

Verb-Stranding Verb Phrase Ellipsis and the Structure of the Russian Verbal Complex*

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Abstract

This paper explores two aspects of the syntactic composition of Russian finite verbs. One focus is on the evidence which suggests that, despite their morphophonological unification, Russian finite verbs reflect a complex internal syntactic structure. Another focus is on the kinds of evidence that can help to detect that structure. One such piece of evidence is a previously un-noticed instance of Verb Stranding Verb Phrase Ellipsis in Russian. Two separate strands of literature — one on verb movement (Bailyn, 1995b, *inter alia*) and one on superlexical prefixation (Svenonius, 2004a, 2008; Fowler, 1994; Babko-Malaya, 2003, *inter alia*) — suggest that Russian verbs move to a position between T and ν P in canonical clauses, and that this position is an Asp projection. Identity conditions on the stranded verb in V-Stranding VPE, when probed carefully, support these preliminary conclusions about the distribution of parts of the verb across syntactic space. Before this can be demonstrated, the empirical properties of V-Stranding VPE must be carefully explored in order to distinguish the construction from argument drop, and understand its verb-matching properties. This investigation opens the door to two research paths: syntactic restrictions on Russian argument drop, and the nature of ellipsis licensing conditions.

Keywords: ellipsis, verb movement, prefix, head movement, argument drop, clause structure

0 Introduction

This paper explores the hypothesis that a significant part of the morphology of Russian finite verbs, though morphophonologically unified and inseparable, can be understood in syntactic terms as functional material merged in a high domain of the clause. A key assumption of this work is that word parts that are syntactic should be sensitive to syntactic phenomena; this paper seeks to justify that assumption by developing

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an understanding of one such piece of evidence — identity requirements on parts of the stranded verb in Verb-Standing Verb Phrase Ellipsis (V-Stranding VPE) — that can help to detect the syntactic structure of functional morphology. In the course of the discussion, I defend the position that certain morphological pieces of verbs are syntactically independent units, and that those components are spread across numerous domains in syntactic space in a way that can be probed via the independent syntactic process of V-Stranding VPE.

Two separate strands of literature — one on verb movement (Bailyn, 1995b, *inter alia*) and one on superlexical prefixation (Svenonius, 2004a, 2008; Fowler, 1994; Babko-Malaya, 2003, *inter alia*) — suggest that Russian verbs move to a position between T and vP in canonical clauses, and that this position is an Asp projection. Though the connection between these two strands of research has not yet been directly explored, both areas of investigation relate directly to, and rely on, our understanding of the structure of the Russian verbal complex. What is ultimately at stake in these investigations is a central issue in linguistic theory: what are the principles that govern how clauses are built, and what is the range of possible variation in how those principles do their work in particular languages?

At present, we can certainly outline a picture of the functional architecture of the Russian clause based on the results of these avenues of investigation (and such a picture is fleshed out in §1); but without further corroboration, the picture remains a preliminary one. The present investigation establishes the accuracy of this picture, on the basis of evidence from what I will ultimately conclude is a previously un-noticed instance of V-Stranding VPE in Russian (1).

- (1) Eto daže esli ja vody v rot naberu?
 That even if I water.GEN in mouth collect.1SG.FUT
 ‘Is that even if I fill my mouth with water?’¹

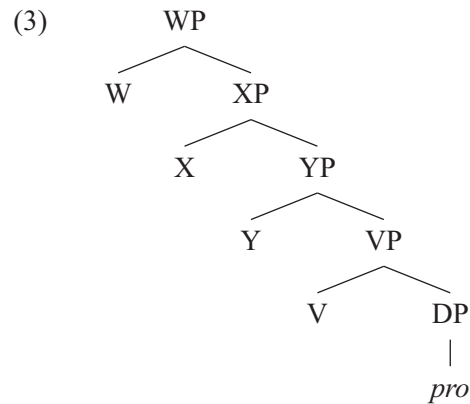
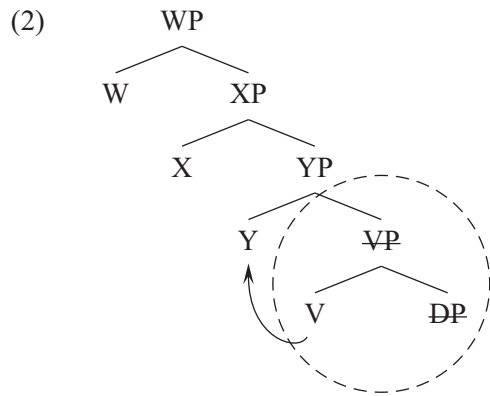
Daže esli i naberete. Da ved’ ne naberete, ne naberete že!
 Even if and collect.2SG. Yes but NEG collect.2SG, NEG collect.2SG EMPH

‘Even if you fill (it with water). But you won’t fill (it with water), you won’t fill (it with water)!’
 (Ju. O. Dombrovskij. *Fakul’tet nenužnyx veščej, čast’ 2*, 1978)²

Analogous constructions have been explored for Irish, Hebrew, Ndenduele, Portuguese, and several of the East Asian languages (McCloskey, 1991; Doron, 1991, 1999; Goldberg, 2002, 2005; Sherman (Ussishkin), 1998; Ngonyani, 1996; Martins, 1994, 2000; Saito, 1985; Kim, 1999; Otani and Whitman, 1991; Hoji, 1998), but never Russian. Preliminarily, there are two ways to characterize (1). The first involves movement of the verb to a position outside the ellipsis domain, in conjunction with ellipsis of a VP-like constituent (i.e., ellipsis of the verb’s arguments and modifiers but not the verb itself) (2). Alternatively, (1) could be an instance of argument drop: the presence of a ‘null’ pronoun which is underlyingly present but not pronounced (3).

¹The idiomatic meaning of ‘fill one’s mouth with water’ is ‘keep silent’.

²All cited examples were found via corpus searches of the Russian National Corpus (<http://www.ruscorpora.ru/search-main.html>), unless otherwise noted.



Here I argue that both strategies are available to speakers of the language, and that they can be differentiated in specific syntactic environments. I further illustrate that identity conditions on the stranded verb in such constructions, when probed carefully, can be understood to support the preliminary conclusions — reached via the unification of the two previously mentioned strands of research — about the distribution of the parts of the verb across syntactic space. Before this can be demonstrated, however, the empirical properties of V-Stranding VPE must be carefully explored in order to *a)* distinguish the construction from argument drop, and *b)* understand the verb-matching properties of the construction. This investigation, in turn, opens the door to two independently interesting research paths: the argument drop data lead to conclusions about syntactic restrictions on Russian argument drop, and the verb-matching investigation sheds light on the nature of ellipsis licensing conditions. Though both of these topics will be discussed in some detail, the primary focus of the discussion will be the consequences of the investigation for Russian clause and verbal structure, and the development of our understanding of V-Stranding VPE as a diagnostic for that structure.

VPE has been used as a diagnostic for English VP constituency in nearly every introductory generative syntax course, a strategy I believe was first used publicly by Ross (1969). Ellipsis leaves remnants that are not inside the VP (4), providing a straightforward way to distinguish the position of modals and the infinitival *to* from the position of the main verb in English.

- (4)
- a. Angela wasn't ready to compete in the Triathlon, but Sadie really wanted to [_{VP} ~~compete in the Triathlon~~].
 - b. Angela couldn't compete in the Triathlon, but you really should [_{VP} ~~compete in the Triathlon~~].

Thus, although the language-specific details are different for Russian, the idea that we can identify which parts of the verbal complex originate inside the VP via VP ellipsis is not a new one. The strategy pursued in this paper leverages a version of this test: it is shown that though the Russian verb moves via head movement to a position outside the ellipsis site, there is still a subtle way to test which parts of the verb originated inside the ellipsis domain. Because ellipsis is subject to licensing conditions which impose identity requirements — the nature of which we will discuss in some detail in §2 — on the elided material, probing identity requirements on the verbal complex in examples like (1) can help expose the parts of the verbal complex that originated inside the ellipsis site. Parts of the verbal complex that are subject to no identity requirement can be understood to have originated in higher domains, thus confirming their status as functional projections above the VP/vP domain.

A primary goal of this paper is to arrive at a thorough and accurate understanding of V-Stranding VPE as a test for functional structure. To this end, I first discuss the preliminary syntactic picture that arises as a result of unifying the currently developing strands of research on Russian verb movement and prefixation (§1). The discussion focuses at first entirely on the brand of aspectual prefixation known as superlexical (SP), describing its empirical properties (§1.2) and developing our understanding of V-Stranding VPE on the basis of that evidence (§2). This exploration requires empirical work to distinguish the two analyses sketched in (2) and (3), and to make the case that examples like (1) should be understood as instances of ellipsis, rather than argument drop. §2 also explores the evidence relating to the matching requirement for parts of the verbal complex, and discusses in some detail the nature of that requirement. §3 explores the consequences of this view of the construction in (1) for adverb placement and the restricted occurrence of subjects. Once V-Stranding VPE is established as a legitimate and reliable test for functional structure, I apply it in §4 to other pieces of the Russian verbal complex, such as the Secondary Imperfective suffix (2IMPF) and the Semelfactive suffix (NU).

1 A Preliminary Picture

Preliminarily, work on verb movement in Russian suggests that the verb moves, but not as high as T (Bailyn, 1995b). The identity of the projection to which “short verb movement” takes place has been much debated, but this has until recently been perceived as a question of labeling and thus not crucial to an analysis. Bringing in the discussion on superlexical prefixation, however, sheds new light on this question, and makes it a much more relevant one. In this domain, it has been independently proposed that superlexical prefixes (SP) are merged high, into an Asp projection that is located between T and ν P (Svenonius, 2004a). A further proposal — one that will be defended extensively here — is that the verb undergoes head movement to this projection, to ensure surface adjacency to the superlexical prefix (Babko-Malaya, 2003; Fowler, 1994). The tentative union of these proposals, then, involves a structure like (5).

(5) [T [Asp [ν [V ...]]]]

If this can be supported, both above-mentioned strands of research point to the same conclusion: the structure of the Russian verbal complex involves at least one functional projection between T and ν P, and there is head-movement of the verb to that position. Later sections of this paper will be devoted to demonstrating that evidence from V-Stranding VPE, and in particular the identity conditions on the stranded verb, further confirm both these conclusions.

1.1 Verb Movement

According to traditional tests for verb movement (Pollock, 1989), the Russian verb does not move to T. Neither low adverbs (6) nor floating quantifiers (7) intervene between the verb and object.³

³The traditional negation test is probably irrelevant for Russian, given that negation is always proclitic on the tensed auxiliary or verb. Thanks to an anonymous reviewer for pointing this out.

(6) Ivan često ubiraet (*často) komnatu.
Ivan.NOM often cleans (*often) room.ACC
'Ivan often cleans his room.'

(7) My vse čitaem (*vse) gazetu.
We.NOM all read.1PL (*all) newspaper.ACC
'We all read the newspaper.'

Evidence from across the board raising of the verb out of coordinated VPs/*v*Ps suggests that the verb moves, but not as high as T (Bailyn, 1995b):

(8) Uxodja iz doma, on zabrosil mjač v mašinu i lopatu v
Leaving from house.GEN he.NOM *behind*-threw.3SG.M ball.ACC in car.ACC CONJ shovel.ACC in
bagažnik.
trunk.ACC
'Leaving the house, he threw the ball in the car and the shovel in the trunk.'

Such examples could be construed as a form of gapping; however, Bailyn (1995b) argues against this view, following an argument presented for English by Bowers (1993). Bowers notices that in English, gapping is unacceptable when more than two remnants are involved in the gapping construction (below, a subject and two internal arguments).

(9) *Mary put the books on the table and Natalie the newspaper on the chair.

However, *v*Ps/VPs involving more than two remnants are acceptable with the mystery "gap" in the second conjunct, as below:

(10) I wrote [a letter] [to Mary] [in the morning] and [a note] [to Max] [during the afternoon].

This would suggest that such sentences are not instances of gapping; if they were, (10) would have to be analyzed as an instance of gapping involving three remnants, something we know to be forbidden for gapping because of (9) above. Instead, the proposed structure for (10) should involve coordination of VPs and extraction of the verb out of both coordinants:

(11) I wrote [[... a letter to Mary in the morning] and [... a note to Max during the afternoon]]

The Russian cases pan out analogously: gapping with more than two remnants in a sentence is unacceptable (12), but if the coordinated VPs involve more than two remnants, the grammaticality judgment improves (13).

(12) *Maša položila knigi na stol, a Nataša gazetu na stol.
 Masha put.3SG.F books on table CONJ Nataša newspaper on chair.

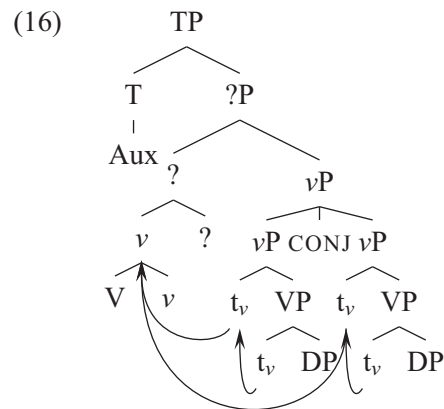
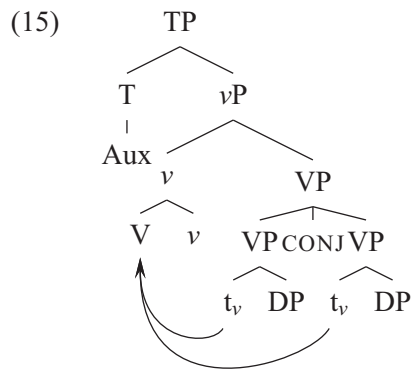
(13) Ja pišu pis'ma v konsul'stvo po utram, a stat'i v gazet
 I write.1SG letters.ACC in consulate.ACC by mornings.DAT CONJ articles.ACC in newspaper.ACC
 po večeram.
 by evenings.DAT
 'I write letters to the consulate in the mornings and articles to the newspaper in the evenings.'

Given this state of affairs, it would seem safe to say that examples such as (8) and (13) should be analyzed as coordinated vPs/VPs with ATB extracted verbs, as opposed to instances of gapping.

Returning to the broader point, these examples indicate that the verb moves to a constituent higher than the coordinated vPs/VPs. Bailyn (1995b) also shows that the verb in ATB raising occurs lower than the auxiliary:

(14) Petja budet priglašat' Mašu v muzej segodnja, a Dinu v kino
 Petja.NOM will.3SG invite.INF Maša.ACC in museum.ACC today CONJ Dina.ACC in movie
 zavtra.
 tomorrow
 'Peter will invite Masha to the museum today, and Dina to a movie tomorrow.'

If, as standardly assumed, Russian auxiliaries are housed in T, then the verb in such constructions moves either to v (15), or to a position (?) between T and vP (16).⁴



Whichever of these is ultimately correct, the point for our purposes is that this evidence points to movement

⁴Bailyn's (1995) paper takes the coordination to be at the VP level, but this is because the paper predates the adoption of vP in the functional layer of the clause. Following Svenonius 2004b, I assume tentatively that v hosts the verb's theme vowel, which determines numerous properties of the verb (among them argument structure, allomorphic selection, etc.). If this is the case, then coordination here takes place by hypothesis at the vP level.

having taken place to a position below T.

Given this state of affairs, a natural next step is to explore further what the mystery projection in the above structure could be. It so happens that the literature on prefixation provides us with an independently developed answer to this question. Because current theories of prefixation are crucially relevant to this discussion, I present them before moving on to a slightly revised approach, which I justify in the following sections.

1.2 Superlexical Prefixation

There is substantial evidence to suggest that Russian prefixes fall into two semantically and syntactically distinct, but homophonous subclasses: lexical (LP) and superlexical (SP) (Isačenko, 1960; Svenonius, 2004a, 2008; Babko-Malaya, 2003, *inter alia*). Though the focus of the present work is mainly on SP, the discussion depends on a basic understanding of the distinguishing characteristics of the two classes. In what follows, I discuss numerous pieces of evidence that have been used to support this subdivision, and summarize a current account of the differences between the two groups, propagated primarily by Svenonius (2004a).

A number of notational conventions should be made clear before moving forward. Because LP and SP are homophonous, I follow Svenonius (2004b) in implementing different glossing conventions for the two subclasses in example sentences. I gloss SP by using the small caps abbreviation of the *Aktionsart* property they contribute (*fig. 1*).

Label	Gloss	Prefix
INCEPTIVE	INCP	<i>za</i>
TERMINATIVE	TRMN	<i>ot</i>
COMPLETIVE	CMPL	<i>do</i>
CUMULATIVE	CMLT	<i>na</i>
REPETITIVE	RPET	<i>pere</i>
EXCESSIVE	EXCS	<i>pere</i>
DISTRIBUTIVE	DSTR	<i>pere</i>
ATTENUATIVE	ATTN	<i>po</i>
DELIMITATIVE	DLMT	<i>po</i>

Figure 1: Selected Russian Superlexical Prefixes

LP are glossed using the prepositional counterpart. This is not intended to imply that this is what LP mean, since their meaning is computed always in combination with the verb stem, often in unpredictable ways.

Other than the two prefixal subgroups, a number of basic components of Russian verbal morphology deserve mention here. Breaking down the Russian verb from left to right, we might see:

1. One or more of the aforementioned prefixes.
2. The root: the core of the verb's meaning (assume this is hosted in V).
3. The secondary imperfective suffix (2IMPF), which makes perfectives imperfective.

4. 2IMPF is in complementary distribution with NU, which is a perfectivizing suffix.
5. The conjugational, or theme, vowel (THEME). This is an umbrella term for the verbalizing suffix, which can be more complex than one vowel. This suffix determines the verb's argument structure and allomorphic selection. We assume, following Svenonius (2004b), that THEME is hosted in *v*.
6. Inflectional information, which is synthetic and encodes gender, person, and tense features.

Discussion of the empirical properties of these various components follows throughout the paper.

1.2.1 Distinguishing Lexical and Superlexical Prefixation

Though members of each prefix group (LP and SP) can sometimes be homophonous and all of the prefixes have the effect of rendering the predicate perfective, the two subgroups are distinct along a number of morphosyntactic and semantic parameters. For example, SP contribute predictable, adverbial or quantificational meanings, do not change the argument structure of the verb, and participate in prefix stacking. We can contrast this with LP, which contribute idiosyncratic, spatial or resultative meanings, do not stack in prefix stacking, and can change the root's argument structure.⁵

Idioms

Though both prefixal groups are associated with perfectivization, only LP can yield non-compositional or idiomatic meanings when combined with the verb stem (17).⁶

- (17)
- a. *zakusit'*
behind-bite.INF
'to snack after drinking'
 - b. *najti*
on-walk.INF
'to find'
 - c. *izbrat'*
out-take.INF
'to elect'
 - d. *podpisat'*
under-write.INF
'to sign'

By contrast, SP contribute adverbial or quantificational meanings; the resulting meaning is predictable (18).

⁵What I present here is a summary of the properties I find to be most relevant to understanding the difference between the two classes for the purposes of the present discussion; the exposition is by no means exhaustive. I refer the reader to Isačenko 1960, Babko-Malaya 2003, Tatevosov 2007 and Svenonius 2004a, *inter alia*, for more detailed discussions.

⁶When idiomatic readings do not result, LP in combination with the verb stem yield a spatial or resultative meaning.

- (18) a. perekidat'
DISTR-throw.INF
'throw one by one'
- b. perekusat'
DISTR-bite.INF
'bite one by one'
- c. perebit'
DISTR-beat.INF
beat one by one'
- d. perežeč'
DISTR-burn.INF
'burn one by one'

Secondary Imperfectivization

The secondary imperfective suffix (frequently realized as [-iva-]) turns perfective stems into imperfective stems. A sketch of 2IMPF formation is presented in (19); notice that adding the 2IMPF suffix to an imperfective stem (as in the ungrammatical example below) yields an unacceptable form — that is, only perfective forms can license 2IMPF.

- (19) kolot' (IMPF) → nakolot'(PFV) → nakalyvat'(IMPF)
but: *kalyvat'

Broadly, SP are incompatible with secondary imperfectivization, while LP are compatible with it.

- (20) a. On nakolol orexov.
He CMLT-cracked.3SG.M nuts.GEN
'He cracked enough nuts.'
- b. *On nakalyval orexov.
He CMLT-cracked.2IMPF.3SG.M nuts.GEN
- c. On nakalyval klientov.
He *on*-cracked.2IMPF.3SG.M clients.GEN
'He was cheating the clients.' (idiomatic)
(Svenonius, 2004a)

2IMPF is compatible only with the instance of *na-* above that also yields an idiomatic reading of the verb (20c), indicating that LP license 2IMPF, but SP do not.

While most SP don't license 2IMPF formation, there are some exceptions. For example, repetitive (RPET) *pere-* has a temporal quantizing meaning (roughly equivalent to English *re-*), suggesting that it is SP. However, it still licenses 2IMPF in examples like *perepisyvat'*, 'rewrite.IMPF' (Svenonius, 2004b).

Prefix Stacking

Where multiple prefixes attach to the verb stem, LP always occur closer to the stem than SP (21a). Different members of the SP class can co-occur, albeit with ordering restrictions (21b). Members of the LP class cannot co-occur under any circumstances (21c); they can occupy no more than one morphosyntactic ‘slot’ in the verbal complex.

- (21) a. Vasja na-za-bival / *za-na-bival gvozdej v
Vasja CMLT-*behind*-hit.2IMPF.3SG.M / *behind*-CMLT-hit.2IMPF.3SG.M nails.GEN in
stenu.
wall.ACC
‘Vasja hammered a bunch of nails into the wall.’
- b. Vasja po-na-za-bival gvozdej v stenu.
Vasja DISTR-CMLT-*behind*-hit.2IMPF.3SG.M nails.GEN in wall.ACC
‘Vasja hammered a lot of nails into the wall here and there.’
- c. *Vasja za-v-bival gvozdi/gvozdej v stenu.
Vasja *behind-in*-hit.2IMPF.3SG.M nails.ACC/nails.GEN in wall.ACC
(Tatevosov, 2007)

Argument Structure

The attachment of a LP can sometimes change a verb’s argument structure. In (22), an intransitive verb is turned into an obligatorily transitive one via addition of the LP *pro*-.

- (22) a. Sobaka ležala (*odejalo).
Dog lay.IMPF.3SG.F blanket
‘The dog lay (*the blanket).’
- b. Sobaka proležala odejalo.
Dog *through*-lay.PFV.3SG.F blanket
‘The dog wore out the blanket by lying on it.’

Attaching a LP can also change the type of object that is required by the verbal complex.

- (23) a. Ona za-pisala svoi mysli.
She *down*-wrote.3SG.F her.REFL thoughts.ACC
‘She wrote down her thoughts’
- b. *Ona za-pisala knigu.
She *down*-wrote.3SG.F book.ACC
intended: *she wrote down a book.

By contrast, the addition of a SP to the verbal stem does not appear to affect the selectional requirements of the resulting complex.

Stem Selection

A few verb stems in Russian make the distinction between perfective and imperfective apparent via a change in their ‘theme’ vowel (THEME).

- (24) brosit’ ‘toss’ (PFV)– brosat’ ‘toss’ (IMPF)
kinut’ ‘throw’ (PFV) – kidat’ ‘throw’ (IMPF)

In such cases, SP always attaches to the imperfective stem, while LP combines with the perfective form.

- (25) a. nabrosit’ / nabrosat’
on-toss.PFV / CMLT-toss.IMPF
‘toss on’ / ‘toss a lot of’
b. perekinut’ / perekidat’
across-throw.PFV / DSTR-throw.IMPF
‘throw across’ / ‘throw one by one’

Given these facts, we predict that 2IMPF will coincide only with the perfective stem, since that is the stem that combines with LP; this prediction is borne out, as in (26).

- (26) nabrasyvat’
on-throw.2IMPF.INF
‘to throw on’ (*to throw enough of)

In the form above, the stem is perfective, 2IMPF is licensed, and the prefix receives a spatial (lexical), not adverbial (superlexical), interpretation.

Summary

The evidence presented in this section (and summarized below) is meant to establish a number of empirical differences between the two subclasses of Russian prefix, LP and SP.

LEXICAL PREFIXES:

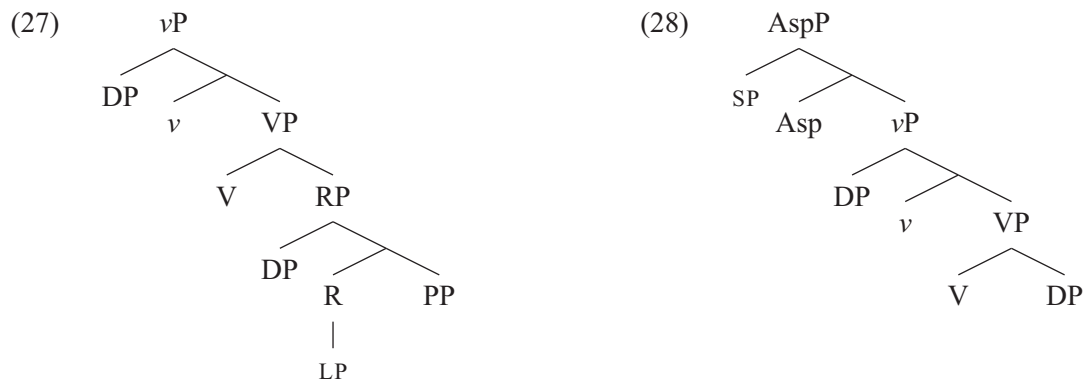
1. Contribute idiosyncratic meanings
2. Compatible with 2IMPF
3. Closest to root in prefix stacking
4. Do not co-occur
5. Can change verb’s argument structure
6. Can attach to perfective stems

SUPERLEXICAL PREFIXES:

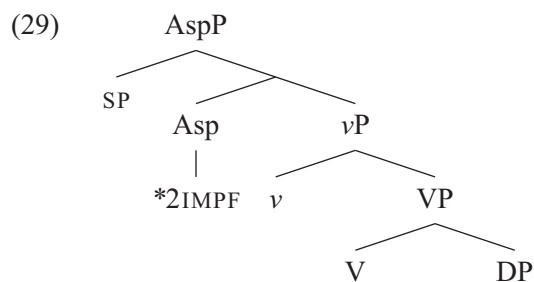
1. Contribute predictable meanings
2. Incompatible with 2IMPF
3. Outside LP in prefix stacking
4. Can co-occur
5. No change in verb’s argument structure
6. Attach to imperfective stems

1.2.2 The Position of Superlexical Prefixation

A current approach to distinguishing between the two prefixal classes (Svenonius, 2004a,b) has accommodated their differing characteristics structurally. The analysis assumes a standard Minimalist conception of how verbal projections are composed, with a transparent correspondence between syntactic and morphological structure. LP attach within ν P as R[esultative] heads of small clauses (27), parallel to proposals for the German verb-particle construction (Ramchand and Svenonius, 2002). SP attach above ν P (28).



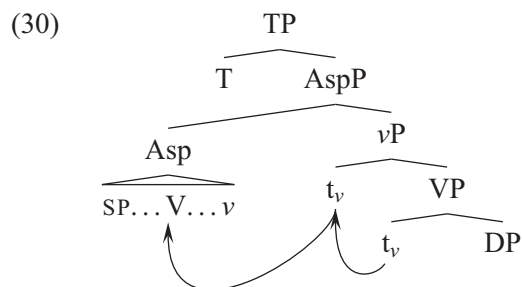
This structural distinction is meant to account for the varying properties of the two groups. For example, since idiomatic meanings are conjectured to arise within the ν P domain (Marantz, 1984, 1997), non-compositional meanings of LP-verb combinations are accounted for by the structure in (27). If we assume that the imperfective suffix is realized in Asp, we can also account for the ban on secondary imperfectivization for SP. 2IMP can attach only to a perfective stem, and SP merges too late in the derivation to be of help, as demonstrated in (29).



Throughout the development of this line of analysis, there have been various formulations of the morphosyntactic methods by which both SP and LP attain their final status as left-adjacent to the verbal root, and inseparable. On one proposal, both LP and SP are heads, and attain their preverbal positions via head movement; LP moves to adjoin to the verb (Fowler, 1994; Babko-Malaya, 2003; Rojina, 2004; Dmitrova-Vulchanova, 1999), and the verb raises to right-adjoin to SP. On another approach, each prefix is the head of a phrase which contains a null operator as its complement (Svenonius, 2004a). On this view, the prefixes are joined to the verbal root via some version of phrasal movement.

Though the two proposals differ with respect to whether SP is phrasal or a head, they have in common that SP is externally merged into a projection Asp, between ν P and T. We will move in §1.2.3 to considering the

various possible mechanisms for composition of the verbal complex; for now, let us assume that SP is a head and that the verbal complex is composed via head movement, as in (30).



At this point we can notice the similarity of (30) to (16); on this view, the mystery projection to which “short verb movement” takes place is Asp, located between vP and T. Preliminarily, then, it appears that the research on SP confirms the conclusions independently reached by Bailyn’s (1995b) work.

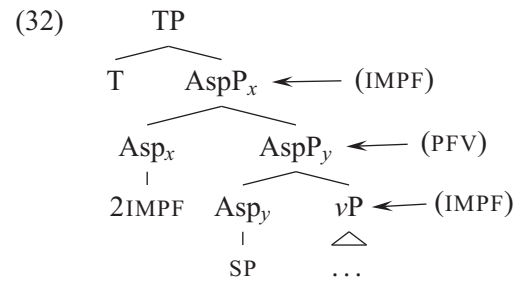
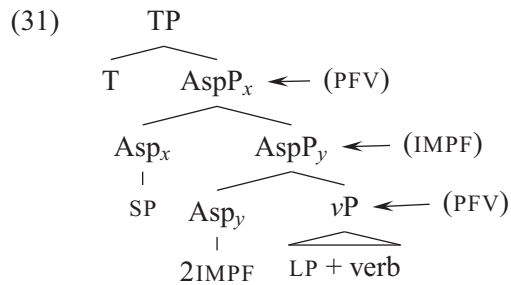
In what follows, we return to the question of how SP are composed with the rest of the verbal complex, leaving aside the issue of LP.

1.2.3 Compositional Mechanics

Building from the proposal described in §1.2.2, let us consider how SP can be made to appear in its immediately preverbal surface position. There are two (related) issues at hand here: first, given the structure proposed in (28), the syntactic discontinuity of the verb and SP suggests that some form of movement must be involved; *a priori*, this movement could conceivably be postsyntactic or could take place in the narrow syntax. Second, there is the question of whether SP originates as a phrase in the specifier of Asp or as an Asp head. I address each of these in turn.

Impressionistically, it appears reasonable to conceive of both SP and 2IMPF as heads in the functional layer of Russian clausal structure. For example, both items can change the verb’s overall aspectual interpretation from perfective to imperfective or vice versa. Though SP additionally provide some sort of adverbial meaning, their function is essentially similar to that of 2IMPF; the fact that there are numerous different flavors of SP further supports the idea that these might be different instantiations of a head (i.e., different members of a small closed class).

The interaction between 2IMPF and SP, in particular with respect to selection, gives us good reason to believe that both are syntactic heads. Recall that whether or not SP license secondary imperfectivization appears to depend on the specific prefix at hand. For example, the inceptive SP *za-* does not typically license 2IMPF formation, but the repetitive SP *pere-* regularly allows it (Svenonius, 2004a).



Both the configurations above are permissible. (31) corresponds to examples like *povybrasyvatʹ* (33), in which a lexical prefix perfectivizes the stem, secondary imperfectivization applies, and then the SP is added, re-perfectivizing the verbal complex.

- (33) Vasja za čas povybrasyval vse^j lišnie šmotki.
 Vasja in hour ATTN-out-throw.2IMPF.3SG.M all.ACC excess.ACC belongings.ACC
 ‘Vasja threw out all (his) extra belongings one by one in an hour.’ (PFV)

(32) corresponds to cases like *perepisyvatʹ* (34), in which SP directly perfectivizes a verbal stem, after which secondary imperfectivization is added, rendering the predicate imperfective.

- (34) Vasja celyj čas perepisyval statju.
 Vasja whole hour RPET-write.2IMPF.3SG.M article.ACC
 ‘Vasja was rewriting the article for a whole hour.’ (IMPF)

Since SP and 2IMPF can out-scope each other, and since this mechanism is apparently dependent on the particular SP at hand, it follows that SP must be capable of imposing selectional restrictions on elements in its domain. If both SP and 2IMPF are heads, this is a routine instance of a head-to-head selectional relation (both the orders in (31) and (32) are acceptable, but for different prefixes).

Another piece of evidence to suggest that both SP and the 2IMPF are distinct aspectual heads comes from patterns of prefix stacking. We have already seen that only particular orders are permitted, as in (35).

- (35) a. poperepisyvatʹ
 DLMT-RPET-write.2IMPF.INF
 ‘to keep re-writing bit by bit’
 b. *perepisyvatʹ
 RPET-DLMT-write.2IMPF.INF

This pattern suggests a head-to-head selectional relation, in which certain SPs optionally license other SPs in their scope. An alternative possibility, explored by Tatevosov (2007), is that, parallel to Cinque’s work for adverbs, the functional heads which host different classes of affix occur in an order which is fixed (directly

or indirectly) by UG. In this cartographic approach, there are three projections: the highest for SP, the intermediate for 2IMPF, and the lowest for SP which nevertheless co-occur with (and are out-scoped by) 2IMPF, as in (34). Both possibilities are plausible, and I leave the issue of distinguishing between them for later work.

Despite the various reasons listed above in favor of SP's head status, an analyst committed to the idea of SP occupying a specifier position might be tempted to interpret the pattern in (35) as a case of ordering restrictions holding between multiple specifiers, à la Richards 2001. In the cases Richards was addressing, SHORTEST MOVE was responsible for attracting elements in a particular order from their base positions. In the case of SP, the prefixes would have to be externally merged into a specifier position in a certain order; the only conceivable mechanism for enforcing this order would be particular features on one Asp head (given the structure in (28)). However, the order of prefix stacking is clearly not dependent on the features of one head; rather, each SP dictates which other SPs, if any, can attach inside it. If SPs are instead realized as heads, these sorts of ordering restrictions in prefix stacking are expected, consistent with (21) and (35).

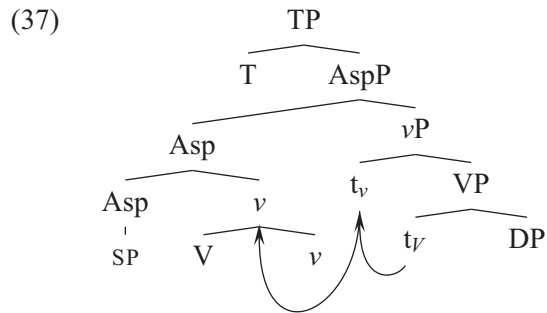
The proposal that SP (and potentially 2IMPF, too — see §4 for more discussion of this point) are heads, rather than phrases, also helps us answer the second question — how do the various parts of the Russian verb come to be pronounced as one word? If other components of the verbal complex — the theme vowel and the root, minimally — are heads, this uniformity makes the mechanics of composing the various components more feasible.

A priori, this composition could take place either in the narrow syntax or postsyntactically. I argue that when the Russian verb moves to non-canonical positions, it moves as a unit in the narrow syntax. For instance, in examples such as (36), the verb appears to undergo leftward focus-driven movement to arrive in the sentence-initial position.

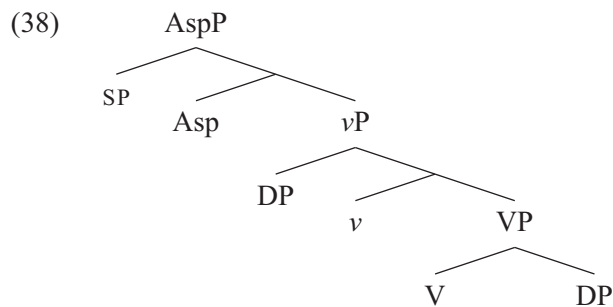
- (36) Terpet' ne mogu [terpet'] etu damskuju maneru.
 Stand.INF NEG can.1SG [~~stand~~.INF] this.ACC dame-like.ACC manner.ACC
 'I can't stand that haughty manner.'
 (I. Grekova. *Perelom*, 1987.)

Whatever the analytical details of this construction, it is unlikely to be the case that what looks on the surface to be focus-driven movement of the verb is a post-syntactic phenomenon, since it has discourse-structural consequences. With postsyntactic composition ruled out as a possibility, we are left with the compositional option of head movement in the narrow syntax. Before we discuss the merits of such an approach, consider the proposed head-moved structure in (37). If linear order in head movement is not determined until linearization (contra Kayne 1994), then the correct order of morphemes, represented here for illustrative purposes as right-adjunction, can be derived straightforwardly.⁷

⁷Alternatively, the correct order of morphemes can also be derived via the postsyntactic operation *Local Dislocation* (Embick and Noyer, 2001; Embick, 2003): $[[V \nu] SP] \rightarrow [SP [V \nu]]$. Note that Local Dislocation can apply only if it has access to structural information about how deeply embedded each subword is. There has been some equivocation on this point in the literature, but if Local Dislocation applies to a strictly linearized structure, then the only possible outcomes of the output of the syntactic structures in (31–32), given left-adjunction, are $[V \nu SP \text{ 2IMPF}]$ or $[\nu V \text{ 2IMPF} SP]$ (neither of which matches the desired outcome). This problem, and the need to make use of Local Dislocation altogether, can be avoided under an approach in which the ordering of elements in head movement is not determined until linearization.



Consider for a moment what would happen if we were to abandon the idea that SP are Asp heads, and return to the Svenonius 2008 structure in (38), in which the landing site for head movement would have to be a specifier position, to achieve adjacency with the SP.



Here we are reminded of proposals which involve head movement targeting a specifier position, with subsequent morphological merger of the moved item with the head of that specifier (Toyoshima, 2000; Matushansky, 2006). However, that approach, as instantiated in Matushansky 2006, will run into difficulties if the structure in (38) is correct.⁸

Though Matushansky 2006 contains no discussion of cases involving head movement through a number of projections, as would necessarily be the case in (38), we can attempt a direct extension of her proposal to deal with such cases. The procedure would have to involve movement of the V head first to the specifier position of ν P, after which morphological merger would need to take place. However, if the external argument originates in the specifier of ν P, as assumed in (38), then a conflict arises: does V move to [spec, ν P] first, or does DP project in [spec, ν P]? For the derivation to proceed, we would need to assume that V moves first, followed by m-merger,⁹ followed by external merge of DP into [spec, ν P]. However, it is not clear at all whether this order of events could be made to follow from any principle. Furthermore, it would appear that obligatory external arguments must be merged as soon as ν projects, according to Chomsky's principle that first merge is limited to the satisfaction of thematic requirements.

An analogous problem arises higher in the structure, because SP must also be externally merged into a specifier position, according to (38). Let us assume that for whatever reason, the 'right' order of operations

⁸The discussion here takes as a given that SP is not phrasal; if it were, however, none of the proposals discussed would fare particularly well.

⁹As defined in Matushansky 2006, m-merger is a morphological operation whose function is to make a complex head out of material in the specifier and head positions of one and the same phrase.

holds, and the V-*v* complex moves to the specifier of Asp, then undergoing m-merger to yield V-*v*-Asp. If SP merges into the specifier of Asp after these operations take place, m-merger will have to apply yet again in order to form the desired complex head, SP-V-*v*-Asp. This raises the question of whether m-merger can apply recursively within what is essentially the same domain. In order to derive a general ban on excorporation, Matushansky's proposal insists that any head created via m-merger is a syntactic phase, in the sense of Marantz 2001. If this claim holds, then the complex V-*v*-Asp will be spelled out as soon as it is formed, preventing the addition of further material by m-merger. These difficulties would seem to suggest that head movement in such cases is best understood in the narrow syntax sense, with no movement through specifiers.

1.3 Interim Summary

The previous two sections have elaborated on and defended a particular view of the Russian verbal complex and functional structure that draws primarily on two independently developed strands of research: one on verb movement and another on prefixation. This view involves the existence of an Asp projection between T and *v*P in Russian, which hosts (minimally) SP and which is the landing site for head movement in the narrow syntax; the fact that the verb moves no further appears to align with the evidence developed in Bailyn 1995b, as described in §1.1.

2 V-Stranding VPE: Diagnosing Functional Structure

In this section, I develop an understanding of Russian V-Stranding VPE which helps to independently verify the preliminary conclusions reached on the basis of the discussion in §1. While the investigation of V-Stranding VPE is independently interesting and leads to research consequences for issues like argument drop and ellipsis licensing conditions, a broad goal in exploring this phenomenon is to be able to use it as a diagnostic for functional structure, both for Russian and other languages.

V-Stranding VPE has been analyzed as verb movement to T, followed by VP ellipsis (McCloskey, 1991; Goldberg, 2005). Given the lack of verb movement to T in Russian, examples like (39) would seem to present a problem.

(39) Ty poznakomil Mašu s Petej?
 You.NOM introduce.2SG.M Maša.ACC with Peter.INSTR
 'Did you introduce Masha to Peter?'

Konečno poznakomil!
 Of-course introduce.1SG.M
 'Of course I introduced (Masha to Peter)!'

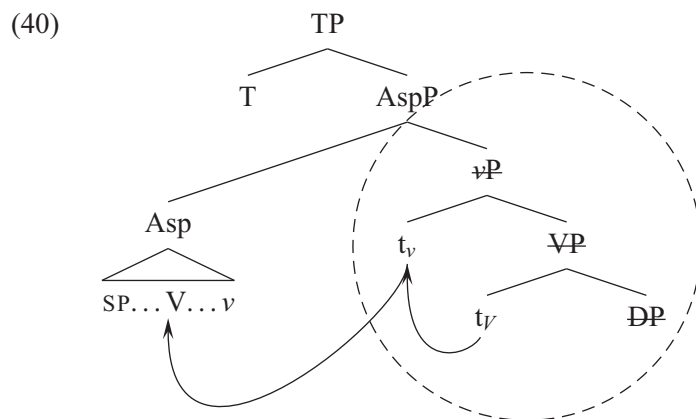
Evidence from §1.1 suggests that V does not move as far as T in Russian; but Russian also appears to exhibit behavior associated with V to T movement in other languages (V-Stranding VPE). The existence

of a projection between T and ν P, independently required for the analysis of SP, resolves this apparent contradiction. If there is indeed an Asp projection to which the various components of the verbal complex move in Russian, we predict V-stranding to be possible, assuming that in such cases ν P is the target of the ellipsis operation.

Though it may not be immediately apparent, V-Stranding VPE connects directly to our investigation of the functional structure of the verbal complex. If the conclusions reached so far are dependable, then we should be able to detect the presence of a constituent which is:

- ... maximal;
- ... the complement of Asp;
- ... contains the verbal root, the verbalizer and verbal arguments.

Since we might expect that phrasal complements of closed-class heads are subject to ellipsis, it is profitable to look for such an ellipsis process in Russian (elision of the ν P complement of Asp).



A central hypothesis of the present analysis is that what we call an inflected verb is syntactically complex, with different sub-parts distributed across different locations in syntactic space. Ellipsis of the circled constituent in (40) would result in the surface effect of all verbal arguments and adjuncts (everything that is merged in the domain of ν P) being missing; the inflected verb, however, should ‘survive’, having moved out of the ellipsis site. It would follow that we may also find a verbal matching requirement, following what we know from investigations of this construction in Irish and Hebrew (McCloskey, 1991; Goldberg, 2005). Since the root and verbalizer originate inside the ellipsis site, we might expect that they would be relevant for the calculation of the relation of identity or given-ness relevant for the licensing of ellipsis.¹⁰

Preliminarily, we might expect the matching requirement to have its own set of characteristic properties. The details will depend on what exactly one assumes about the nature of head movement, the nature of verbal traces and how all of those interact with the licensing condition on ellipsis, but the basic expectation is clear enough. For example, if the condition(s) that license ellipsis can refer only to what is located within that

¹⁰See later sections (§2.2) for elaboration on the nature of this requirement.

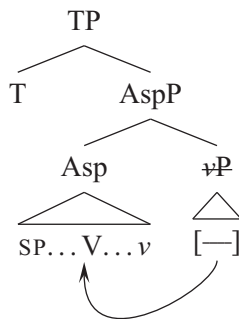
ellipsis site, then only material merged inside the ellipsis site should be relevant; material merged outside the ellipsis site should not be relevant in the same way. There is good evidence (Rooth, 1992a; Heim, 1997) that semantic identity for ellipsis is calculated modulo focus. Roughly, the actual semantic value of the elided constituent must be a member of the focus value of (a constituent containing) the antecedent. We therefore might expect that focusing the verb would have an effect on the matching requirement, though this question has thus far not been explored.

In this context, V-Stranding VPE looks like the right place to probe for a deeper understanding of the functional structure of the Russian verbal complex. If there is a discernible verbal identity requirement, then we predict that SP, having been merged outside the ellipsis site, would be irrelevant for the calculation of identity. As we will see in §2.1, distinguishing that kind of ellipsis from elision of an argument or arguments (or pro-drop) is a difficult and subtle task. Still, it seems reasonable to look for such patterns and, to the extent that we find evidence for them, to conclude that we have evidence for the syntactic structure proposed and for the bigger idea that inflected verbs are in fact syntactically complex.

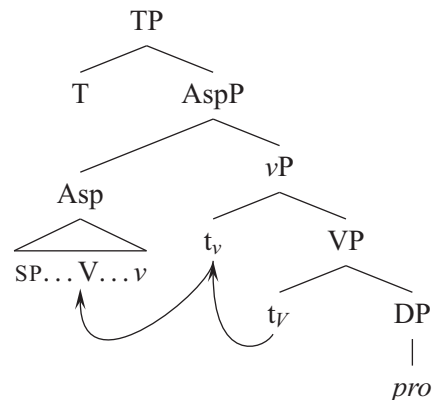
2.1 V-Stranding vs. Argument Drop

We have been discussing the potential consequences of the construction in (39) as if it were clear that it is uncontroversially a case of V-Stranding VPE. In fact, as was briefly mentioned in the introduction to this paper, there is another way of thinking about (39), namely as an instance of argument drop. In this case, (39) could be understood as involving the non-realization of a pronoun; the situation is further clouded by the fact that argument drop is clearly an operative phenomenon in the language under the right discourse conditions,¹¹ independent of anything we might say about V-Stranding VPE. In §0 I sketched an abstract version of these two possibilities, instantiated as (2)–(3). Below, I illustrate those same two analytical possibilities, but now with the details of the discussion in §1 reflected.

(41) ELLIPSIS:



(42) ARGUMENT DROP:



Given the subtlety of the distinction, it is necessary to show that examples like (43–44) are not just instances of argument drop of internal arguments (object DPs, indirect object DPs, PPs).

¹¹See Franks 1995 for more details.

- (43) A novyj god dal'she prošel, v drugoj časovoj pojas.
'And the new year progressed further, into a different time zone.'

I nikto ničego ne počuvstvoval, prosto vse obmnimajut'sja, smejut'sja,
and no.one nothing.ACC NEG felt.3SG just everyone hug.REFL.INF laugh.REFL.INF
a ne počuvstvovali [ničego].
CONJ NEG felt.3PL [nothing]

'And no one felt anything, everyone was just hugging and laughing, but (they) didn't feel (anything).'

(Evgenij Griškovec, *OdnovrEmEnno* (2004)).

- (44) Označacet li eto, čto...
means.3SG C+Q this, that...

'Does this mean that...'

... kraeugol'nyj kamen' — ekonomičeskaya teorija — po prošestvii 150 let okazalsja iz'jat iz osnovanija marksizma, čto svelo na net naučnoe značenie vsego učenija? Možet byt', eto prozvučit rezko, no na takoj vopros sleduet dat' soveršenno opredelennyj otvet:

... the cornerstone — economic theory — after 150 years suddenly disappeared from the foundation of marxism, which nullified the scientific claims of the whole endeavor? Maybe this will sound harsh, but to such a question it follows that we should provide an absolutely definite answer:

da, označacet [čto...].
yes, means.3SG [that...]

'Yes, it means (that...).'

(Gleb Panov. "Proletarii, razjedinajtes' ". *Kommersant-Vlast* ' 7, 1998).

Both answers in the question-answer examples (43) and (44) involve responses that are missing arguments; (43) is missing a direct object of the verb *čuvstvovat* 'feel', while (44) is missing the propositional complement of the verb *označat* 'mean'.¹²

Distinguishing between the two analyses in (41)–(42) proves a challenging task, both for Russian and for other languages. For example, a parallel debate has been ongoing for analogous constructions in East Asian Languages (Saito, 1985; Kim, 1999; Otani and Whitman, 1991; Hoji, 1998). The difficulty in distinguishing alternative analyses of this construction is that it is difficult to show that any of the properties we know to be associated with ellipsis are not also associated with argument drop. For example, one could attempt to distinguish V-Stranding VPE from argument drop via the availability of both strict and sloppy readings and the possibility of eliding PPs, not just DPs, in these constructions. As explicated in Hoji 1998, however, what appear to be sloppy readings are not definitively characteristic of VPE in other languages. Likewise, native Russian speakers appear to be nearly evenly split in judgments with respect to whether PPs can be omitted independently of omission of DPs, a situation which renders it difficult to isolate object drop from elision of numerous constituents. From an acquisition standpoint, this is not entirely surprising: if the evidence is subtle, this might be the source of native judgment disagreement among speakers. It is expected, then, that any evidence we find to distinguish between ellipsis and argument drop will be very delicate.

¹²Note that *označat* 'mean' is not the type of verb that could normally host null complement anaphora in Russian, just like English *mean*.

Additionally, we must tread lightly, since speakers may disagree about judgments. Despite these difficulties, it can be shown that subtle distinctions between argument drop and V-Stranding VPE exist. Furthermore, as I demonstrate in later sections, the path we take to distinguishing the two analyses also opens doors to new topics for research, namely:

- V-Stranding VPE can be used as a diagnostic to understand the position of parts of the Russian verbal complex.
- Evidence from verb-matching (§2.2.1) has interesting consequences for our understanding of ellipsis licensing conditions.

2.1.1 Trademarks of Ellipsis

To start the discussion, I demonstrate that a number of characteristics typically associated with English VPE also hold of the Russian construction under discussion here.

For example, in English VPE, the clause containing the elision can be embedded (45).

- (45) Yesterday I didn't introduce Masha to Sasha, but I think that tomorrow, I will [~~introduce Masha to Sasha~~].

Russian follows the pattern in (45), allowing embedding of the clause containing the elision.

- (46) Včera ja Mašu s Sašej ne poznamomila, no dumaju, čto zavtra
 yesterday I Maša.ACC with Saša.INSTR NEG introduced.1 SG.F but think.1 SG that tomorrow
 poznamomlju.
 introduce.FUT.1 SG
 'Yesterday I didn't introduce Masha to Sasha, but I think that tomorrow, I will.'

In English VPE, the elision site can be contained within an island which excludes the antecedent (47).

- (47) Q: Did Sadie put the jam on the table?
 A: Yes, and she left [after she did [~~put the jam on the table~~]].

The Russian examples in question allow for the same kind of elision within an island:

- (48) Včera ja Mašu s Sašej ne poznamomila, i poka ne poznamomlju,
 yesterday I Maša.ACC with Saša.INSTR NEG introduced.1 SG.F and until NEG introduce.1 SG.FUT
 ne uedu.
 NEG leave.1 SG.FUT
 'I didn't introduce Masha to Sasha yesterday, and I won't leave until I do.'

Finally, English VPE is notorious for the availability of both sloppy and strict identity readings.

- (49) Paul ran home to talk to his mom, and I did (run home to talk to his mom/run home to talk to my mom) too.

The Russian examples under discussion once again align with the English pattern; both strict and sloppy readings obtain.

- (50) Dina kupila svojej dočke škol'nyje učebniki, a Paša ne
Dina.NOM bought.3SG.F REFL.DAT daughter.DAT school.ACC textbooks.ACC but Paša NEG
kupil.
bought.3SG.M
'Dina bought her daughter textbooks, but Paša didn't (buy her/his daughter textbooks).'

The problem with using such properties as diagnostic of ellipsis is that they are not exclusive to ellipsis; that is, many or all of these properties may also hold of argument drop. For example, argument drop of subjects *also* occurs in embedded clauses, when the antecedent is in the matrix clause:

- (51) On načinaet dejstvovat' otkryto... , podčerkivaja, čto Ø vystupaet...
He begins.3SG act.INF openly... , underlining that Ø stands-for...
'He begins to act openly... underlining that (he) stands for...'
(*A. Saxarov v bor'be za mir*, 1973)¹³

Though we are concentrating primarily on cases in which internal arguments of the verb are absent, (51) shows that it is not just ellipsis that is licensed under embedding, but likewise subject drop. If subject drop is licensed under embedding, it is possible that drop of objects and PP arguments is likewise permissible under embedding; thus, we cannot base our diagnosis of the constructions in question on their felicity in embedded contexts. It is a likely possibility that many of these other preliminary diagnostics cannot be used as definitively characteristic of VPE without further testing.

2.1.2 Linguistic Antecedents and Islands

Since the basic tests made available by previous research (Goldberg, 2005) cannot reliably distinguish between the argument drop and V-Stranding VPE analyses, I will argue here that we must take a different approach. Since the work of Hankamer and Sag (1976), it has been established that one of the cornerstone properties of ellipsis as surface anaphora is that it is licensed only in case an overt linguistic antecedent is available. This property does not hold of other types of null anaphora, including argument drop. The content of such *pragmatically controlled anaphora* can be recoverable from context alone. Recall the original examples from Hankamer and Sag 1976:

¹³From Gundel 1980.

- (52) a. DEEP ANAPHORA:
 [Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop]
 Sag: I'm not sure you'll be able to do it.
 Sag: #It's not clear that you'll be able to.
- b. SURFACE ANAPHORA:
 Hankamer: I'm going to stuff this ball through this hoop.
 Sag: It's not clear that you'll be able to.

On this view, (53) below would be an example of argument drop, rather than ellipsis. The “dropped” element is recoverable from the context, but does not have a linguistic antecedent.

- (53) Vozdux, beguščij navstreču mašine, uže ne xolodil, a grel.
 Air running toward car.DAT already NEG cool.3SG CONJ warm.3SG
 ‘The air blowing toward the car was no longer cooling (me), but rather warming (me).’ (I. Grekova. *Na ispytaniax*. 1967)

I will assume that, if V-Stranding VPE in Russian exists, it aligns with other known types of ellipsis in requiring a linguistic antecedent. With that in mind, let us consider the scenarios in (54–55) below, noting that in each of these cases, no overt linguistic antecedent exists, and the missing arguments are inside either an adjunct island (54) or a relative clause island (55).

- (54) [Dasha sits on the couch, shivering. The sun shines on her through the window.]

#Kogda/esli solnce sogreet, perestanu drožat'.
 when/if sun warms.3SG stop.FUT.1SG shiver.INF
intended: ‘When the sun warms (me) up, I’ll stop shivering.’

- (55) [A pair of parents witness some little girls eating dirt on the playground; only one child refrains.]

#Ne zabolet tol'ko ta iz nix, kotoraja ne sjela.
 NEG become-sick.3SG.FUT only that of them which NEG ate.3SG
intended: ‘Only the one of them that didn’t eat (the dirt) will not be sick.’

What accounts for the unacceptability of (54)–(55), by contrast with the acceptability of (53)? Here I would like to explore the possibility that argument drop is unacceptable in certain types of islands, following similar observations made by Raposo (1986) for European Portuguese and Campos (1986) for Spanish. If this is the case, the only available analysis for examples like (54)–(55) is one in which V-Stranding VPE takes place; but ellipsis requires an overt linguistic antecedent, of which there is none in (54)–(55). By contrast, if an overt linguistic antecedent is available (as in (56)), the gap is licensed within an island.

- (56) Do 25 let mladjož' gazet ne čitaet, xotja u každogo est' svoj primer
 Until 25 years young-people newspapers NEG read.3SG although at each exists REFL example
 kakogo-to umnogo mal'čika ili studentki, kotoryje čitajut [gazety].
 some.GEN smart boy or student who read.3PL [newspapers]
 'Until 25 years of age young people don't read newspapers, although each of them has his/her own
 example of some smart boy or student who read (newspapers).' ("Kuxnja upravljaemoj demoktratii",
Otečestvennyje zapiski, 2003).

V-Stranding VPE requires an overt antecedent; if no overt antecedent is available and the missing elements are inside an island, the example is judged unacceptable. If this property holds across numerous types of islands, as I show below, then it can be concluded with reasonable certainty that only V-Stranding VPE, and not argument drop, is possible inside islands.

Complex DPs

- (57) DEEP ANAPHORA:
 [A pair of parents witness some little girls eating dirt on the playground.]
 #Menja volnuet tot fakt, čto sjeli.
 me.DAT worries.3SG the fact that ate.3PL
intended: 'The fact that they ate (the dirt) worries me.'
- (58) SURFACE ANAPHORA:
 Mne kažet'sja, čto vaši devočki najelis' v pesočnice peska.
 me.DAT seems.3SG that your.PL girls ate.3PL.REFL in sandbox sand.GEN
 'I think your girls have eaten their fill of sand in the sandbox.'
- Nu da, tot fakt čto najelis' [~~v pesočnice peska~~], eto ne novost'.
 Well yes the fact that ate.3PL.REFL [~~in sandbox sand.GEN~~] this NEG news
 'Well, yes, the fact that they did (eat their fill of sand in the sandbox) isn't news.'

Sentential Subjects

In constructing the relevant examples of sentential subject islands, there are two potential confounds that we must be aware of. First, Russian disfavors cataphoric dependencies (e.g., when the "gap" comes before the antecedent) (Kazenin, 2002). Likewise, if the sentential subject comes first in the clause, it is likely to be interpreted as a topic (Padučeva, 1985; Adamec, 1966). Ellipsis requires some part of the non-elided material to be focused. Constructing an example in which there is a focused element inside a topic may cause infelicity for discourse reasons.¹⁴ To avoid these confounds, our sentential subject examples will have post-verbal sentential subjects, with the "gap" after the antecedent, as below.

¹⁴Thanks to Maria Polinsky (p.c.) for pointing out these potential pitfalls.

(59) DEEP ANAPHORA:

[A pair of friends at school have fought with a mutual friend Danny, who now ignores them in the cafeteria. One friend says to the other:]

#K sožaleniju, nikak ne pomogaet to, čto ty tože possorilsja.
to pity.DAT no-how NEG help.3SG that that you also fought.2SG.M.REFL

intended: ‘Unfortunately, it doesn’t help that you also fought (with Danny).’

(60) SURFACE ANAPHORA:

[_{PP}Tomu, čto ja possorilas’ s Petej], nikak ne pomožet [_{SUBJECT}to, čto ty
[_{PP}that.DAT that I fought.1SG.F.REFL with Peter] no-how NEG help.3SG.FUT [_{SUBJECT}that that you
ne possorilsja [s-Petej]].
NEG fought.2SG.M.REFL [with-Peter]]

‘The fact that you didn’t fight (with Peter) won’t help the fact that I fought with Peter.’

If these conclusions are on the right track, we arrive at a picture in which instances of ‘missing’ arguments in Russian are, in most cases, consistent with either an argument drop or a V-Stranding VPE analysis. The exception is that only V-Stranding VPE occurs inside islands.

2.1.3 Sources of the Contrast

Though it is not a focal point of this paper, one may wonder what the source of the contrast between island and non-island contexts is for the purpose of argument drop in Russian. While argument drop is known to be conditioned by discourse factors, it is not readily apparent why the same process should be sensitive to a *syntactic* boundary. Various proposals in the mid-1980s (Huang, 1984; Campos, 1986; Raposo, 1986, *inter alia*) explored the idea that null objects are variables that must be A-bar bound by a null topic operator. Sensitivity to the presence of islands arises on this view as a result of a movement operation that crosses island boundaries.

While this research direction certainly seems plausible, subsequent explorations (Farrell, 1990) have questioned this approach, because there are numerous languages in which argument drop is not sensitive to islands (Chung, 1984; Cole, 1987). The empirical conclusions reached in §2.1.2 make clear that there is a pattern here that remains to be accounted for: what is the source of cross-linguistic variation between languages that show sensitivity to islands in argument drop, and those that do not? While I do not pursue the question here any further, we can note that at the very least, we have a new empirical diagnostic to help with distinguishing argument drop from V-Stranding VPE. Given the right set of language-specific circumstances, the hope is that such a diagnostic will perhaps be applicable to similar debates in other languages.

2.2 Verb Matching and Ellipsis Licensing

2.2.1 Verbal Identity

§2.1.2 presented evidence in favor of the idea that V-Stranding VPE can be distinguished from argument drop in Russian on the basis of the availability of V-Stranding VPE — but crucially not argument drop — inside islands. Having established that both phenomena take place in Russian, we can ask the question we set out to ask in the beginning of §2, namely: is there a matching requirement on the stranded verb that can tell us something about which components of the Russian verbal complex originate outside the ellipsis site?

We already know that in certain languages (e.g., Hebrew (Goldberg, 2005)), the stranded verb in V-Stranding VPE must match in some of its morphological parts to the verb of the antecedent VP. The parts of the verbal complex that are relevant for this matching requirement are exactly the parts that originate in the domain of the ellipsis. Tense, modality, and aspectual morphology are under no identity requirement, presumably because they do not originate within the domain of ellipsis. If this is true cross-linguistically, it indicates something about how ellipsis works: an identity relation must hold between the stranded and antecedent verb stems, and this should be implemented formally. Paradoxically, evidence from other languages suggests that this identity does not hold across languages: verb stems can be mismatched, for example, in analogous Hungarian constructions (Anna Szabolcsi, p.c.).

(61) (Context: why is your relationship with Mary, our colleague of three years, so different from mine?)

Mert e'n tre'fa'lkoztam vele az egyu:tt-to:lto:tt ha'rom e'v sora'n, te viszont
because I joked with-her the together-spent three years during, you in-contrast
veszekedte'l.
quarrelled

'Because I joked with her during the three years we spent together, but you, by contrast, quarrelled (with her during those three years).'

Though I come to no definitive conclusion about this apparent paradox here, the hope is that exploring the Russian examples will help shed some light on the issue. We can surmise that any instance of argument drop should involve no matching requirement, and in fact, mismatch in non-islands is routine.

- (62) a. Sledovatel'no, brosaja kamen', mal'čik ne uveličil ego kinetičeskuju energiju,
Therefore throwing stone boy NEG increased.3SG.M its kinetic energy
a umen'sil.
CONJ decreased.3SG.M
'Therefore, in throwing the stone the boy decreased (its kinetic energy), instead of increasing its kinetic energy.'
(Vladimir Lukašik, Elena Ivanova. *Sbornik zadač po fizike*, 7-9 kl., 2003)
- b. Tam znali, čto Krymov ne vinovat, a posadili.
There knew.3PL that Krymov NEG guilty CONJ sat.3PL
'They knew that Krymov was innocent, but they imprisoned (him) anyway.'
(Vasilij Grossman. *Žizn' i sud'ba, čast' 3*, 1960)

To ensure that we are probing matching requirements for V-Stranding VPE, we will check only inside islands, where it has been established that object drop cannot take place. We know from (56) that the verb *can* match (however, notice that the person marking features there do not match). Preliminarily, it appears that this is more than an option, but an actual requirement.¹⁵

- (63) a. Ja kuplju etu knihu, esli ty #(eje) najdeš' #(eje).
 I buy.1SG.FUT this.ACC book.ACC if you #(it) find.2SG.FUT #(it)
intended: 'I will buy this book if you find (it).'
- b. Ja ne pošlju eto pis'mo, poka ty #(ego) ne pročtješ' #(ego).
 I NEG send.1SG.FUT this.ACC letter.ACC until you #(it) NEG read.2SG.FUT #(it)
intended: 'I won't send this letter until you've read (it).'
- c. Ja xoču vernut' eto pis'mo tomu čeloveku, kotoryj #(ego) poslal #(ego).
 I want.1SG return.INF this letter that.DAT person.DAT who #(it) sent.3SG #(it)
intended: 'I want to return this letter to the person who sent (it).'

The examples in (63) suggest that the verb stem of the stranded verb must match the stem of the antecedent verb; a similar conclusion can be made on the basis of the sentential subject island examples and complex DP island examples below.

(64) **Sentential Subject Islands:**

Tomu, čto ty possorilsja s Petej, nikak ne pomožet to, čto ja
 that.DAT that you fought.2SG.M.REFL with Peter no-how NEG help.3SG.FUT that that I
 pomirilas' #(s nim).
 reconciled.1SG.F.REFL #(with Peter)
intended: 'That I reconciled (with Peter) won't help the fact that you fought with him.'

(65) **Complex DP Islands:**

Dina tol'ko čto, nakonec, našla v tolpe svoju doč, no eje očen' volnuet tot
 Dina just that finally found.3SG.F in crowd self's daughter but her.DAT very worries.3SG the
 fakt, čto Zina poterjala #(v tolpe svoju doč).
 fact that Zina lost #(in crowd self's daughter)
intended: 'Dina just now found her daughter in the crowd, finally, but the fact that Zina lost (her daughter in the crowd) really worries her (Dina).'

Given these data, then, we might think that Russian aligns with what we know of Hebrew (Goldberg, 2005) and Irish (McCloskey, 1991) in requiring the verb stem of the stranded verb to match the verb stem of the antecedent verb; Hungarian, and any other languages that allow verb stem mismatch in these constructions, is on this view an anomaly.

¹⁵Furthermore, my extensive corpus digging unearthed no convincing examples of verb-stem mismatch in adjunct or relative clause islands.

Complicating the picture is the fact that word order and intonation manipulations ameliorate *some* speaker judgments. Below, the examples from (63)–(65) have been manipulated to show contrastive focus on the verb; verbs are clause-final and bolded to reflect a special contrastive intonation.¹⁶

- (66) a. Ja etu knigu **kuplju**, esli ty [etu knigu] **najdješ**.
 I this.ACC book.ACC buy.1SG.FUT if you [this book] find.2SG.FUT
 ‘I will BUY this book if you FIND (it).’
- b. Ja eto pis’mo ne **pošlju**, poka ty [eto pis’mo] ne **pročtješ**.
 I this.ACC letter.ACC NEG send.1SG.FUT until you [this letter] NEG read.2SG.FUT
 ‘I won’t SEND this letter until you’ve READ (it).’

(67) **Relative Clause:**

Ja xoču eto pis’mo **vernut** tomu človeku, kotoryj [eto pis’mo] **poslal**.
 I want.1SG this letter return.INF that.DAT person.DAT who [this letter] sent.3SG
 ‘I want to return this letter to the person who sent (it).’

(68) **Sentential Subject:**

Tomu, što ty s Petej **possorilsja**, nikak ne pomožet to, što ja
 that.DAT that you with Peter fought.2SG.M.REFL no-how NEG help.3SG.FUT that that I
 [s nim] **pomirilas**.
 [with him] reconciled.1SG.F.REFL #(with Peter)
 ‘That I reconciled (with Peter) won’t help the fact that you fought with him.’

(69) **Complex DP:**

Dina tol’ko što nakonec v tolpe svoju doč **našla**, no eje očēn’ volnuet tot
 Dina just that finally in crowd self’s daughter found.3SG.F but her.DAT very worries.3SG the
 fakt, što Zina [v tolpe svoju doč] **poterjala**.
 fact that Zina [in crowd self’s daughter] lost
 ‘Dina just now found her daughter in the crowd, finally, but the fact that Zina lost (her daughter in the crowd) really worries her (Dina).’

To start, notice that the preferred word order in the antecedent involves verb-finality (and I assume the verb-stranding ellipsis is structurally parallel). One way to understand the pattern in (66–69) is that the verb in these examples has undergone focus driven movement. Mechanically, this can be achieved in one of two ways:

- Right-adjunction of the verb.

¹⁶Thanks to Jeroen van Craenenbroeck and especially Anna Szabolcsi for bringing these issues to my attention. The empirical and theoretical progress made here is in large part the result of those helpful discussions.

- Focus-driven leftward movement, followed by remnant movement of the partially vacated vP.

There are good reasons to think that focus-driven movement of the verb is involved here.¹⁷ First, the verb is always final in the antecedent clause of these constructions, and I assume a parallel structure for the ellipsis cases. On an approach in which the verb doesn't move, all other material will have to move leftward (arguments, PP-adjuncts, etc.). This seems suboptimal. Cartographic approaches to discourse-driven movement (e.g. Rizzi (1997)) frequently assume, if not always explicitly, a connection between movement and discourse markedness. On this view it would seem natural for the verb to move. Second, contrastive intonation on the verb is unusual here, in that the unmarked emphasis in intonation in SOV orders would fall on the object (Padučeva, 1985).

(70) Čto novogo?
 What new.GEN
 'What's new?'

Maša **knigu** kupila. / #Maša knigu **kupila**.
 Masha **book** bought. / #Masha book **bought**.
 'Masha bought a book.'

Thus, the contrastive intonation on the verb in the constructions in (66)–(69) indicates that it is discourse-marked (i.e., contrastively focused). Though this pattern is not very well understood at this point, we can draw the preliminary empirical conclusion that contrastive focus of the verb (which corresponds to word order and/or intonation manipulations) licenses mismatch for some speakers inside islands.

2.2.2 Ellipsis Licensing

It is tempting to consider the consequences of the subtle verb-matching pattern we have found in Russian V-Stranding VPE for theories of ellipsis licensing. Ellipsis is licensed if the elided constituent has an antecedent that is, in a difficult-to-define sense, identical to it. This identity may involve semantic conditions (Dalrymple et al. , 1991; Hardt, 1993; Prüst et al. , 1994; Ginzburg and Sag, 2000; Merchant, 2001; Culicover and Jackendoff, 2005; Potsdam, 2007, *inter alia*), and some theories additionally invoke a condition that requires either structural or lexical identity between the elided constituent and its antecedent (Sag, 1976; Kitagawa, 1991; Fiengo and May, 1994; Chung et al. , 1995; Fox, 2000; Chung, 2006; Merchant, 2007a, 2008, *inter alia*). Of particular relevance to us is the question of the lexical requirement, stated recently by Chung (2006) as the “No New Morphemes” requirement (this version taken from Merchant 2007b):

(71) Any non-trace morpheme *m* that occurs in an elided phrase must have an equivalent overt correlate *m'* in the elided phrases's antecedent.

Such a requirement will not, strictly speaking, predict that matching will be required for V-Stranding VPE, since the V-*v* complex will have moved out of the domain of ellipsis. Still, one thing that is not apparent is

¹⁷Thanks to Maria Polinsky, p.c. for suggestions.

whether traces of head movement are different from traces of phrasal movement for the purposes of ellipsis. We know that phrasal constituents originating in the ellipsis site do not need to be lexically identical to the antecedent:

(72) Max has five dogs, but I don't know [how many cats] [~~he has~~].

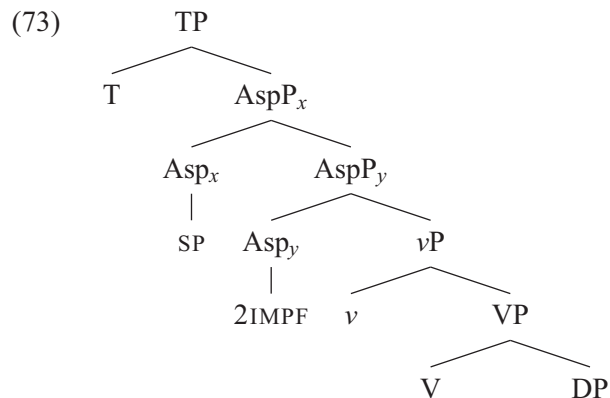
Examples like (72) can be understood if the trace of the phrasally moved constituent is a variable. Distinct variables are not considered relevant for any isomorphism requirement (Rooth, 1992b; Heim, 1997; Merchant, 2001, *inter alia*). Is the trace of a head moved item also a variable, and subject to the same sorts of licensing conditions? The question gains even more relevance on the view — not subscribed to here but nevertheless certainly worth serious attention — that head movement is a postsyntactic operation (Chomsky, 2000).

The Russian facts bear directly on this set of questions, since, as we saw in §2.2.1, mis-match between the antecedent and stranded verb-stems can take place only under a specific set of discourse circumstances. On the view developed here, the V-*v* complex will always escape the *v*P-ellipsis site; but head movement alone is not enough to license verb-stem mismatch. Verb-stem mismatch is constrained in Russian, and covaries with certain contrastive focus possibilities. We can generalize that the elided XP need not be lexically identical to the antecedent XP, if the mismatched material is both outside the ellipsis site, and crucially, focused. This focussing will drive the relevant syntactic pieces to ultimately escape the ellipsis site.

We can conclude from this state of affairs that traces of head-moved elements are not relevant for any lexical matching requirement, confirming that traces of head-moved items should be treated as variables for the purposes of identity calculation, on par with traces of phrasally moved elements. This set of evidence also bears indirectly on the question of the status of head movement in syntactic theory: if head-movement were post-syntactic, we might expect the matching requirement to be uniformly enforced. Since matching is not always required, this confirms the arguments laid out in §1.2.3 for the *syntactic* status of head movement. Finally, it is tempting to attribute morphological matching requirements in ellipsis to lexical identity requirements; the lesson appears to be that identity can just as well be enforced (modulo focus) by semantic licensing conditions. This complicates the picture somewhat, since we must be careful in our attribution of identity requirements to specific licensing requirements. Still, the emergent picture is more nuanced and more careful about the effect of discourse — a result which can be understood as a type of progress.

2.3 Full Circle

We have come a long way from the initial question that this paper aimed to address, namely the question of the functional structure of the Russian verbal complex. We have good reason at this point to believe that the pieces of the Russian verb are spread across syntactic space, as in (73):



We also have good reason to believe that verb stem matching is obligatory for V-Stranding VPE (as long as no contrastive focus of the verbs is involved). A final question we now can ask, having discussed extensively the verb-matching properties of Russian V-Stranding VPE in §2.2.1, is: what part of the verb must match, when matching is required?

- (74) Zina vse eš'e pišet stat'ju o russkom glagole?
 Zina all still writing.3SG article about russian verb
 'Is Zina still writing an article about the Russian verb?'

Da, i menja očen' volnuet tot fakt, čto ona eš'e ne dopisala
 Yes, and me.DAT very worries.3SG the fact that she still NEG CMPL-write.3SG.F
 [stat'ju o russkom glagole].
 [article about russian verb]

'Yes, and the fact that she still hasn't finished writing (the article about the Russian verb) really worries me.'

In (74), we can see that there is a mismatch in tense between the stranded and antecedent verb (past/nonpast); furthermore, SP is present in the stranded verb but not the antecedent verb.

- (75) Ty domyla posudu?
 You CMPL-wash.2SG.F dishes
 'Did you finish washing the dishes?'

Net. Odná mysl' o tom, čto nado pomyt' [posudu], menja ogorčila.
 No. One thought about that that needs ATTN-wash.INF [dishes] me.DAT upset.3SG

'No. Just the thought that (they) need to be washed upset me.'

In (75), SPS DO and PO are mismatched; note that the stranded verb is inside a complex DP island, so we can be sure we are looking at V-Stranding VPE, as opposed to argument drop. Based on these examples, we can conclude that when matching is required, only the parts that originated in the ellipsis site are subject

to the requirement. This result is consistent with Asp's proposed position, external to the ellipsis site. More generally, the hope is that given very careful example construction, V-Stranding VPE can be used as a diagnostic for the locus of certain parts of the verbal complex, in Russian and perhaps across other languages that make use of V-Stranding VPE as a syntactic strategy.

2.4 Interim Summary

This section has explored the phenomenon of Russian V-Stranding VPE in order to understand how it can be effectively used to diagnose functional structure in the Russian clause, especially functional structure having to do with the verbal domain. The need for, and interest in, such a diagnostic is confirmed by the numerous works on the syntax of Russian verbs and functional structure, many of which disagree on the basics of clause structure in their work toward an understanding of Russian syntax (King, 1995; Bailyn, 1995a,b; Sekerina, 1997; Bailyn, 2004, *inter alia*). On the basis of this diagnostic and of previous research on verb movement and prefixation, we arrived at the conclusion that there is at least one functional Asp projection between T and *v*P, and that the verbal complex undergoes head movement in the narrow syntax for morphophonological convergence.

To arrive at this conclusion, it was necessary to discuss in some detail the empirical details of V-Stranding VPE, with the beneficial result that we have opened the door to two independently interesting and valuable venues for future research. The first research direction involves the question of the structural properties of argument drop in Russian, and connects directly to the debates about argument drop vs. V-Stranding VPE in other languages (Saito, 1985; Kim, 1999; Otani and Whitman, 1991; Hoji, 1998). This same discussion raises questions about the syntactic licensing of argument drop and its properties cross-linguistically (Rapoport, 1986; Campos, 1986; Farrell, 1990; Chung, 1984; Cole, 1987). A second research direction involves the issue of licensing conditions on morphological mismatch of items that have been head-moved out of an ellipsis domain. For the case of Russian, it would be interesting — but beyond the scope of the current investigation — to work out an instantiation of a semantic ellipsis licensing condition (perhaps along the lines of Rooth 1992a and Heim 1997) that would permit mismatch just in the case that the relevant morphological pieces are contrastively focused.

3 Subjects and Adverbs

The discussion thus far has put aside the discussion of two topics that bear on the larger picture of Russian functional structure that is being developed in this paper. The first is adverb placement, which connects to the conclusions about verb movement (namely that it does not reach T) that we came to in §1.1. The second is the first merge position of the subject, and why its presence in V-Stranding VPE is discursively restricted. I address each of these briefly, and in turn, below.

3.1 Adverb placement

Given a view of Russian clause structure in which the verb raises to a projection between T and *vP*, we might wonder where low adverbs are placed with respect to the verbal complex.¹⁸ Recall that one piece of evidence for a lack of V-to-T raising in Russian was the inability of low adverbs to intervene between the verb and object (6). But if the view proposed in this paper is correct, then the verb does move, though not as far as T. To remain consistent with this view, we would have to assume that the adverb adjoins no lower than the Aspectual projection (if it adjoined below Asp, it could conceivably intervene between the verbal complex and object, contra (6)). This assumption is justified in part by the fact that the adverb *často* (*often*) is sensitive to aspectual information (as might be expected). For example, it is not compatible with perfective forms (76).

- (76) Borja často popečatyvaet (*popečatal) na pišujuš'ej mašinke.
 Borja.NOM often DLMT-type.2IMPF.3SG (*DLMT-type.3SG) on writing.DAT machine.DAT
 ‘Boris often types a little bit on the typewriter.’

Given that information about aspectual marking is merged at Asp, and the (in)felicity of the adverb is in part determined by aspectual information, we might expect that the adverb would be merged slightly higher in the structure, perhaps as an adjunct to AspP.

It turns out that V-stranding VPE also gives us a way to probe the exact placement of the adverb in the hierarchy of projections. Since everything in the domain of Asp is elided in V-stranding VPE, we might expect the adverb, if it is adjoined below *vP*, to be elided along with all the *vP*-internal material. If this were the case, examples like (77) would yield an interpretation in which the (elided) adverb modifies the stranded verb; however, no such interpretation arises.

- (77) Maša často provožaet Petju v školu, a Vasja ne
 Maša.NOM often *through*-lead.2IMPF.3SG Petja.ACC to school.ACC CONJ Vasja.NOM NEG
 provožaet.
through-lead.2IMPF.3SG
 ‘Masha often walks Petja to school, but Vasja doesn’t (#often).’

The interpretation on which the adverb *často* modifies the stranded verb is not available in (77), suggesting that *často* does not attach within the ellipsis site. It is also telling that in order to obtain the desired interpretation — with *často* modifying the stranded verb — speakers prefer to place the adverb pre-verbally (78).

- (78) Iz dvux roditelej, čaš'e vsego Maša provožaet Petju v
 From two.GEN parents.GEN more.often all.GEN Maša.NOM *through*-lead.2IMPF.3SG Petja.ACC to
 školu, no ej xotelos' by, čtoby čaš'e provožal
 school.ACC CONJ her.DAT want.REFL SUBJ C_{SUBJ} more.often *through*-lead.2IMPF.PST.3SG

¹⁸Thanks to Amy Rose Deal for bringing this question to my attention.

(#čas̩je) Vasja (#čas̩je).
(#more.often) Vasja.NOM (#more.often)

‘Of the two parents, more often than not Masha walks Petja to school, but she wishes that Vasja would (do it) more often.’

The fact that the adverb is preferred¹⁹ preverbally suggests that it is not likely to be adjoined to *vP*, and we have seen already that it is not in the domain of elision. Given this evidence, it appears that there is good reason to believe that the adverb is actually adjoined to *AspP*, just below *T*. This bit of evidence further confirms the overall conjecture, which is that the verb moves to a functional projection (*Asp*) above *vP* but below *T*.

3.2 Absent Subjects

The reader will have noticed by this point that subjects appear only in certain V-Stranding VPE examples, but not all. The empirical facts are as follows. In question-answer pairs, such as the one in (39) (repeated here as (79)), the subject in the response is absent.

(79) Ty poznakomil Mašu s Petej?
You.NOM acquaint.3SG.M Maša.ACC with Peter.PREP
‘Did you introduce Masha to Peter?’

Konečno poznakomil!
Of-course acquaint.3SG.M
‘Of course I introduced (them to each other)!’

Moreover, a grammatical response in such cases cannot repeat the subject if it is identical to the subject in the antecedent clause. So, while the response in (80) is unacceptable, the example in (81), in which the response contains a contrastive subject, is fine.

(80) Ty poznakomil Mašu s Petej?
You.NOM acquaint.3SG.M Maša.ACC with Peter.PREP
‘Did you introduce Masha to Peter?’

*Konečno ja poznakomil!
Of-course I acquaint.3SG.M

(81) Ty poznakomil Mašu s Petej?
You.NOM acquaint.3SG.M Maša.ACC with Peter.PREP
‘Did you introduce Masha to Peter?’

¹⁹Speakers’ reactions have varied here. Most everyone prefers the preverbal variant, but many are not decisive about whether the post-verbal variant is ungrammatical, infelicitous, or dispreferred.

Net, no Sveta poznamomila.
No but Sveta acquainted.3sg.f
'No, but Sveta did.'

There appear to be at least two analytical possibilities to help us understand why this pattern holds. A first possibility is that the application of ellipsis changes the syntactic conditions on movement of the subject, allowing it to stay in its original position in the ν P domain as long as it is "given" information in the relevant sense. If no movement takes place, the subject may be elided along with everything else in ν P at a relatively late stage in the derivation. The second possibility is that we are observing a form of subject drop, which Russian is independently known to make use of (Timberlake, 2004).

The first possibility has been explored in the context of sluicing and lack of T to C movement by Merchant (2001). He notes that elements that would under normal circumstances move to C in Germanic and Slavic languages are absent in sluicing. To take an English example, an auxiliary typically moves to C in matrix questions (82a), but this auxiliary is absent in sluicing contexts (82b), even though on Merchant's view, the sluiced material is everything in IP (that is, material in C should in theory survive the sluice).²⁰

- (82) a. Who has Mary invited __ to the party?
b. Speaker A: Mary has invited someone to the party.
Speaker B: *Who has [~~Mary __ invited __ to the party~~]?
Speaker B: Who [~~Mary has invited __ to the party~~]?

The discussion surrounding such data (Merchant, 2001, 62–74) suggests that movements such as Wackernagel clitic placement in the Slavic languages and head-movement in Germanic languages, which have been suggested to take place in the PF component of the grammar,²¹ have no reason to take place if PF-deletion is also going to apply. That is, if the properties which drive movement are eliminated by way of ellipsis before the syntactic object is transferred to the relevant interface (presumably the PF interface), then the Last Resort guideline suggests that in this circumstance movement will not apply.

In contrast with the discussion outlined above, however, we are dealing not with head movement, but with a presumed lack of phrasal movement in the case of Russian V-stranding VPE. Phrasal movement is, on traditional views, taken to be a narrow-syntax phenomenon, and therefore Merchant's (2001) reasoning is not directly applicable to the case at hand. Though I do not intend to propose a full treatment of this interesting and complicated topic here, I would like to point toward some fruitful avenues for future research. It is well known, for example, that Russian appears to have an EPP-like requirement that its specifier of TP position be filled (Bailyn, 2004; Lavine and Freidin, 2002). According to this line of work, this requirement is independent of case-licensing, with the consequence that certain non-nominative arguments can also be located in the [spec TP] position. But Russian subjects are, as in many other languages, also strongly correlated with topichood (Padučeva, 1985; Adamec, 1966; King, 1995; Livitz, 2006). It seems natural to

²⁰The ungrammatical version of Speaker B's response in (82b) is grammatical on a different reading, in which *who* is interpreted as a subject. This utterance is not, however, an acceptable response to Speaker A's original question.

²¹Second-place clitic positioning and head-movement are different in terms of their PF status. While some clitic-placement phenomena are clearly controlled by prosody, not everyone agrees about the status of head-movement in the grammar. It has indeed been suggested that head-movement is a phonological process (Chomsky, 2000), but many, including this author, have reason to believe that some head movements must in fact take place in the narrow syntax (see §1.2.3 for discussion).

suggest, then, that because ellipsis deletes given information, it will also delete the subject when that subject is not contrastive (as it is in (81) and (78)).

The second possibility is also quite plausible; the examples we are concerned with here involve sentences in which there is always a linguistic antecedent for the absent subject, and it would seem quite likely that the subject may not need to be repeated later in the discourse if it has already been uttered once. Most analysts agree that Russian does not group with classically *pro-drop* languages such as Spanish and Italian, in that it does not allow completely free omission of a non-emphatic subject (Franks, 1995; Lindseth and Franks, 1996; Avrutin and Rohrbacher, 1997). However, subject can be omitted quite independently of V-Stranding VPE (examples below from Gordishevsky and Avrutin 2003).

(83) Gde Ivan?
Where Ivan
'Where's Ivan?'

-- Ušol domoj.
-- left.3SG home
'(He) went home.'

(84) (Something falls.)

Čjort, opjat' upalo.
Devil, again fell.3SG.N
'Damn, (it) fell again.'

It seems worth pointing out that there is a subject-object asymmetry when it comes to argument drop in Russian, in that, as was demonstrated in §2.1.2, object drop does not take place in islands. This does not appear to be true of subject drop, which occurs naturally inside islands, independent of ellipsis of the complement of Asp.

(85) Ja stala zadumyvav'sja, a možet,
'I started thinking, maybe...'

ja prosto bojalas' priznat'sja v tom, što poljubila mužčinu, dlja
I.NOM just feared.3SG.F.REFL admit.3SG.F.REFL in that that loved.3SG.F man.ACC for
kotorogo -- ničego ne značila?
who.GEN -- nothing.ACC NEG meant.3SG.F

'I was just afraid to admit the fact that ... (I) had fallen in love with a man for whom (I) meant nothing?' (Ol'ga Zueva. "Skaži čto ja tebe nužna." *Daša 10*, 2004.)

In (85), for example, the subject is omitted inside a complex DP island and inside of a relative clause island. Given the independent availability of subject omission inside islands, we cannot use island sensitivity as

a diagnostic in understanding the missing subject in V-Stranding VPE examples like (79). That is, both possibilities described here — subject drop or lack of subject movement followed by ellipsis — seem to be plausible ways to understand why examples like (80) are unacceptable. Unless further evidence is brought to bear on the question, it appears that we may not be able to tease the two proposals apart. While this is certainly far from an explanation of these facts, it may be a useful starting point for further investigation of them.

4 Aspectual Suffixation

One of the goals of this paper was to develop a way to diagnose functional morphology in complex words (such as the Russian verbal complex). In previous sections (§2) of this paper, I claimed that V-Stranding VPE was such a diagnostic, and illustrated that matching conditions on Russian verbs, under the right conditions, could help illuminate whether certain pieces of a given verb were merged, roughly speaking, above or below *v*P.

In this section I apply the diagnostic to two pieces of functional morphology: the Semelfactive Suffix (NU) and the Secondary Imperfective suffix (2IMPF). Since numerous hypotheses have been put forward about the nature and syntactic position of these suffixes (some of which I describe below), there is a hope that we can use the V-Stranding VPE diagnostic to help distinguish between the different approaches to the data that are currently in circulation.

4.1 Two Approaches to Aspectual Suffixation

Here I explore two approaches to both kinds of suffixation; broadly, one approach views NU and 2IMPF as occupying two different positions in the functional structure of the clause (Svenonius, 2004a,b), while the other analyzes both pieces as different instantiations of the same head (Markman, 2008, Under review). Furthermore, these two approaches differ with respect to their claims about where these suffixes are housed: for Svenonius 2004a,b, NU is housed in *v* and 2IMPF is housed in a higher Asp projection, while for Markman 2008, Under review, both are instantiations of a single light verb *v*, just above the VP domain. I present both sets of arguments for these approaches below.

NU is a regular suffix, and induces what has been described as an ‘instantaneous’ or ‘punctual’ reading of the verb.²²

- (86) Dima tolknul Mašu.
 Dima pushed.NU.3SG Masha
 ‘Dima pushed Masha.’

As noted by Markman (Under review, 2008), this suffix is related to 2IMPF in an interesting way: namely,

²²The semelfactive NU has a homophonous but distinct partner, the inchoative suffix, which appears in Russian verbs like *merznut* ‘freeze’. As Markman 2008 notes, such verbs do not get an instantaneous or punctual interpretation and are not relevant for the purposes of the present discussion.

in the relevant contexts they appear to be in complementary distribution, and they have several similar properties, despite the obvious semantic difference (NU is perfective, 2IMPF is imperfective).

For example, both 2IMPF and NU are licensed in conjunction with LP; for NU this is particularly odd because both LP and NU are perfectivizing, which suggests some amount of redundancy (recall, for instance, that there is only one slot for LP: they do not stack in the way that SP do).

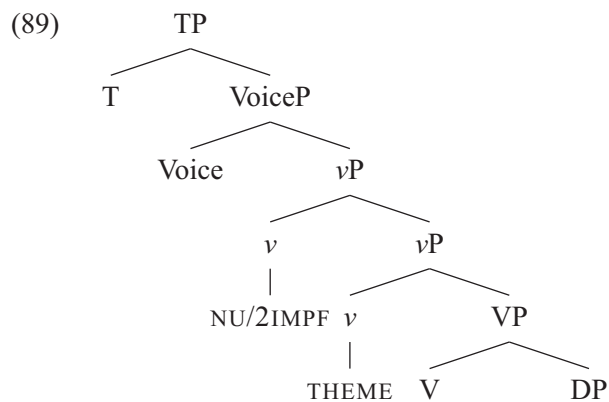
- (87) a. Dima vytolknul Mašu iz mašiny.
 Dima *out-push*.NU.3SG Masha from car
 ‘Dima pushed Masha out of the car.’
- b. Dima vytalkival Mašu iz mašiny.
 Dima *out-push*.2IMPF.3SG Masha from car.
 ‘Dima was pushing Masha out of the car.’

And although 2IMPF can appear with LPs and is therefore licensed in perfective contexts, it is clearly forbidden in conjunction with NU.

- (88) a. *Dima vytalkivnul Mašu iz mašiny.
 Dima *out-push*.2IMPF.NU.3SG Masha from car
- b. *Dima vytolknuval Mašu iz mašiny.
 Dima *out-push*.NU.2IMPF.3SG Masha from car

It appears that there is only one ‘slot’ for an aspectual suffix in the Russian verbal complex, and a choice must be made between NU and 2IMPF.

These patterns lead Markman to propose a unified account of the two suffixes, in which they are instantiations of the same light verb head, *v*, merged just above VP. In her view, the light verb *v* is not the same as the event-introducing head Voice, which is merged just above *v*P; neither is it the verbalizing conjugation vowel, which she considers to be a low *v* head. For Markman, then, the verbal complex is spread across a number of projections in a manner that is just a bit different from the structure discussed in §1.2.2.



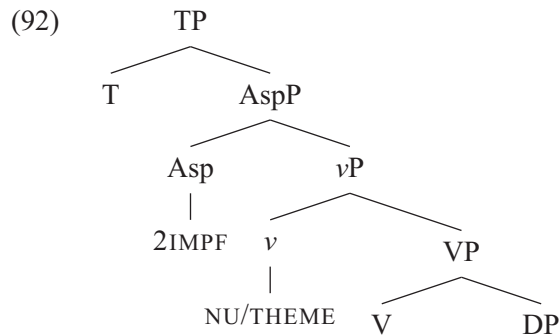
Recall that Russian verbs contain a thematic vowel (THEME), which is understood to be a verbalizer, because it is the addition of this vowel that makes a root into a verb stem. For example, the root *-tolk-* is related to the concept of pushing. In its nominal form, it is rendered with a nominalizing suffix *-ok*, as *tolčok* ‘a little push’ (for the moment we ignore the affix-induced root-final consonant mutation). To make this root into a verb, the addition of inflection and the theme vowel is required:

- (90) *tolk-a-l*
 push-THEME-3SG
 ‘he was pushing’

Markman’s approach predicts the co-occurrence of THEME and either NU or 2IMPF. However, in some verbal formations NU cannot co-occur with the thematic conjugation vowel of the verb (91).

- (91) a. *kidat’* / *kinut* / **kidanut*
 throw.THEME.INF / throw.NU.INF / *throw.THEME.NU.INF
 b. *kusat’* / *kusnut’* / **kusanut’*
 bite.THEME.INF / bite.NU.INF / *bite.THEME.NU.INF

This is the piece of evidence that led Svenonius (2004a,b) to arrive at a slightly different hypothesis. For him, despite the complementary distribution of NU and 2IMPF, the incompatibility of THEME and NU is a convincing argument for the idea that these are both instances of the verbalizer *v*. As we have discussed before in §1, Svenonius’ proposal is that 2IMPF instantiates an Asp head above *v*P.



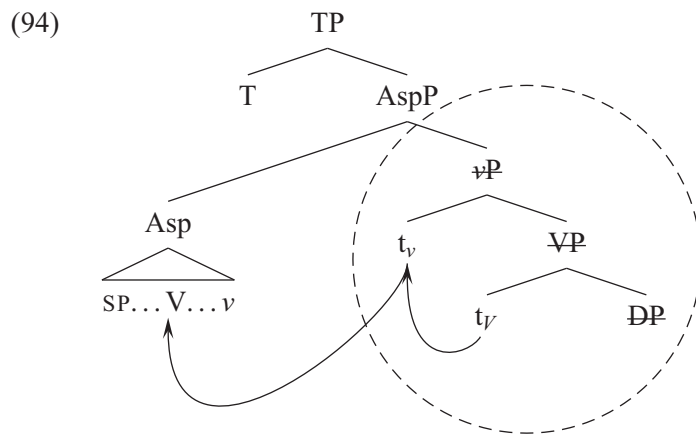
On the other hand, Markman points out that NU and THEME are not always in complementary distribution; a number of forms allow their co-occurrence (Švedova, 1982).

- (93) a. *švyrjat’* / *švyrnut’* / *švyranut’*
 hurl.THEME.INF / hurl.NU.INF / hurl.THEME.NU.INF
 b. *tolkat’* / *tolknut’* / *tolkanut’*
 push.THEME.INF / push.NU.INF / push.THEME.NU.INF
 c. *trjasti* / *trjaxnut’* / *trjaxanut’*
 shake.THEME.INF / shake.NU.INF / shake.THEME.NU.INF

Svenonius (2004b) concludes, on the basis of examples like (91a), that NU and the theme vowel occupy the same syntactic slot; but clearly, given (93), the situation is more complicated than this. In the following section, I will demonstrate how the V-Stranding VPE diagnostic can be used to decide between competing hypotheses about these pieces of syntax.

4.2 Diagnosing the Status of the Semelfactive and Secondary Imperfective

Recall that, given everything we know so far, it is hypothesized that Russian V-Stranding VPE elides everything in the domain of vP after the movement of the verb outside that domain.



In experimenting with the two hypotheses we have laid out about 2IMPF and NU, then, this diagnostic should help us understand which parts of the stranded verb are not subject to identity requirements inside islands. Preliminarily, we can hypothesize that if Markman’s approach is correct, the verbalizer will never vary, while NU and 2IMPF, both light verbs with the same status, will be able to vary. The conclusion we can draw from such a result is that v hosts only THEME and not NU. On the other hand, if we find that only 2IMPF is subject to variation, while THEME and NU are subject to identity requirements, this result would lend support to Svenonius’ approach, in which NU and THEME share the v head.

As it turns out, both NU and 2IMPF are *not* subject to identity restrictions in V-Stranding VPE:

- (95) Sene postojanno predvigajut naznačennuju datu na sobesedovanie v
 Senja.DAT constantly across-move.2IMPF.3PL appointed.ACC date.ACC on interview.ACC in
 konsul’tsve.
 consulate.PREP
 ‘They are constantly moving Senja’s interview appointment at the consulate.’

Da, i včera ja uslišala, čto tot čelovek, kotoryj poslednij raz predvinul,
 Yes, and yesterday I heard.3sg that that person who last time across-moved.NU.3sg
 osonbenno merzkij.
 particularly nasty
 ‘Yes, and yesterday I heard that the last person who moved (it) was particularly nasty.’

From examples like (95), it is clear that 2IMPF and NU are interchangeable in the stranded and antecedent verbs. From the two examples below, it is also clear that both NU and 2IMPF can alternate with suffix-less verbs.

- (96) a. *Eta koška pokamest menja ne carapaet.*
 This.NOM cat.NOM so-far me.ACC NEG scratches.3SG
 ‘This cat isn’t scratching me so far.’
- Možeš ne somnevat’sja v tom fakte, što rano ili pozno ty*
 Can.2SG NEG doubt.REFL in that.PREP fact.PREP that early or late you
doigraešsja, i ona taki carapnet.
 TRMN-play.2SG.REFL and she so scratch.SML.3SG.FUT
 ‘You shouldn’t doubt the fact that sooner or later you’ll go too far and she’ll scratch (you).’
- b. *Ty uže perezpisal pis’mo otcu?*
 You.NOM already RPET-write.2SG letter.ACC father.DAT
 ‘Did you already re-write the letter to your father?’
- Net. Ta ručka, kotoroj perezpisyvaju, postojanno lomaetsja.*
 No. The pen which.INSTR RPET-write.2IMPF.1SG constantly break.3SG.REFL
 ‘No. The pen I’m using to rewrite (it) is constantly breaking.’

Since it does not appear that NU or 2IMPF are relevant for the calculation of verbal identity in V-Stranding VPE, this suggests that both suffixes are merged above the ellipsis domain. We must now check whether the verbalizer, thought to be hosted in *v*, is also irrelevant in this way. This is difficult to show, because for every root there is typically exactly one verbalizing suffix. However, there is a limited subset of cases in which a root can take two different verbalizers, corresponding to perfective and imperfective (e.g., *brosat* ‘throw.IMPF’ and *brosit* ‘throw.PFV’). For these cases it should be possible to test whether the verbalizer can differ in the stranded and antecedent verbs.

- (97) *On vseгда brosaet mjač nepravil’no.*
 He.NOM always throws.3SG ball.ACC incorrectly
 ‘He’s always throwing the ball incorrectly.’

**Ne volnujsja, esli on budet starat’sja, on stanet čelovekom, u kotorogo*
 NEG worry.2SG.REFL if he will try.INF.REFL he become.3SG person.INSTR at who.ACC
polučaetsja brosit’ imenno pravil’no.
 succeeds.3SG.REFL throw.3SG exactly right

Recall that Svenonius’ hypothesis involved NU as a type of verbalizer; since verbalizers cannot be mismatched (97), while NU can (95), we can conclude that this hypothesis is incorrect. Instead, it appears that Markman’s hypothesis, or something akin to it, is upheld by these data; verbalizing suffixes are merged below the domain of ellipsis, while 2IMPF and NU are merged above that domain. The conclusion is further supported by the fact that NU is incompatible with SP, a pattern that we pointed out holds also for 2IMPF in most cases.

5 Conclusion

This discussion began with the question: how do we establish and support a theory of the functional structure of clauses in a particular language? For Russian, this question has of course been of fundamental interest to syntacticians for quite some time (King, 1995; Bailyn, 1995a,b; Sekerina, 1997; Bailyn, 2004, *inter alia*); yet numerous aspects of Russian clausal structure are still very much in question. It is no doubt valuable that independently developed strands of research exist, with consequences for this question; but here we also attempted to draw on independent diagnostics that can help identify and verify the proposed position of functional information.

In this paper I defend the position that certain parts of the verbal complex are, despite their status as morphological parts of an inseparable word, independent syntactic units. This claim is supported by evidence from V-Standing VPE, which illustrates that identity conditions on the stranded and antecedent verbs, or lack thereof, can be used to ascertain the original merger site of a particular part of a complex verb (either above or below the ellipsis domain). To pursue the above goals, the empirical details of V-Stranding VPE had to be worked out in some detail, with the interesting consequence that we also have unearthed related issues in two distinct areas of research.

One such area is the issue of argument drop. Given the exploration here, it is clear that Russian argument drop is subject to certain syntactic restrictions — it cannot occur inside syntactic islands — but this pattern apparently does not hold cross-linguistically, raising the question of how we might account for the source of island sensitivity for languages in which it obtains. The issue of argument drop also connects to debates about whether surface strings that might be interpreted either as V-Stranding VPE or argument drop can be convincingly argued to be one but not the other. In future work it would be interesting to make connections between the line of argumentation developed here and the debate taking place in the literature on East Asian languages (Saito, 1985; Kim, 1999; Otani and Whitman, 1991; Hoji, 1998), where the question remains essentially unresolved.

A second area is that of ellipsis licensing conditions, which have been alternately argued to be exclusively semantic (Dalrymple et al. , 1991; Hardt, 1993; Prüst et al. , 1994; Ginzburg and Sag, 2000; Merchant, 2001; Culicover and Jackendoff, 2005; Potsdam, 2007, *inter alia*), or both semantic *and* lexical or syntactic (Sag, 1976; Kitagawa, 1991; Fiengo and May, 1994; Chung et al. , 1995; Fox, 2000; Chung, 2006; Merchant, 2007a, 2008, *inter alia*). While it is clear that some lexical pieces of the stranded verb must match the antecedent verb in particular contexts, it is not yet apparent how to characterize the semantic requirement so that verbs can be mismatched only under contrastive focus in Russian.

Both these questions are in and of themselves rich areas for future investigation; in this paper, they are touched upon as a way of making progress with respect to the immediate problem, which has to do with developing a method that helps to identify the position of various parts of the functional structure of the Russian verbal complex. To the extent that this endeavor has been successful, the hope is that we can apply such diagnostics to other languages with complex verbal morphology.

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