

Does the Verb Move in Russian?

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Introduction

It has generally been agreed that a verb feature on v necessitates overt short movement of the verb to the head of vP (see Bailyn 1995 for arguments). However, the verb feature on T has been an issue of long-standing debate in Russian linguistics. In order to derive various temporal references, the verb feature on T must be checked by the verb (Chomsky 2001). So the question arises whether this happens through the operation Agree and the verb staying inside vP or this is done by the verb moving to T. In this paper, it is argued that the verb does not move in narrow syntax. The proposal is based on the results of a psycholinguistic study which investigates adverb positions in Russian sentences. In particular, the preferred adverbs positions are determined through the Grammaticality Judgment Experiment results and are then analyzed within the Derivation by Phase approach (Chomsky 2001).

1. Verb Movement Tests in Russian

There are three dominant hypotheses regarding the verb movement in Russian. King (1995) argues that the verb moves to T resulting in discourse-neutral VSO order. In contrast to the verb movement hypothesis, Bailyn (1995) argues that the verb does not move to T in syntax, similar to English. Moreover, in later work (2003, 2004), Bailyn proposes that T has a strong verb feature resulting in a requirement for verb movement in inversion constructions (i.e., OVS sentences, locative inversion, adversity impersonal constructions, etc.), but no verb movement in SVO sentences. However, most of the verb movement tests in Russian are inconclusive.¹ The only test, which appears to be a deciding factor for verb movement, is the adverb placement test.

¹ The tests include coordination, scrambling, distribution of negation markers, yes-no questions with particle *li*, word order comparison with VSO languages, pronoun fronting and adverb placement test. See King 1995 and Bailyn 1995 for more detail.

2. Adverb Placement Test

Pollock (1989) proposed that adverb placement can be used as a test for verb movement in different languages. In French, certain adverbs follow the verb and precede the direct object showing that the verb moves to T. In English, on the contrary, the position of these adverbs before the verb proves that the verb does not move. In Russian, it has been assumed (Bailyn 1995, Harves 2002, among many others) that the most natural adverb position is before the verb, as in (1a).

- (1) a. Ja dumaju čto Ivan často celuet Mašu.
I think that Ivan-Nom. often kisses Mary_{ACC}
'I think that Ivan often kisses Mary.'
b. ?Ja dumaju čto Ivan celuet často Mašu.

The immediately postverbal position of the adverb, as in (1b), has been claimed to be ungrammatical.² However, even though the preverbal position of the adverb is preferred by speakers, the postverbal position in Russian is not as bad as it is in English. More evidence for this comes from other Slavic languages such as Ukrainian, Polish, Bulgarian and Serbo-Croatian, where the postverbal adverb position is not ruled out as ungrammatical and is allowed in fast or casual speech. This means that Slavic languages do not pattern together with English where postverbal position of an adverb is completely ungrammatical.

In the absence of other tests for verb movement, the adverb placement test is very significant evidence for proving or disproving verb movement. Thus, the adverb position was tested using the grammaticality judgment experiment discussed below.

3. The Grammaticality Judgment Experiment

The purpose of the experiment was to test the grammaticality of adverbs in preverbal and postverbal positions. If Russian patterns with English, then the preverbal position should be grammatical and the postverbal position is expected to be ungrammatical.

² Henceforth, we will refer to the immediately preverbal and immediately postverbal positions as simply preverbal and postverbal positions.

3.1 Subjects

The experiment was performed with 112 native speakers of Russian (40 males and 72 females from ages 19;0 to 78;4) tested in Russia and Iowa City, USA. In addition, 30 native speakers of English (12 males and 18 females from ages 19;0 to 46;0) were tested in Iowa City, USA.

3.2 Methods and Procedures

The experiment was designed as a written grammaticality judgment test and consisted of a Russian and an English version. In both versions the stimuli were presented in the format of brief situations followed by a question. The question was followed by two answers containing an adverb in immediately preverbal and immediately postverbal positions.³ Each answer was accompanied by a grammaticality scale where 1 was ungrammatical and 5 was fully grammatical.

3.2.1 Russian Version of the Grammaticality Judgment Test

In the Russian version, the adverb position was tested in SVO, OVS and SOV orders. In this paper, we report the results of SVO and OVS orders only. SOV sentences support the general pattern of other word orders and are not included because of the space limits. SVO and OVS are the most common and the most felicitous non-emotive word orders produced by speakers (Kallestinova 2007). Moreover, the two word orders can test Bailyn's (2003, 2004) Generalized Inversion hypothesis. This hypothesis predicts that SVO sentences, where the verb does not move to T, should allow adverbs in preverbal positions and disallow them in postverbal positions. In OVS sentences, where the verb moves to T, the most natural position of an adverb should be postverbal while the preverbal position is expected to be ungrammatical. Examples of SVO and OVS stimuli are given in (2-3).

- (2) Čerez 20 minut načnjotsja urok, a Olja eščo ne gotova. Počemu u Oli tak mnogo vremeni ušlo na sbory?

³ The test also included an answer with a sentence-final adverb. However, the interpretation of those sentences (felicitous vs. infelicitous) strongly depended on the intonation with which those sentences were read by the speakers. Since the written grammaticality judgment task did not allow us to control for the intonation, the sentences with final adverbs were excluded from the analysis.

- ‘The class starts in 20 minutes, but Olga is not ready yet. Why did it take Olga so long to get ready?’
- a. Olja medlenno ela zavtrak. 1 2 3 4 5
‘Olga slowly ate breakfast.’
- б. Olja ela medlenno zavtrak. 1 2 3 4 5
‘Olga ate slowly breakfast.’
- (3) Kogda ja utrom proxodila mimo vašego doma, za domom kto-to kosil travu. Pričom delal eto očen’ staratel’no i akkuratno. Kto eto u vas tak akkuratno kosil travu?
‘When I was passing by your house, somebody was mowing the lawn in the backyard. Moreover, that person was doing it very thoroughly and meticulously. Who in your household was mowing the lawn so carefully?’
- a. Travu akkuratno kosil Dima. 1 2 3 4 5
‘The lawn carefully mowed Dima.’
- б. Travu kosil akkuratno Dima. 1 2 3 4 5
‘The lawn mowed carefully Dima.’⁴

Furthermore, the experiment included frequency adverbs (*often, always, rarely*) and manner adverbs (*slowly, quickly, carefully*) to test the hierarchy of adverbs (Cinque 1999). If verb movement is sensitive to the adverb hierarchy (frequency > manner), then Russian speakers might be more willing to accept postverbal manner adverbs than postverbal frequency adverbs. Finally, both perfective and imperfective verbs were included in the experiment.

Table 1. The design of the grammaticality judgment test with adverbs.

WO	Aspect	Manner Adv	Frequency Adv
SVO	Perf.	4	n/a
	Imp.	2	3
OVS	Perf.	3	n/a
	Imp.	3	3

⁴ In 18 situations with SVO and OVS sentences, 9 situations did not include the adverb in the question, as in (2), and 9 situations included the adverb preceding the verb in the question, as in (3). The results are consistent for both groups showing that the position of the adverb in the question is not likely to affect the grammaticality of stimulus. However, more data are needed to prove this.

The overall design of the test is shown in Table 1, where the numbers represent the number of situations per condition. As Table 1 illustrates, there is an asymmetry between perfective and imperfective verbs used with frequency adverbs, as shown in (4).

- (4) a. Olja često gotovila sup.
 Olya often Imp./cook_{PAST-FEM.SG.} soup
 ‘Olya often cooked soup.’
 b. *Olja često sgotovila sup.
 Olya often Perf.-cook_{PAST-FEM.SG.} soup
 ‘Olya often cooked soup.’

The data in (4) show that perfective verbs are not allowed with frequency adverbs in Russian. These ungrammatical sentences were not included into the stimuli, but were used as fillers to test if the subjects were paying attention to the test. The test items included 18 stimuli and 6 filler situations which were randomly mixed with the test sentences. Based on the filler sentences, speakers whose accuracy was less than 74% were excluded from final counts.⁵ As a result, out of 112 native Russian participants, 19 speakers were excluded.

3.2.2 Focus Scope

It has been argued that VP-oriented adverbs mark the edge between topic and focus in Russian. A constituent that follows the adverb and is pronounced with neutral intonation is necessarily interpreted as focus (Erteschik-Shir & Strahov 2004). In order to check if the adverb position is related to focus scope, four situations with SVO sentences had the stimuli with wide focus scope, i.e., focus scope over VO, as in (5), and three situations with SVO sentences had narrow scope, i.e., focus scope of O only, as in (6).

- (5) Syn prišol domoj s ogromnoj dyrkoj na pravoj kolenke novyx brjuk. Čto že sdelala mama s brjukami?
 ‘The son came home with a huge hole on the right knee of his new pants. What did mother do with the pants?’

⁵ The cut off point for accuracy was based on the Standard Deviation test. Since Standard Deviation was equal to 13, the cut off point was 74% (100%-2 Std. Dev.).

- | | | | | | | | | | |
|----|------|-----------|-----------|-----------------------------------|---|---|---|---|---|
| a. | Mama | akkuratno | prišila | zaplatku. | 1 | 2 | 3 | 4 | 5 |
| | | | | ‘Mother carefully sewed a patch.’ | | | | | |
| b. | Mama | prišila | akkuratno | zaplatku. | 1 | 2 | 3 | 4 | 5 |
| | | | | ‘Mother sewed carefully a patch.’ | | | | | |
- (6) Miša govoril, čto etu butylku emu podarili na prošloj nedele. A sejčas ona počti pustaja. Čto že bylo v butylke, čto Miša ejo tak bystro vypil?
‘Misha said that this bottle was given to him last week. And now it is almost empty. What was in the bottle so that Misha has drunk it so quickly?’
- | | | | | | | | | | |
|----|------|--------|--------|--------------------------------|---|---|---|---|---|
| a. | Miša | bystro | vypil | viski. | 1 | 2 | 3 | 4 | 5 |
| | | | | ‘Misha quickly drank whiskey.’ | | | | | |
| b. | Miša | vypil | bystro | viski. | 1 | 2 | 3 | 4 | 5 |
| | | | | ‘Misha drank quickly whiskey.’ | | | | | |

If there is a correlation between the position of an adverb and the scope, then speakers should accept sentences with postverbal adverbs with narrow focus scope, as in (6b), more often than with wide focus scope, as in (5b). Furthermore, speakers should accept sentences with preverbal adverbs with wide focus scope, as in (5a), more often than with narrow focus scope, as in (6a).

3.2.3 English Version of the Grammaticality Judgment Test

In the English version of the test, the stimuli were designed to control for the type of adverbs (manner or frequency). Each subject was presented with 10 written situations with a question at the end of each situation. The answers had SVO order and differed only in the position of an adverb. The format of the English test was the same as the format of the Russian test. The Russian and English results are presented below.

3.3 Results

3.3.1 Russian Group Results

The overall results of the Russian version of the test are presented in Table 2, which shows average scores on sentences with adverbs in different positions in transitive sentences (the maximal score was 5.0).

Table 2. Grammaticality of adverbs in Russian.

Manner adverbs			Frequency adverbs	
SVO	SAdvVO	SVAdvO	SAdvVO	SVAdvO
Perf.	4.7	3.1	n/a	n/a
Imp.	4.8	2.6	4.9	2.9
OVS	OAdvVS	OVAdvS	OAdvVS	OVAdvS
Perf.	4.7	3.6	n/a	n/a
Imp.	4.6	3.4	4.8	3.7

Table 2 demonstrates that SVO and OVS pattern together in terms of the adverb scores in different sentence positions. In order to compare the scores of each adverbial position in a sentence, the raw data of 93 Russian speakers were analyzed using a non-parametric ANOVA (Kruskal-Wallis test) and Dunn's Multiple Comparison post-test for each of the word orders separately. The ANOVA analysis (Kruskal-Wallis test) and Dunn's Multiple Comparison post-test of SVO and OVS answers revealed no significant difference between perfective and imperfective verbs ($p > 0.05$). Furthermore, there was no significant difference between manner and frequency adverbs in those positions ($p > 0.05$). However, there was a highly significant difference between a preverbal and a postverbal position of an adverb for each type of sentence ($p < 0.001$). This is illustrated in Figure 1.

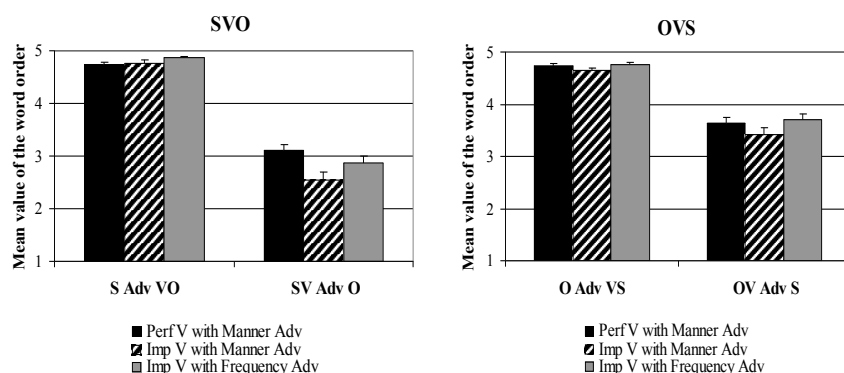


Figure 1. Preverbal and postverbal adverbs in SVO and OVS sentences.

Figure 1 shows that the preverbal position of adverbs in SVO and OVS sentences receives very high acceptability scores, which do not depend on the perfectivity of the verb or type of an adverb. The postverbal position of an adverb is significantly different from the preverbal position for both perfective and imperfective verbs and for both types of adverbs. However, the postverbal score depends neither on the perfectivity of the verb nor on the type of adverb. In addition, the average scores in the postverbal position in SVO sentences is 2.9 and in OVS sentences is 3.6 signifying that the speakers evaluate the postverbal position in SVO and OVS sentences as neither grammatical, nor ungrammatical.⁶

To summarize the group results, the grammaticality test with native Russian speakers shows that the preverbal position is significantly preferred over the postverbal position in Russian in SVO and OVS sentences. However, the mean value of the postverbal position is not low enough to assign ungrammatical status to it. Moreover, the perfectivity of the verb and the type of adverb do not affect the adverb position scores.

3.3.2 Russian Individual Results

The group results are strongly supported by the individual results. They reveal that SVO and OVS are very similar in their distribution of scores, as shown in Figure 2 where each dot represents a score of a speaker.

Figure 2 illustrates that there is little variation in the preverbal data in SVO and OVS sentences in Russian. The predominant number of speakers assigns very high grammaticality scores to preverbal adverbs. On the contrary, the postverbal position shows considerable variation among the participants. However, the majority of speakers still assign scores higher than 2.5 to postverbal adverbs. Thus, 63% of SVO sentences (174/278) and 82% of OVS sentences (228/279) score higher than 2.5. Furthermore, the individual results support the finding that the grammaticality of the adverbial position does not correlate with the perfectivity of the verb or the type of adverb. In brief, the individual

⁶ There is a significant difference between the postverbal adverb scores in SVO and OVS sentences showing that speakers consider postverbal adverbs in OVS sentences better than in SVO. However, in both cases the postverbal position is significantly different from the grammatical preverbal position showing that in both SVO and OVS sentences it has a degraded grammaticality status.

results provide strong support to the group results. Specifically, they confirm that the preverbal position receives very high grammaticality score while the postverbal position is degraded.

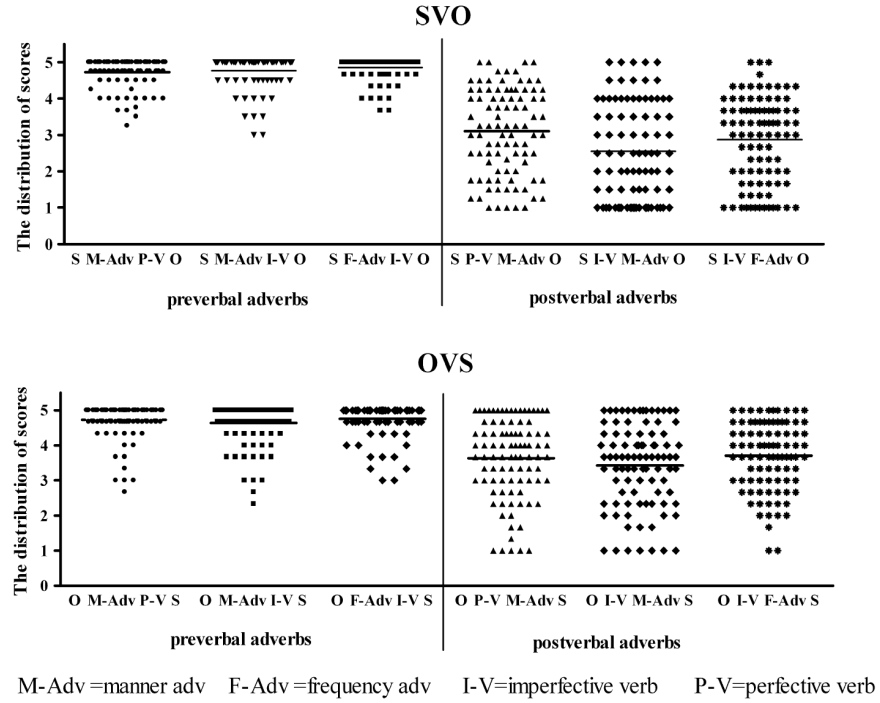


Figure 2. Individual scores in SVO and OVS sentences.

3.3.3 Focus Scope Results

The analysis of the sentences with wide and narrow focus scope showed that preverbal and postverbal positions of an adverb are not related to wide and narrow focus scope, respectively. The results are presented in Figure 3. The ANOVA analysis (Kruskal-Wallis test) and Dunn's Multiple Comparison post-test reveal that there is no significant difference in acceptability scores between sentences with wide and narrow focus scope in the preverbal position ($p > 0.05$). Similarly, there is no significant difference between sentences with wide and narrow

scope in the postverbal position ($p > 0.05$). Therefore, the results show that there is no correlation between an adverb position and focus scope.

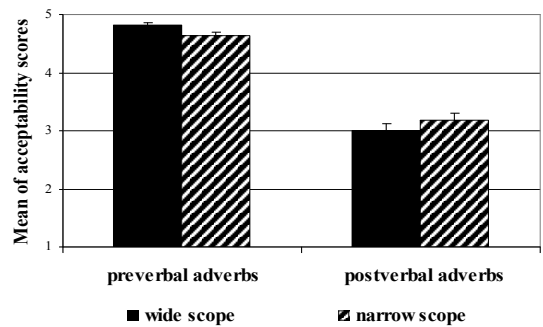


Figure 3. Wide and narrow focus scope in SVO sentences.

3.3.4 Russian vs. English Group Results

In order to understand whether degraded status of postverbal adverbs should be evaluated as ungrammatical, similar to English, the Russian group results were compared to the English group results. This is illustrated in Figure 4.

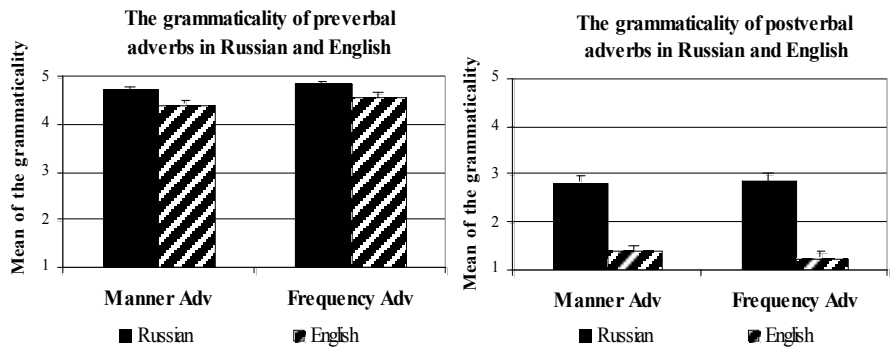


Figure 4. Preverbal and postverbal adverbs in Russian and English.

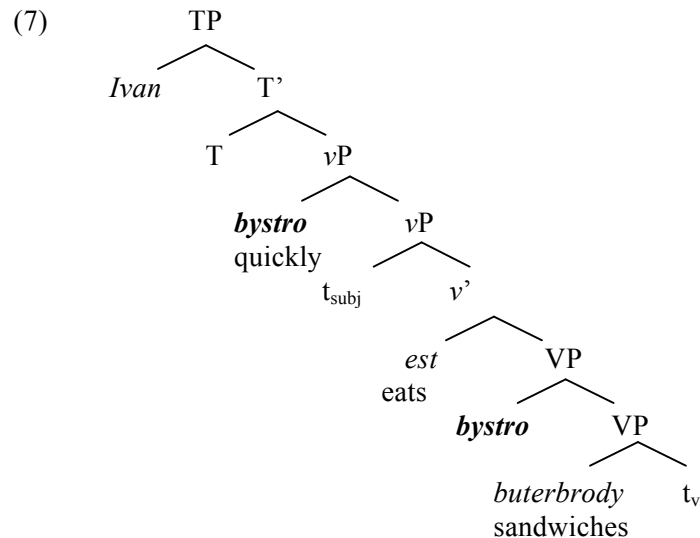
A one-way non-parametric ANOVA (Kruskal-Wallis test) and Dunn's Multiple Comparison post-test show that there is no statistical difference between Russian and English in preverbal manner adverbs ($p > 0.05$), or preverbal frequency adverbs ($p > 0.05$). However, there is a highly significant difference between Russian and English with

postverbal manner adverbs ($p < 0.01$) and postverbal frequency adverbs ($p < 0.001$). These results demonstrate that preverbal adverbs are equally grammatical in both languages. However, the two languages differ in the grammaticality of postverbal adverbs. While in English postverbal adverbs are ungrammatical, in Russian they have a degraded status.

4. Implications of the Adverb Placement Test Results

The results of the adverb placement test have a direct implication for the syntactic analysis of the word order. The fact that the preverbal position is grammatical and strongly preferred in Russian signifies that the verb does not move as high as TP. Otherwise, if the verb moved to TP, then the preverbal position would be expected to be ungrammatical.

At the same time, the fact that the postverbal position has a degraded status, rather than grammatical or completely ungrammatical status, needs to be explained. Let us entertain some possibilities. One way to account for the degraded status could be to suggest that adverbs can optionally left-adjoin to VP in Russian, as in (7).



The structure in (7) illustrates the hypothetical case when an adverb is either adjoined to vP or to VP. If Russian allows adjunction to VP, then postverbal position of the adverb is expected to be grammatical.

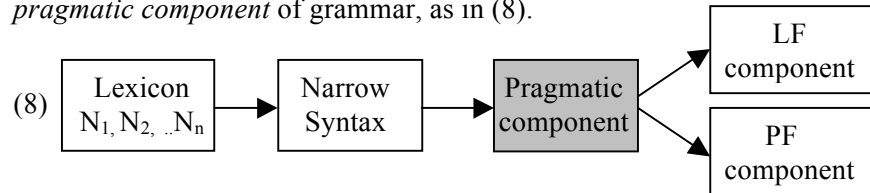
However, as the data show, the postverbal position is evaluated as degraded by most of the speakers. Moreover, the two adjunction positions are expected to have different interpretations. Specifically, the ν P and VP adjoined adverbs might be related to differences in scope. Assuming that adverbs mark the edge between topic and focus in Russian, ν P adjoined adverbs are expected to have wide scope over VO, while VP adjoined adverbs are expected to have narrow scope over O only. This means that with VO focus scope speakers should prefer preverbal adverbs while with narrow scope speakers should accept more postverbal adverbs. However, this prediction is not supported empirically, as shown in the previous section. Regardless of the scope, speakers have a strong preference for the preverbal position of adverbs and assign degraded status to postverbal adverbs. This means that the position of an adverb is not tied to a particular interpretation. Since the postverbal position is not preferred and is not related to a particular interpretation, the VP adjunction analysis becomes problematic.

Similar problems jeopardize an account where the verb raises to some functional projection FP in between ν P and TP. The postverbal adverbs are wrongly predicted to be completely grammatical. Moreover, similar to VP adjunction, two adverb positions are wrongly expected to be associated with two interpretations

Therefore, we conclude that the verb does not move out of ν P in SVO and OVS sentences in Russian. However, if Russian is similar to English, then it should treat postverbal adverbs as ungrammatical, which is not the case either. Russian postverbal adverbs are not completely ungrammatical, but rather have a degraded status. In what follows, we will outline a proposal accounting for the variation between Russian and English postverbal adverbs.

5. Postverbal adverbs move in the pragmatic component.

We propose that the degraded status of postverbal adverbs in Russian and ungrammatical status of adverbs in English can be accounted for within a model which considers word order derivations as part of the *pragmatic component* of grammar, as in (8).



Similar to Functional Form in Bailyn (1995, 2003), Assertion Structure in Zubizarreta (1998), and P-syntax in Erteschik-Shir & Strahov (2004), the *pragmatic component* is a separate component responsible for encoding pragmatic notions of topic and focus into the structure and the derivation of word order permutations. The output of this component is transferred to LF and PF interface components.

According to the model in (8), lexical items are input to the syntactic component, which derives only SVO sentences. This correctly predicts that sentences with preverbal and postverbal adverbs have the same narrow syntax representation: the verb stays inside ν P and the adverb is left-adjoined to ν P. Following the Derivation by Phase approach (Chomsky 2001), the multiple Spell-Out transfers the syntactic structure to the pragmatic component where the constituents are assigned topic and focus features based on the discourse context. For example, to derive an answer to the question ‘Who eats sandwiches quickly?’, the pragmatic component assigns topic and focus feature, as in (9).

(9) [Ivan]_{FOC} [bystro]_{TOP} [est]_{TOP} [buterbrody]_{TOP}

Before the structure proceeds with the derivation, the LF structure is read from the pragmatic structure in (9), predicting that the topic constituents will have scope over the focus constituent. After that, the structure in (9) is input to either the PF component directly or the word order mechanism of the pragmatic component. If the speaker intends to use emotive speech, then the structure in (9) moves to PF where prosodic rules apply and derive the surface representation, as in (10).

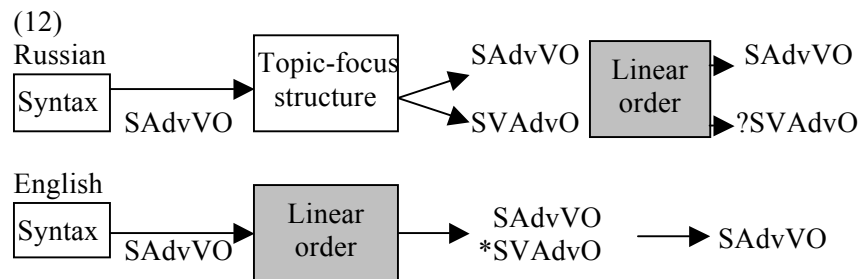
(10) IVAN bystro est buterbrody.

Alternatively, the speaker may choose to be neutral. In this case, the structure in (9) is input to the word order mechanism. The word order mechanism, elaborated upon below, determines the optimal word orders, as in (11), and transfers them to PF.

(11) a. Buterbrody bystro est Ivan.
b. ?Buterbrody est bystro Ivan.

Now, we will briefly sketch the word order mechanism which derives word order permutations in Russian and prohibits those

permutations in English. We propose that this mechanism is constraint-based similar to Optimality Theory constraints proposed in the literature (Grimshaw 1993, Choi 1999). In Russian, the constraint on the order of constituents (i.e., Linearity) is low-ranking and, thus, the permutations of constituents are not ruled out. What determines the word order of constituents in Russian is the alignment of topic constituents with the left edge of the structure and focus constituents with the right edge of the structure. However, in English the Linearity constraint is high-ranking, and, therefore, the constituents are required to appear in the order derived by the syntactic component. This is exemplified in (12).



The schema in (12) illustrates that narrow syntax in both Russian and English generates SAdvVO structure. In Russian, the word order mechanism in the pragmatic component generates two word order permutations, which are equal in terms of their topic-focus structure and vary only in the number of Linearity violations. SAdvVO is significantly preferred in Russian since it does not have any Linearity violations, i.e., the order is the same as in the syntactic structure. SVAdvO is also possible, but degraded since it has two violations of the Linearity constraint. In English, on the contrary, the Linearity constraint determines the structure and prohibits any word order permutations other than SAdvVO order. As a result, SVAdvO is perceived as ungrammatical by native speakers.

Conclusion

Based on the experimental evidence, it is argued that the verb does not move out of vP in the narrow syntax in Russian. This accounts for grammaticality of the preverbal adverb position in both Russian and English. However, the postverbal position of adverbs receives different

grammaticality judgments in Russian and in English. It is proposed that the word order permutations are a result of movement in the *pragmatic* component of the grammar, rather than in narrow syntax. In some languages, such as Russian, word order is determined by topic and focus structure, while in other languages like English, the Linearity constraint prohibits any word orders other than the ones derived by the syntactic component. This accounts for the grammaticality difference of postverbal adverbs in the two languages.

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