, which results in an apparent wide scope.
[2] The genitive case on the object in (7) and (8) is due to Genitive of negation.

5. a. Ivan medlenno čitaet KNIGU
Ivan slowly reads book.ACC
'Ivan is slowly reading the/a book.'
b. * Ivan čitaet medlenno KNIGU
Ivan reads slowly book.ACC

6. a. Knigu medlenno čitaet IVAN
book.ACC slowly reads Ivan
'Ivan is slowly reading the/a book.'
b. * Knigu čitaet medlenno IVAN
book.ACC reads slowly Ivan

7. a. Ivan ne čitaet KNIG
Ivan not reads books.GEN
'Ivan doesn't read books.'
b. * Ivan čitaet ne KNIG
Ivan reads not books.GEN

8. a. Knig ne čitaet IVAN
books.GEN not read Ivan
'Ivan doesn't read books.'
b. * Knig čitaet ne Ivan
books.GEN reads not Ivan

Hence, any account of the Russian OVS as acquired via A-movement of the object and movement of the verb to a position outside the VP (or its base-generation in this position) has to disregard the data in (5)–(8), because regardless of the postulated landing site for the moved verb, any such analysis would inevitably fail to capture the parametric variation in the availability of V-to-I movement.[3] Moreover, A-movement of indefinites is known to reconstruct for quantifier scope to the position of the trace. In line with that, a Russian construction that undeniably involves A-movement of an object, such as the passive construction in (9), is scopally ambiguous, with both the surface and the inverse scope readings available, strongly suggesting that the A-moved object can take scope not only in its acquired position but also in the position of the trace. Yet, we have observed that an indefinite object in the OVS construction does not reconstruct for scope (see (4b)). In conformity with that observation, an OVS construction that is only minimally distinct from the passive construction in (9) can also only have surface scope (see (10)).

9. Dva lektora byli uvoleny každym UNIVERSITETOM
two lecturers were fired every university.INSTR
'Two lecturers were fired by every university.' ∃>∀; ∀> ∃
Titov 2017:23

10. Dvux lektorov uvolil každyj UNIVERSITET
two lecturers.ACC fired every university
'Two lecturers were fired by every university.' ∃>∀; *∀> ∃

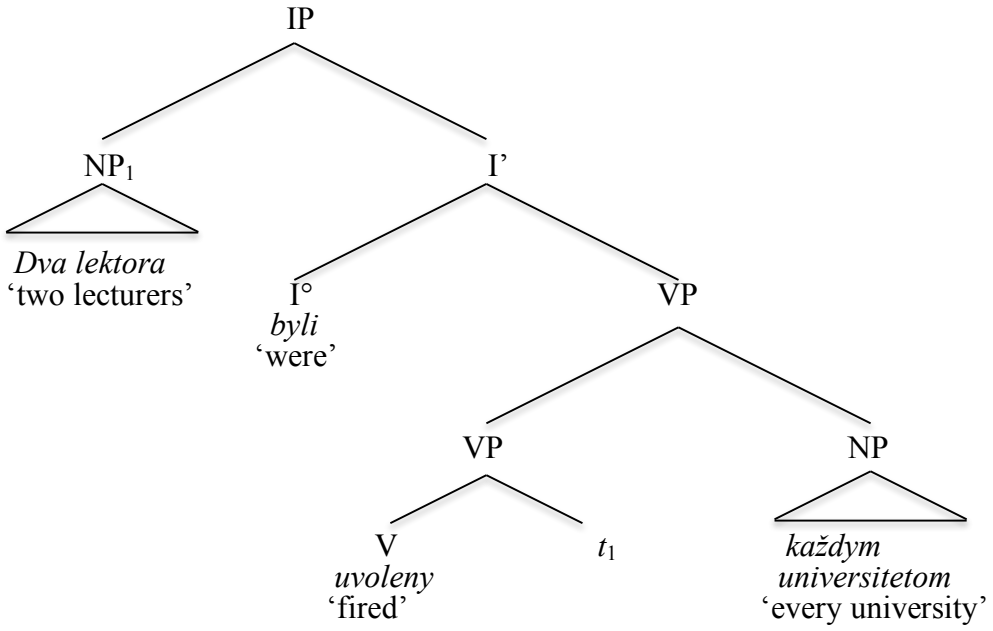
[3] An analysis that assumes VP-movement across the subject, with subsequent object extraction (Slioussar 2007), is equally unsustainable because VP-movement is an instance of A'-movement, whereas we have seen that an object in OVS is in an A-position above the subject (see (2)–(4)). Naturally, extraction of the object out of the A'-moved VP cannot be an A-operation because such an assumption is in violation of the universal constraint on the ordering of operations in remnant movement (Abels 2007) that is based on the prohibition against improper movement (Chomsky 1973).

The crucial interpretive difference between (9) and (10) is that the OVS construction in (10) can only have the construal according to which every university fired the same two lecturers, whereas the passive construction in (9) additionally allows for the distributive reading according to which for every university there were two different lecturers that were fired by that university. As a result, the passive construction fits perfectly with a context that facilitates a distributive reading, as in (11), whereas an OVS structure fares worse in such a context (see (12)). (Henceforth, the sign '#' appears before sentences that are grammatical but either infelicitous in the given context, or felicitous only if additional pragmatic assumptions are made, and the required discourse interpretation is accommodated.)

11. [Po statističeskim dannym, v prošlom godu…]CONTEXT
    According to statistical data, last year…
    dva lektora byli uvoleny každym UNIVERSITETOM
    two lecturers were fired every university.INSTR
    'Two lecturers were fired by every university.'
    [V rezul'tate, bolee pjatidesjati lektorov ostalis' bez raboty.]CONTEXT
    As a result, more than fifty lecturers were left unemployed.
12. [Po statističeskim dannym, v prošlom godu…]CONTEXT
    According to statistical data, last year…
dvux lektorov uvolil každyj UNIVERSITET
    two lecturers.ACC fired every university
    'Two lecturers were fired by every university.'
    [V rezul'tate, bolee pjatidesjati lektorov ostalis' bez raboty.]CONTEXT
    As a result, more than fifty lecturers were left unemployed.

Plausibly, the availability of the inverse scope reading in (9) results from the A-moved indefinite reconstructing to the position of the trace left in its thematic complement to V position, which is below the VP-adjoined instrumental 'by-phrase' hosting the universal quantifier (see (13)).

13.



Titov 2017a:24

The unavailability of the inverse scope reading in (10), conversely, suggests that the structure in (10) contains no trace of the object below the subject to which the former could reconstruct. If so, the object must be base-generated in an A-position above the subject in the Russian OVS construction. This conclusion is further supported by experimental data that demonstrate that while there is psycholinguistic evidence for traces left behind by A-movement (Shetreet and Friedmann 2012, among others), cross-modal priming experiments show that in the case of neutral scrambling there is no reactivation of the scrambled object in the position of potential trace (van de Koot et al. 2015). This is of course compatible with the absence of a trace, but poses a challenge for analyses that treat neutral scrambling as the result of A-movement.

The analysis of the Russian OVS construction as base-generated finds further empirical support in data involving idiomatic expressions. In particular, availability of idioms that consist of a verb and a subject, as in (14) and (15), strongly suggests that an idiomatic verb can form a lexical constituent with the subject to the exclusion of the object. If so, it must be possible for Russian subjects to be base-generated internally to the VP (Chtareva 2004).

14. Ivana/menja minovala èta ČAŠA
    Ivan/me.ACC passed this cup
    'Ivan/I was spared from this.' *(lit. This cup passed Ivan/me.)*
15. Ivana/menja poputal LUKAVYJ
    Ivan/me.ACC confused sly-one
    'Ivan/I unintentionally did something wrong.' *(lit. The sly one confused Ivan/me.)*

The presented empirical evidence strongly suggests that the Russian OVS construction involves variation in base component. Moreover, the base-generation analysis finds theoretical support in the fact that an analysis of OVS as derived via A-movement of an object NP across a c-commanding subject NP runs into a problem with Relativized Minimality (Rizzi 1990),[4] making an A-movement account of the Russian OVS construction not only empirically but also theoretically implausible.

2.2 Syntactic Markedness

As stated in the introduction to this paper, any deviation from the canonical SVO order must be contextually licensed. That is, SVO and OVS can be used for the same numeration and truth-conditional interpretation but while SVO can occur without any interpretive licensing, e.g. out of the blue, OVS consistently captures an interpretive effect that is unavailable for SVO. The adopted interface-based approach to IS encoding assumes that a syntactic structure acquires a particular IS interpretation via mapping onto a particular discourse template (Neeleman and van de Koot 2008, Titov 2012a, 2013a, 2017a and 2017b).[5] The mapping is regulated by the interface economy, whereby a syntactically costly structure is chosen over a syntactically simple structure if and only if the former captures an interpretive effect that the latter fails to express (Chomsky 1995, Reinhart 1995, 2006). The next section looks in detail at the relevant interpretive effect. This subsection is dedicated to the question of

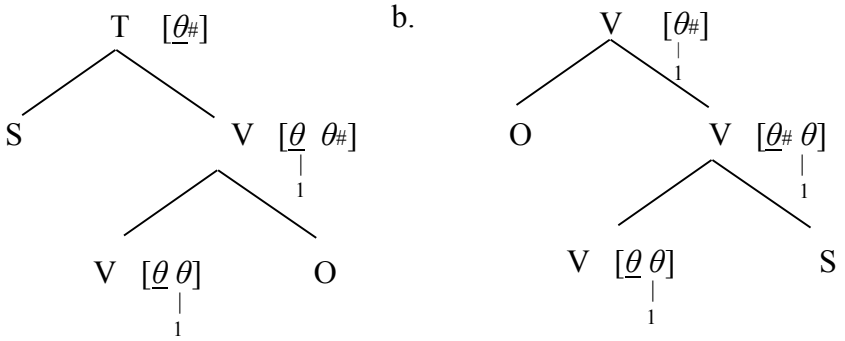
[4] The present paper adopts the notion of Relativized Minimality (RM) introduced in Rizzi 1990, where A-movement of an argument NP across a c-commanding argument NP in an A-position is blocked by the RM Constraint.

[5] As argued in Section 4, mapping from syntax onto discourse is indirect. That is, what is mapped is a PF representation that inherits certain syntactic information and makes it visible (Titov 2013a).

what accounts for the costly syntactic nature of the base-generated OVS construction as compared to the base-generated SVO structure. In particular, if a movement analysis were conceivable for the Russian OVS construction, its marked nature could be accounted for by referring to additional movement operations. On a base-generation account, however, it must be assumed that the scrambled OVS structure is marked with respect to the canonical SVO structure because it involves an inverse order of θ-role assignment, which makes it syntactically costly (Neeleman and van de Koot 2012, Titov 2013a).

Neeleman and van de Koot 2012 maintain that base-generated A-scrambled structures are costly as compared to base-generated canonical structures because the former involve late assignment of a θ-role that is linked to the predicate's ordering tier, as in (16b). The analysis borrows the approach to thematic assignment from Neeleman and van de Koot 2002 where θ-roles are assumed to be features of a predicate that must be ordered in the predicate's theta-grid so as to be distinguished. The fact that only the internal θ-role in (16) is linked to the ordering tier distinguishes the θ-roles and makes them identifiable in copying and mapping to lexical semantics.

16. a. b.



A consequence of the analysis in (16) is that the orders of projection in the canonical SVO structure in (16a) and the scrambled OVS construction in (16b) are not equally economical. The optimal order of assignment of θ-roles is the one that maximally reduces the content of the projecting predicate, as in (16a). Marked orders, on the other hand, result from the assignment of an 'unexpected' θ-role, namely one whose assignment does not maximally reduce the content of the projecting predicate, as in (16b). Since the internal θ-role is linked to the ordering tier, this θ-role should be discharged first, as copying of this θ-role requires copying of the link to the tier. Consequently, copying the unlinked θ-role is cheaper. As a result, whenever the unlinked θ-role is assigned before the linked θ-role, a more complex structure results. The added complexity of the scrambled OVS structure in (16b) is particularly visible when compared to the canonical SVO structure in (16a) where the unlinked θ-role is assigned after the discharge of the θ-role linked to the ordering tier. Unlike the unmarked construction in (16a), (16b) contains an additional copy of a θ-role linked to the tier. Assuming that θ-role assignment applies under direct domination (Neeleman and van de Koot 2002), which forces copying of a θ-role to the first node above an argument, the θ-role linked the ordering tier must be copied to the top node to be satisfied by the object NP in (16b) ('#' signals satisfaction of a θ-role). In (16a), on the other hand, the θ-role linked to the ordering tier is satisfied first. The fact that this θ-role does not have to be copied any further makes the SVO structure in (16a) syntactically unmarked unlike the syntactically costly OVS structure in (16b).

The above analysis successfully captures the costly syntactic nature of the base-generated scrambled OVS construction as compared to the unmarked canonical SVO structure. Assuming that Russian syntax generates marked OVS structures along with

unmarked SVO constructions, at the interface between the syntactic component and the interpretive component, i.e., the post-grammatical level of discourse (Reinhart 1995, 2006), interface economy rules ban syntactically costly structures unless the marked OVS construction achieves an interpretive effect that the simpler unmarked SVO structure fails to express. The next section adopts this basic concept of interface economy (Neeleman and Reinhart 1998, Neeleman and van de Koot 2008, 2012, Reinhart 1995, 1999, 2004, 2006, Titov 2012a, 2013a, 2017a and 2017b) and develops a mechanism of interpretive licensing of the marked OVS construction.

3. Interpretive Licence

3.1 The Mapping Mechanism

The adopted interface-based approach to IS encoding entails that IS interpretations, such as focus, [6] are encoded not in syntax as syntactic features but at the postgrammatical level of discourse via mapping of syntactic representations onto discourse templates.[7] Assuming as before that such mapping is regulated by interface economy that filters out marked OVS constructions unless they achieve an interpretive effect that the simpler unmarked SVO structure fails to express, we need to establish what this interpretive effect is. The position taken here is that the relevant effect has to do with the relative IS prominence of arguments.[8] By hypothesis, the interpretive component contains a well-formedness constraint given in (17) (Titov 2013a and 2017a). That is, there is a requirement for interpretively prominent material to precede interpretively non-prominent material.

17. [+prominent] >> [–prominent]

The constraint in (17) represents the principle of *communicative dynamism* (Firbas 1964, 1971, 1984 and 1992, Sgall et al. 1986), according to which, material that is contextually prominent (for instance, in virtue of being present in the context) precedes material that conveys information not (yet) prominent in the discourse.[9]

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[6] The present paper adopts the following semantic definition of focus: Focus on a constituent α ([α]F) invokes a set A of alternatives to α, indicating that members of A are under consideration (Rooth 1985). The size of focus is established here via question-answer correspondence.

[7] The postulation of discourse 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 such 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 Szendrői 2001; Neeleman and Szendrői 2004; den Dikken 2006 and Fanselow and Lenertová 2011).

[8] The analysis of Russian scrambling as licensed by the relative interpretive prominence of arguments entails that the interpretation of non-arguments plays no role in such licensing.

[9] The principle of communicative dynamism is taken here to be universal. However, languages differ with respect to the extent to which they can obey it. Languages that encode thematic relations via morphological case-markers, such as Russian, allow for more syntactic flexibility, which makes it possible to obey the principle in a larger number of constructions. However, even languages that are more syntactically restricted, such as English, aim at obeying this principle whenever possible. Thus, Williams (2003) observes that while English unmarked structures can encode focus in a variety of positions, a structure with heavy NP shift is used only when the shifted NP is in focus, suggesting that such a structure must map transparently onto (17).

Before we look in detail at interpretations on the basis of which relative IS prominence of arguments is established, let us consider the mechanism of mapping of syntactic representations onto (17). Assuming that at the interface between the syntactic and the interpretive component a mapping rule operates that demands transparent mapping of syntactic structures onto the template in (17), we expect the simplest SVO structure to capture the majority of possible configurations related to the relative IS prominence of arguments (see (18)). After all, it is the unmarked structure that is chosen over the marked OVS structure by the interface economy for its simplicity. We do, however, expect the unmarked SVO structure to fail to capture one specific interpretation, in which case, interface economy rules allow for the cheapest unmarked SVO structure to be replaced with the costly marked OVS construction, as long as the marked OVS structure captures exactly the interpretation that the unmarked SVO construction fails to express.

18.	a.		S[+prominent]	V	O[–prominent]
	b.		S [–prominent]	V	O[–prominent]
	c.		S[+prominent]	V	O [+prominent]
	d.	*	S [–prominent]	V	O[+prominent]
19.			O[+prominent]	V	S [–prominent]

When it comes to the relative IS prominence of arguments, four configurations given in (18) are in principle possible. However, the mapping rule that requires transparent mapping onto (17) can be satisfied by the unmarked SVO structure in (18) only in three out of four cases. The configuration in (18a) maps transparently onto (17). The configurations in (18b,c) vacuously satisfy the mapping rule, as no relative IS prominence is encoded in them. That is, both arguments are either prominent or non-prominent. The only configuration that cannot map transparently onto (17) or vacuously satisfy the mapping rule is the one in (18d), as this structure requires *twisted mapping* (Titov 2017a).[10] The structure in (18d) is therefore rejected by the interface system, as it does not linearly represent the correct partitioning into prominent and non-prominent material. In this case (and this case alone), the unmarked SVO structure can be replaced by the marked OVS structure that maps transparently onto (17), as in (19).

3.2 Argument Prominence Hierarchy

Now that we have outlined the mechanism regulating the correspondence between syntactic representations and available prominence configurations, we can consider interpretations on the basis of which relative IS prominence of arguments is established. One of the most widely discussed interpretations that is capable of regulating the order of arguments in Russian, as well as in many other languages, is the one that distinguishes between discourse-prominent background/ presupposition, on the one hand, and discourse-new focus, on the other. In Russian, there is a tendency for backgrounded/presupposed material to precede focused material, and, in line with this observation, an object that belongs to the background/presupposition of

[10] The representations in (18a-c) and (19) must be understood as the output of mapping of the corresponding syntactic structures onto the discourse template in (17). The features given in square brackets represent discourse interpretations that arguments end up being associated with after mapping. The configuration in (18d) is impossible because mapping onto (17) cannot result in arguments being associated with the given discourse interpretations. This is what the term *twisted mapping* stands for.

a sentence (in virtue of being present in the context) precedes a discourse-new focused subject (see (20)).

20. [Kto poceloval Katju?]$_{\text{CONTEXT}}$
Who kissed Catherine?
a. Katju pocelovala ANJA
Catherine.ACC kissed Anna
'Anna kissed Catherine.'
b. # Anja pocelovala KATJU
Anna kissed Catherine.ACC

If we capture the interpretation that regulates the order of arguments in (20) using a binary feature [±presupposed] and assume that background/presupposition is [+presupposed] and focus is [–presupposed] (Titov 2017a), we can make use of our previously outlined system to account for the data in (20).[11] Assuming that the mapping onto (17) is done on the basis of the [±presupposed] feature in (20), as illustrated in (21), (20b) corresponds to the illicit configuration in (22d), whereas (20a) corresponds to (23).

21. [+presupposed] >> [–presupposed]

22. a. S$_{[+presupposed]}$ V O$_{[–presupposed]}$
b. S $_{[–presupposed]}$ V O$_{[–presupposed]}$
c. S$_{[+presupposed]}$ V O $_{[+presupposed]}$
d. * S $_{[–presupposed]}$ V O$_{[+presupposed]}$
23. O$_{[+presupposed]}$ V S $_{[–presupposed]}$

If relative IS prominence of arguments were calculated solely on the basis of the [±presupposed] feature, we would expect the configurations in (22b,c), where this feature is inoperative, to be consistently captured by the unmarked SVO structure. In fact, it has been argued extensively in the linguistic literature that once a sentence is placed in an all-focus context of a question like 'What's new?' or 'What happened?', it can only have the canonical order of arguments. In our terminology, all the constituents in an all-focus sentence, including the arguments, are [–presupposed], as they are all part of the focus of a sentence, resulting in the configuration in (22b).

Although the above prediction is borne out in some cases (see (24)), this is not consistently the case (see (25)). That is, when both arguments are interpreted as referential, as in (24), it is indeed the canonical SVO structure that surfaces in an all-focus context. However, when the object is referential, while the subject strongly favours a non-referential construal, as in (25), it is the OVS order that surfaces, with the SVO order possible only under the unlikely referential construal of the subject.[12]

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

[11] The binary features used in this paper are no more than convenient labels for interpretations that a syntactic constituent is associated with as a result of mapping principles that relate syntactic structures to discourse templates (Titov 2017a).

[12] As can be seen from the translation in (25a), English encodes the difference in the referentiality status of arguments via a passive construction, which further supports the idea that the principle of communicative dynamism is universal (see also footnote 9).

a. # Katju pocelovala ANJA
Catherine.ACC kissed Anna
b. Anja pocelovala KATJU
Anna kissed Catherine.ACC
'Anna kissed Catherine.'

25. [Čto slučilos'?]$_{CONTEXT}$
What happened?
a. Žučku užalila OSA
Zhuchka.ACC stung wasp
'Zhuchka was/got stung by a wasp.'
b. # Osa užalila ŽUČKU
wasp stung Zhuchka.ACC
'**The** wasp stung Zhuchka.'

Plausibly, (25) involves encoding of an interpretive feature that distinguishes referential NPs from non-specific indefinites. If we represent this interpretation using the binary feature [±referential], and maintain that definite/specific NPs are [+referential], while non-specific indefinites are [–referential] (Titov 2017a), we can use our previously outlined system to account for the data in (24) and (25).

26. [+referential] >> [–referential]

27.	a.		S[+referential]	V	O[–referential]
	b.		S [–referential]	V	O[–referential]
	c.		S[+referential]	V	O [+referential]
	d.	*	S [–referential]	V	O[+referential]
28.			O[+referential]	V	S [–referential]

In particular, we can now argue that (24b) vacuously satisfies the mapping rule that requires transparent mapping onto (17) on the basis of both features, [±presupposed] and [±referential], as the arguments have an equal status as regards both. As expected, a scrambled OVS structure cannot be used for this interpretation (see (24a)), i.e., interface economy filters it out because the unmarked SVO structure in (24b) already captures the required interpretations (see (22b) and (27c)). Hence, employment of the costly OVS structure for the same interpretation is banned by interface economy. The structure in (25a), conversely, is allowed as it has the IS partitioning in (28), which the unmarked SVO structure in (25b) fails to express (see (27d)).

Now that we have two interpretive features that regulate the order of Russian arguments, we need to establish how they interact. To be precise, both features cannot regulate the order of arguments within the same sentence, especially if they have contradictory requirements. That is, if one argument has a positive value of the [±presupposed] feature and a negative of the [±referential] feature, whereas the other argument has a negative value of the [±presupposed] feature and a positive of the [±referential] feature, one feature would demand a canonical order and the other feature a scrambled order (Titov 2017a).

We have seen that the [±referential] feature can regulate the order of Russian arguments and license a scrambled OVS structure whenever the [±presupposed] feature is vacuously satisfied and therefore inoperative (see (25a)). We have also seen that the [±presupposed] feature can regulate the order of Russian arguments and license OVS whenever the [±referential] is inoperative (see (20a)). What we need to

establish is what happens in a sentence like (29), where both features are operative but place contradictory requirements on the linear order of arguments.

29. [Kogo užalila osa?]$_{\text{CONTEXT}}$
Who was stung by a wasp?
a. # Žučku užalila OSA
Zhuchka.ACC stung wasp
b. Osa užalila ŽUČKU
wasp stung Zhuchka.ACC
'Zhuchka was stung by a wasp.'

As can be seen from (29), the [±referential] feature cannot regulate the order of Russian arguments when the [±presupposed] feature is operative. Note that the subject favours a non-referential construal in (29b) just as it did in (25a). Yet, despite the fact that in (29) the [±referential] feature licenses the scrambled OVS order (see (25a)), it is the unmarked SVO order that surfaces (see (29b)), as it is this order that maps transparently onto (21) (see (22a)). This observation strongly suggests that the [±presupposed] feature overrides the [±referential] feature. Hence, if we envisage an interpretive hierarchy that the relevant features are ordered on, the [±presupposed] feature must be ranked higher on it than the [±referential], as illustrated in (30).

30. Argument Prominence Hierarchy
[±presupposed] > [±referential]

Titov 2017:433(12)

The ranking of the features on the Argument Prominence Hierarchy (APH) in (30) illustrates that although both features can regulate the order of Russian arguments, the lower-ranked [±referential] can do so only when the higher-ranked [±presupposed] is vacuously satisfied and therefore inoperative. When the [±presupposed] feature is operative, it overrides the [±referential] feature, with the latter becoming incapable of regulating the order of arguments. When both features are inoperative in a sentence, and the order of arguments is regulated by the thematic hierarchy (Titov 2017a), the canonical SVO structure surfaces (see (24b)), as it is in this structure that the thematically prominent Agent c-commands and precedes the non-prominent Theme. Yet, either feature on the APH in (30) can license the marked OVS structure (see (20a) and (25a)), overriding this way syntactic encoding of thematic prominence. In the next section, I argue that whenever thematic prominence is not syntactically represented, it must be recovered at PF. That is, the interface system must be able to detect that the OVS structure in its input is syntactically costly. We have argued that the costly nature of OVS results from a late assignment of the θ-role that is linked to the predicate's ordering tier. It follows, then, that exactly this information must be accessible to the interface system. In other words, the interface system must be able to detect that in the representation that is fed into it the linearly first argument satisfies the linked θ-role. In the next section, I argue that this information is made visible at PF.

4. Recoverability of Thematic Prominence Relations

4.1 Morphological Identification

4.1.1 Morphological Case Markers

The present paper adopts the view that morphological case (m-case) must be distinguished from syntactic licensing, with m-case being treated as a morphological phenomenon (Bobaljik 2008, Harley 1995, Marantz 2000, McFadden 2002, 2003, 2004, Schütze 1997, Sigurðsson 1991, 2003, Yip et al. 1987, Zaenen et al. 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, it will be assumed here 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 2008, it will be assumed here that the proper place of the rules of m-case assignment, as well as of agreement, which is dependent on m-case, is the Morphological component that is a part of the PF interpretation of structural descriptions.

The main hypothesis put forward in this section is that the costly nature of the OVS syntactic structure must be recovered at the PF interface either via m-case or agreement markers. That is, PF detects the marked nature of the syntactic OVS representation 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. If so, what is mapped onto discourse is not a syntactic representation that is either marked or unmarked but a PF representation that is either marked or unmarked by inheritance from syntax. With this in mind, let us look at the mechanism that regulates the recoverability of syntactic markedness at PF. Logically, all that the PF representation needs to represent for it to be considered by the interface system as either inherently marked or unmarked is the order of assignment of θ-roles in the syntactic representation that is input to PF. In what follows, I argue that the most typical way of representing this is via m-case.

Following Marantz 1991, I maintain that there are three primary types of m-case: (i) lexical 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 m-cases proceeds via the disjunctive hierarchy given in (31), with the dependent case assigned to the lower NP in the domain. However, the ideas developed in this paper favour an analysis where 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.

31. Case Realization Disjunctive Hierarchy Domain: government by V+I

a. lexically governed case
b. dependent case (ACC, ERG)
c. unmarked / default case

That is, we have seen in (20a) and (25a) that the structurally higher NP can carry dependent accusative case in Russian. If so, we must assume that whenever more than one NP is eligible to receive m-case from the case-assignment rules, the algorithm in (31) 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 default nominative case. Assuming that thematic interpretations are ordered in keeping with the thematic hierarchy, with the corresponding θ-roles ordered in the predicate's theta-grid through linking of the internal θ-role to the ordering tier (Neeleman and van de Koot 2012), we can now argue that the algorithm in (31) ensures that m-cases are also ordered with respect to each other, with the dependent m-case being linked to the internal θ-role and thus to the least prominent thematic interpretation, e.g. Theme.

What m-cases encode, then, is (among other things) the relative thematic prominence of arguments in accordance with the thematic hierarchy. Plausibly, in languages like English, the relative thematic prominence of arguments is consistently syntactically represented, with the Agent c-commanding the Theme. 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 already encodes thematic prominence relations and m-case would simply duplicate it. In fact, the redundancy of m-case assignment in languages that consistently use structure for the encoding of the relative thematic prominence of arguments 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 because it encodes the relative thematic prominence of NP arguments independent of 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, that makes the idea that the m-case algorithm refers to the nature of the θ-role that an argument satisfies particularly attractive.

4.1.2 Agreement Markers

Following Bobaljik 2008, I assume that the accessibility of a given NP for controlling agreement on the predicate is determined by m-case. Hence, 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 not only via m-case but also via an agreement marker, as shown in (32b) where the nominative and the accusative morphological forms of the arguments are indistinguishable but the thematically prominent argument (i.e., the argument that satisfies the unlinked θ-role) shows agreement with the verb.

32. a. Stakan pereveshivaet TARELKI
glass.SG.NOM/ACC outweighs.3SG plates.PL.NOM/ACC
'The/a glass outweighs (the) plates.'
b. Stakan pereveshivajut TARELKI
glass. SG.NOM/ACC outweigh.3PL plates.PL.NOM/ACC
'The/a glass is outweighed by (the) plates.'

In (32a), the verb agrees with the linearly first singular argument resulting in the SVO construal, whereas in (32b), it agrees with the linearly last plural argument, resulting on the OVS interpretation.

4.1.3 Morphological Impoverishment

In Russian, m-case and agreement markers are used at PF in order to recover the thematic prominence relations of arguments, which in turn makes the syntactic markedness of the OVS structure visible to the interface system. Whenever thematic prominence relations are not morphologically recovered at PF, the interface system interprets a base-generated structure of the type Argument-Verb-Argument as the canonical SVO structure (see (33)) because in the absence of morphological encoding of thematic prominence, it must be structurally represented.[13]

33. [Kak dela u materi?]$_{\text{CONTEXT}}$
    What's new with mother?
    Mat' (nedavno) navestila DOČ'
    mother.NOM/ACC recently visited daughter.NOM/ACC
    'Mother has (recently) visited daughter.'
    *'Daughter has (recently) visited mother.'

In (33), the context licenses focus on the constituent containing the verb and the postverbal argument, which means that the structure maps transparently onto (21). If so, the interpretive license for OVS is available. Yet, the morphological forms of the nominative and the accusative cases are indistinguishable in (33). Moreover, the agreement marker on the predicate is unable to discriminate what argument satisfies which θ-role, as both arguments carry singular feminine ϕ-features. As a result, no OVS construal is possible in (33), which must be attributed to the fact that the required thematic prominence relation cannot be recovered at PF due to the morphological deficiency of the nouns and the ϕ-feature uniformity.

As predicted by our theory, once morphological recoverability of thematic prominence relations becomes available, so does the OVS interpretation (see (34)).

34. [Kak dela u mamy?]$_{\text{CONTEXT}}$
    What's new with mum?
    Mamu (nedavno) navestila DOČ'
    mother.ACC recently visited daughter.NOM/ACC
    'Daughter has (recently) visited mum.'

In (34), the dependent accusative m-case marks the linearly first NP as the argument that satisfies the linked θ-role, which in turn results in the OVS construal of the sentence.

4.2 Contextual Identification

The above data illustrate that m-case and agreement markers recover thematic prominence relations at PF, which in turn makes it possible for the interface system to detect which structure – SVO or OVS – is being mapped onto the discourse. In addition to that, a structure of the type Argument-Verb-Argument can be interpreted by the interface system as OVS even in the absence of any morphological markers as

[13] Another way of describing (33) is to say that since thematic prominence is syntactically represented in this sentence, morphological encoding becomes redundant and is omitted.

long as the relevant structure contains a syntactic dependency that can only be resolved by an argument that satisfies the linked θ-role, as in (35).

35. Mat'$_1$ navestila eë$_1$ DOČ'
mother.NOM/ACC visited her daughter.NOM/ACC
'Mother was visited 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 (35), can only be interpreted as having the OVS order under the coreferential reading. As expected, embedding a reflexive in the postverbal argument results in the SVO interpretation, see (36).

36. Mat'$_1$ navestila svoju$_1$ DOČ'
mother.NOM/ACC visited self's daughter.NOM/ACC
'Mother visited her daughter.'

A way of capturing the fact that (35) can only have the OVS construal under the coreferential reading is to assume that for the given numeration, syntax routinely generates a pair of representations, [SV[$_{\text{PRONOUN}}$O]] and [OV[$_{\text{PRONOUN}}$S]], but the Russian pronoun itself places a restriction on its local antecedent. In particular, the local antecedent must be a c-commanding NP that satisfies the linked θ-role.[14] As a result, the [SV[$_{\text{PRONOUN}}$O]] structure can only capture the truth-conditional interpretation where the pronoun is not coreferential with the subject, whereas for the coreferential interpretation, only the [O$_1$V[$_{\text{PRONOUN1}}$S] can be used. The reason the representation with a non-coreferential pronoun is not ambiguous between [SV[$_{\text{PRONOUN}}$O]] and [OV[$_{\text{PRONOUN}}$S]] readings is that, like any other formally unidentified structure, it is interpreted by the interface system as [SV[$_{\text{PRONOUN}}$O]]. The representation with a coreferential pronoun, conversely, can only be interpreted by the interface system as [O$_1$V[$_{\text{PRONOUN1}}$S] because no alternative structure for this numeration and truth-conditional interpretation is generated in syntax.

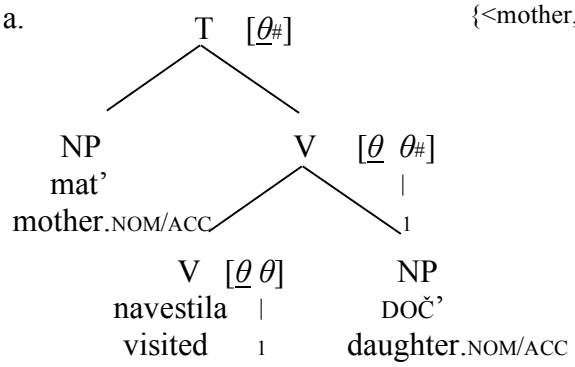
Since pronouns are inherently discourse-anaphoric, i.e., they require a discourse referent to provide a value for the variable they introduce, theta-identification in (35) must take place at the interface with the discourse level, as it is at this level that it is decided whether the pronoun has a local or a non-local antecedent. Depending on the status of the discourse antecedent, the structure that correctly captures the required contextual interpretation is selected by the interface system.

We have argued that in the absence of morphological identification of thematic prominence relations, syntactic identification becomes obligatory, with the structure of the type Argument-Verb-Argument interpreted by the interface system as SVO, unless the context identifies the linearly first argument as the discourse-antecedent for the pronoun embedded in the linearly last argument (e.g. if there are no other discourse referents available for the pronoun). In this case, the interface system selects the marked representation, as no unmarked structure is generated for this interpretation. Given that morphological identification and identification through

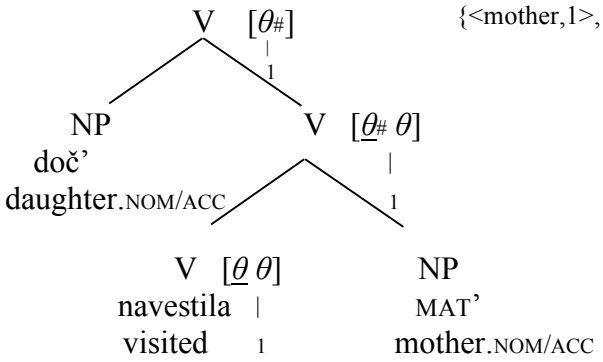
[14] It can also be assumed that the pronoun introduces a selectional requirement that is satisfied by the internal θ-role rather than by the internal argument.

possessive embedding take place postsyntactically, nothing should stop syntax from consistently generating a pair of representations, marked and unmarked, regardless of the morphological properties of the nouns entering the numeration. That is, both SVO and OVS representations must be generated in syntax even for a numeration that contains morphologically deficient nouns that fail to receive the dependent accusative m-case at PF, as in (37) and (38). However, when syntax generates a pair of representations – SVO and OVS – for the numeration in (37) and the truth-conditional interpretation [mother visited daughter], the OVS structure in (37b) is formally indistinguishable from the SVO representation generated for the same numeration but a different truth-conditional interpretation, namely [daughter visited mother], as in (38a). Similarly, the OVS representation generated for this truth-conditional interpretation in (38b) is formally indistinguishable from the SVO representation generated for the truth-conditional interpretation [mother visited daughter] in (37a).

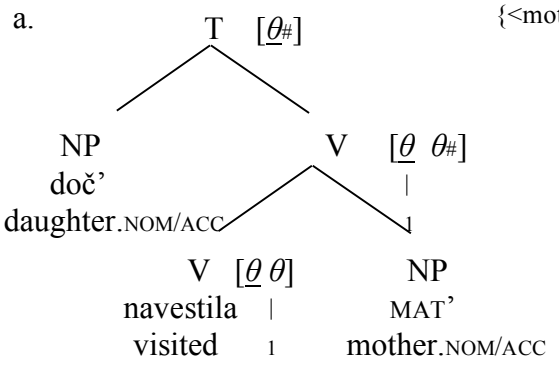
37. a. {<mother,1>, <daughter,1>, <visited,1>, <T(ense),1>}



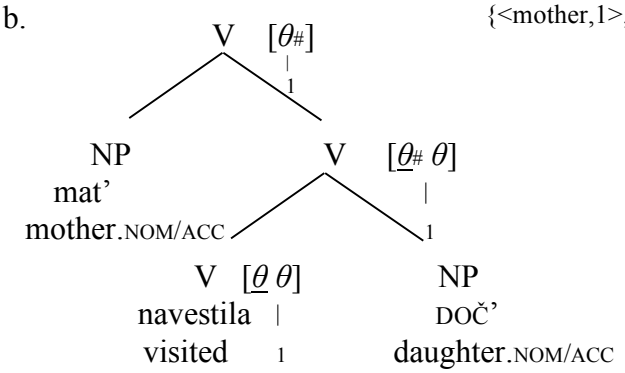
b. {<mother,1>, <daughter,1>, <visited,1>, <T(ense),1}



38. a. {<mother,1>, <daughter,1>, <visited,1>, <T(ense),1}



b. {<mother,1>, <daughter,1>, <visited,1>, <T(ense),1}



Given that the syntactically marked structures in (37b) and (38b) are formally indistinguishable from the unmarked structures in (38a) and (37a), respectively, the interface system fails to interpret them as OVS unless the context itself demands either the truth-conditional interpretation in (37) or the one in (38), in which case, it unambiguously selects the correct syntactic representation for the required truth-conditional interpretation, as in (39).

39. a. [Kto navestil mat'?]CONTEXT
who.NOM visited mother
'Who visited mother?'
Mat' navestila DOČ'
mother.NOM/ACC visited daughter.NOM/ACC
'Daughter visited mother.'

b. [Kogo navestila mat']CONTEXT
who.ACC visited mother
'Who did mother visit?'
Mat' navestila DOČ'
mother.NOM/ACC visited daughter.NOM/ACC
'Mother visited daughter.'

In (39), the relative thematic prominence relations of arguments in the replies are contextually recovered via the link between the *wh*-phrases that introduce a variable and the focused arguments that provide a value for this variable. The thematic prominence status of the *wh*-arguments in the contextual questions in (39) is morphologically identified. A focused argument that provides a value for a variable introduced by the relevant *wh*-argument automatically inherits its thematic prominence status. Thus, in (39a), the *wh*-phrase in the contextual question carries the nominative case marker, which unambiguously identifies it as the external argument. The focused argument that provides a value for the variable introduced by this *wh*-phrase must therefore also be interpreted as the external argument. In (39b), in contrast, the *wh*-phrase carries the dependent accusative case marker, which identifies it as the internal argument. The focused argument in the reply must therefore also be the argument that satisfies the linked θ-role.

It follows from the above observations that contextual identification of the relative thematic prominence of arguments is available if and only if there is a discourse relation that holds between one of the arguments and a discourse antecedent and that involved assignment of a value to a variable. Thus, whenever one of the arguments embeds a pronoun whose variable receives a value from the discourse-referent introduced by the other argument, rather from any other discourse antecedent,

the OVS reading results (see (35)). Similarly, whenever one of the arguments provides a value for a variable introduced by a *wh*-discourse-antecedent, it inherits its thematic status (see (39)).

The observed contextual disambiguation of thematic prominence relations is in line with our assumption that IS interpretations are encoded at the post-grammatical level of discourse. We have argued that Russian syntax consistently generates a pair of representations for a numeration containing a monotransitive verb – SVO and OVS. However, morphological incompatibility of some of the Russian nouns with the accusative m-case marker may prevent morphological identification of any of the arguments as satisfying the unlinked θ-role, as in (39). Consequently, the deficient, i.e., formally unidentified, OVS representation is rejected at the discourse level unless the context itself unambiguously selects it (i.e., whenever the SVO construal is not capable of fitting the context), as in (35) and (39a). In this case (and this case alone), a formally unidentified OVS PF representation can be used at the discourse level.

Above we have argued that OVS is base-generated in Russian. It is syntactically costly as compared to the canonical SVO structure as it involves an inverse order of θ-role assignment. The costly nature of OVS is typically recovered at PF via morphology. The resulting PF representation is marked by inheritance from syntax and, due to interface economy, is chosen at the discourse level to capture an interpretation that the canonical structure fails to express. We have maintained that the relevant interpretation has to do with the relative IS prominence of arguments, which is established on the basis of the interpretations on the APH in (30). We have seen that when IS prominence relations and thematic prominence relations of arguments misalign, only one type of prominence relations can be syntactically represented. Russian chooses to linearly represent the IS prominence of arguments at the cost of not structurally representing the thematic prominence of arguments. The latter prominence relation must, however, be recovered at PF via morphology (or else it requires contextual recovery). In the next section, we consider languages that either consistently or predominantly represent the relative thematic prominence of arguments in syntax and propose a generalization for the availability of neutral scrambling within the cross-linguistic perspective.

5. Cross-Linguistic Consequences

5.1 English

Above we have observed that Russian favours linear encoding of IS prominence. However, such encoding is available if and only if syntax creates two representations for a given numeration and truth-conditional interpretation – the unmarked SVO and the marked OVS. It is only in this case that interface economy can regulate which of these orders fits the context better. Conversely, when only one representation is available for a given numeration and truth-conditional interpretation, as is the case with the structure containing a coreferential pronoun in (35), syntactic encoding of IS prominence becomes restricted and other types of IS encoding must be employed whenever IS prominence misaligns with thematic prominence, as in (40a).[15]

[15] Note that interface economy demands a specific interpretation for OVS only when no restrictions are placed on the generation of the unmarked SVO structure with the same truth-conditional interpretation. Since the unmarked SVO fails to express the required truth-conditional interpretation in (40b), and generation of the scrambled OVS structure for this numeration and truth-conditional interpretation is the only option, the scrambled structure in (40a) does not require (17) as its license.

40. [Kogo$_1$ navestila eë$_1$ doč'?]$_{CONTEXT}$
'Who was visited by her daughter?'

a. MAT'$_1$ navestila eë$_1$ doč'.
mother.NOM/ACC visited her daughter.NOM/ACC
'Mother was visited by her daughter.'

b. * Eë$_1$ doč' navestila MAT'$_1$
her daughter.NOM/ACC visited mother.NOM/ACC

As the structure in (40b) fails to express the coreferential reading, the structure in (40a) must be used even for the construal where the linearly first argument is information-structurally non-prominent as compared to the linearly last argument. That is, the structure in (40a) fails to map transparently onto (21). Although this violation must be allowed, given that there is no alternative structure for this numeration and truth-conditional interpretation that obeys (21), the correct IS partitioning must still be grammatically encoded. As can be seen from (40a), it is encoded in the PF representation via a stress-shift operation.

It follows from the above observation that in a language in which syntax generally fails to produce alternative monotransitive structures, transparent mapping onto the template in (21) will be regularly violated. If so, prosodic encoding of IS prominence relations must be the default option in such a language. An example of such a language is English.[16] English syntax never produces representations in which thematic prominence is not structurally encoded. That is, even in the presence of an interpretative license, as in (41) and (42), and a formal identification, as in (41b) and (42), OVS interpretation is not achievable in English.

41. [Who kissed Mary?]$_{CONTEXT}$

a. # Mary kissed JOHN

b. * Her kissed JOHN

42. [What outweighs the plates?]$_{CONTEXT}$

* The plates outweighs THE GLASS

This means that for a numeration containing a monotransitive verb and two NPs, 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 the main sentential stress to the object via the NSR, whereas the marked prosodic representation is brought about by the marked operation of stress-shift to the subject. Both prosodic operations conform to the focus rule in (43) below. That is, the rule in (43) overrides the default NSR in English in the same way as transparent mapping onto (17) overrides the default thematic prominence alignment with overt c-command in Russian, whenever a marked representation is needed at the discourse level.

43. *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)

[16] While English uses prosody for the encoding of the [±presupposed] feature, it employs morphology for the encoding of the [±referential] feature. Russian, on the other hand, lacks articles of the type found in English and must therefore resort to syntactic encoding of both interpretations.

The marked prosodic representation is created at PF so that there are enough representations to capture all possible IS prominence relations of arguments 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 the one where the object is [+presupposed] and the subject is [–presupposed] (see (44)), which is exactly the interpretation captured by the inherently marked OVS structure in Russian.

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

Since the syntactic structure that is input to PF is always unmarked in English, recovery of thematic prominence relations via morphology becomes redundant. That is, thematic relations are already structurally represented. The IS prominence relations, on the other hand, are not linearly encoded. Therefore, they must be made visible at PF via prosody, as in (44). In Russian, conversely, it is syntax that generates a pair of representations for a given numeration and truth-conditional interpretation: the unmarked SVO structure, in which thematic prominence relations align with overt c-command, and the marked OVS construction with an uneconomical discharge of θ-roles. Since the alternative representation is already generated in syntax, PF no longer needs to create a pair of representations for IS purposes. It therefore applies the default NSR operation to both representations. However, as thematic prominence relations are not structurally encoded in the OVS representation, PF must recover these via morphology.[17] The resulting two PF representations are prosodically unmarked but one of them is marked by inheritance from syntax. By economy, the inherently marked PF representation is used only for the discourse interpretation that the unmarked representation fails to express.

Therefore, 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 morphology. 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 (21) can fail to be generated for a given numeration and truth-conditional interpretation (see (40a)), in which case, Russian behaves exactly like English and resorts to prosodic encoding of IS prominence.

5.2 German

We have seen that while English consistently employs prosody for IS prominence encoding, for Russian it is a last resort option, i.e., it is employed only when syntactic encoding is unachievable (see (40a)).[18] In this subsection, we look at a language that,

[17] We have seen that the SVO structure does not have to be morphologically identified in Russian (see (33)). This is expected, as the thematic prominence relations are structurally encoded in it, and morphological identification becomes redundant and can be omitted.

[18] In colloquial Russian, SVO structures with a stress-shift to the subject are found as answers to questions that license narrow focus on the subject but are perceived as emphatic as compared to the

unlike English, allows for OVS representations to surface in an appropriate context (see (45)) along with unmarked SVO structures, as in (46), but that, unlike Russian, productively utilizes prosodic encoding of IS prominence, as in (47). This language is German.

45. [Wer hat den Studenten besucht?]$_{\text{CONTEXT}}$
'Who has visited the student?'
Den Studenten hat seine MUTTER besucht
[the student]M.ACC has [his mother]F.NOM/ACC visited
'The student has been visited by his mother.'

46. Der Student hat seine MUTTER besucht
[the student]M.NOM has [his mother]F.NOM/ACC visited
'The student has visited his mother.'

47. [Wer hat die Mutter besucht?] $_{\text{CONTEXT}}$
'Who has visited the mother?'
Der STUDENT hat die Mutter besucht
[the student]M.NOM has [the mother]F.NOM/ACC visited
'The student has visited the mother.'

Given that German is capable of syntactically encoding IS prominence (see (46)), the fact that it still has a productive use of prosody for IS prominence encoding must be due to the inconsistent availability of PF recovery of thematic prominence. To be precise, although German has a relatively productive use of the m-case system, it has a more widespread nominative-accusative m-case syncretism than what we observe in Russian, making syntactic encoding of IS prominence frequently unattainable. As a result, prosodic encoding of IS prominence cannot be merely a last resort option in German but must be consistently available.

Unlike in Russian, where nominative-accusative m-case syncretism is rare and is typically found in inanimate nouns,[19] which are incompatible with the Agent thematic interpretation, in German it is very common, as it holds of all feminine, neuter and plural nouns, including those that are animate and can therefore be interpreted either as an Agent or a Theme, as in (48)–(50).

48. a. Die Tochter hat die Mutter besucht
[the daughter]F.NOM/ACC has [the mother]F.NOM/ACC visited
'The daughter has visited the mother.'

b. Die Mutter hat die Tochter besucht
[the mother]F.NOM/ACC has [the daughter]F.NOM/ACC visited
'The mother has visited the daughter.'

---

corresponding OVS constructions. This suggests that prosodic encoding of IS prominence is either a last resort option in Russian, as in (40a), or it is used for additional interpretive needs, such as emphasis.

[19] The only exception to this constitute animate feminine nouns of the *Inflection class III*, as in (33)–(40), which are very rare and often have a variant that does not exhibit a nominative-accusative syncretism, as in (34) and (i) below, and that is more commonly used.

(i) Dočku navestila mama
daughter.ACC visited mum.NOM
'The daughter has been visited by her mum.'

49. a. Das Mädchen hat das Kind besucht
[the girl]N.NOM/ACC has [the child]N.NOM/ACC
'The girl has visited the child.'
b. Das Kind hat das Mädchen besucht
[the child]N.NOM/ACC has [the girl]N.NOM/ACC visited
'The child has visited the girl.'

50. a. Die Schüler haben die Studenten besucht
[the pupils]Pl.NOM/ACC have [the students]PL.NOM/ACC visited
'The pupils have visited the students.'
a. Die Studenten haben die Schüler besucht
[the students]PL.NOM/ACC have [the pupils]Pl.NOM/ACC visited
'The students have visited the pupils.'

The persistent occurrence of structures that lack a morphological identification of thematic prominence makes syntactic encoding of IS prominence frequently unattainable in German. Hence, stress-shift must always be available in this language. Consequently, German has a choice of either behaving like English and syntactically encoding thematic prominence while prosodically representing IS prominence, as in (47), or like Russian and syntactically encoding IS prominence, providing thematic prominence is morphologically encoded, as in (45).

The above observations suggest that cross-linguistically there is no one-to-one correlation between linguistic form and interpretation, as languages may employ different tools – syntactic, morphological or prosodic – to achieve the same interpretive goal. When thematic and IS prominence relations misalign, only one of them can be structurally/linearly represented. The relation that is not structurally/linearly encoded is made visible at the PF interface either via prosody or morphology. Hence, the data discussed in this paper support the principle in (51), which is taken here to be universal.

51. A requirement to overtly represent an interpretive relation MUST be satisfied with whatever linguistic tool available.

In the next subsection, we consider a language that obeys (51) rather differently from any other language discussed so far.

5.2 Akan

So far, we have considered only intonational languages, i.e., languages that have a productive use of prosody for IS encoding. In such languages, an IS prominence relation that fails to be syntactically represented can always be prosodically encoded. In this subsection, we look at a language that, like English, lacks morphological encoding of thematic prominence but, unlike English, it is a tone language, and hence, it lacks prosodic encoding of IS prominence via stress-shift as well (Saah 1994, Féry 2013). This language is Akan.

Given that neither thematic nor IS prominence relations can be encoded at PF in Akan, this language is of particular interest to us. That is, if we are right in assuming that the principle in (51) is universal, it is important to understand how a language that lacks PF encoding of either prominence relation is capable of obeying this principle. In particular, our theory predicts that the lack of PF encoding results in

both prominence relations being encoded in syntax. This prediction is indeed borne out (see (52)).

52. [Hena na ɔ- dii aduan no?]$_{CONTEXT}$
who is 3SG/ANIM- ate food DEF
Who ate the food?

a. Kodwo$_1$ na ɔ$_1$- dii aduan no.
Kodwo is 3SG/ANIM- ate food DEF
'KODWO is who ate the food.'

b. # Kodwo dii aduan no.
Kodwo ate food DEF

c. * Kodwo na dii aduan no.
Kodwo is ate food DEF

In order to obey (51), Akan marks IS prominence by using an inverse pseudocleft, as in (52a), where the focused Agent surfaces in an A-position of the higher clause that is cross-linguistically associated with focus (Titov 2018), while thematic prominence is encoded by keeping a co-referential pronoun in its thematic position.[20] A failure to syntactically encode IS prominence results in pragmatic ill-formedness (see (52b)), whereas a failure to syntactically encode thematic prominence results in semantic ill-formedness (see (52c)).

6. Conclusion

In this paper, we have observed that languages differ in the way they create a marked representation for IS purposes. Some do it in prosody, others in syntax. Those languages that encode IS prominence in prosody represent thematic prominence syntactically. Those languages that encode IS prominence in syntax represent thematic prominence morphologically. Moreover, a given language may employ more than one linguistic tool to achieve the same interpretive effect, while in another language unavailability of an alternative linguistic tool restricts any type of prominence encoding to just one type of linguistic encoding. Crucially, regardless of the type of linguistic tool that a language employs, it must obey (51).

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[20] Following Ofori 2011 and Titov 2018, I assume that the marker 'na' in (52a) is a fusion of the copula 'ne' and the relativizer 'a'. I therefore translate it as a copula. This is also how it is translated by native speakers of Akan.

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