Russian morphophonemics in a nutshell: The verb *vstat'* 'stand up'

1. Introduction

Russian prefixes differ significantly from suffixes in terms of their morphophonemic properties. A recent article on annotation of derivational morphology in the Russian National Corpus calls the Russian prefixes "the least problematic zone for automatic computer parsing": "first, they are rather easily detachable even in orthography, second, among prefixes allomorphic variation is a minor phenomenon as opposed to suffixes, and third, for prefixes the number of cases where defining a morpheme boundary is problematic is insignificant" (Grišina et al. 2009: 17).

The prefix-suffix asymmetry in Russian morphophonemics is also implied in Itkin 2007. No wonder that this most recent detailed description of Russian morphophonemics devotes only six pages to prefixes as opposed to over one hundred thirty pages to various phenomena in Russian suffixation. Indeed, verbs like *pri-gnat* 'bring to a place (driving)' and *ras-pilit*' 'saw apart' are both formally transparent and semantically compositional, and therefore clearly analyzable as prefixed derivatives. However, not all prefixed verbs are that simple. This article focuses on the very peculiar case of the verb *vstat*' 'stand up; get up; rise'.

The central meaning of the verb *vstat*' refers to a fundamental spatial notion, the vertical axis. *Vstat*' denotes vertical movement, getting

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into a vertical position. Typical uses of this verb include situations of rising from a seat, as in (1), getting up in the morning, as in (2), and getting onto an object (e.g. a stool) in order to be higher and reach something (e.g. a window), as in (3):

- (1) On vstal s kresla i pošel k zerkalu v vannuju... [Viktor Pelevin. Sinij fonar' (1991)]²
 - 'He **stood up** from the chair and went to the mirror in the bathroom...'
- (2) *Irina vstala v šest' časov utra*. [Viktorija Tokareva. Svoja pravda (2002)]
 - 'Irina got up at six o'clock in the morning'.
- (3) *Ja vstal na taburetku i dotjanulsja do okna*. [Vladimir Vojnovič. Moskva 2042. (1986)]
 - 'I (climbed up and) stood on the stool and reached the window'.

Is the Russian verb *vstat*' synchronically analyzable as a morphologically complex word, and if so, what morphemes is it made of? This question is the focus of this article and might seem rather narrow at first glance. In fact, this particular empirical case refers to a long-standing debate in the theory of word-formation – the issue of so-called "gradient" structures.

Our argument proceeds as follows. We start with defining the problem of the verb *vstat*' in Section 2, then turn to previous accounts for the morphemic structure of this verb in Section 3, and present our alternative solution in Section 4. The next three sections 5, 6, and 7 provide semantic, historical, morphophonemic, and typological arguments in favor of our analysis. Section 8 relates the outcome of this case study to the theoretical problem of word-formation and discusses the implications of our findings for the theory of analyzability degrees (Panov 1999) and the theory of "gradient" structures (Hay & Baayen 2005). Section 9 summarizes the contribution of this paper and offers a conclusion.

2. The problem

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The study of a word's structure is a study of its derivation: here what matters is how a word was built, what elements it is made of and what morphophonemic changes occur in the combination of its structural parts

² Examples are extracted from the Russian National Corpus (henceforth RNC), available at www.ruscorpora.ru.

(Townsend 1968: 26). The notion of analyzability is however more complex since it adds synchronic and cognitive dimensions: in Langacker's words (1987: 457), analyzability "does not refer to the intrinsic complexity of a structure, but rather to a person's awareness of certain aspects of its complexity". Crucially, the analyzability of a word implies synchronically relevant motivational links between a derivative and its base. Each derivational morpheme brings its own semantic contribution to the resulting complex. In other words, a synchronically analyzable item should thus be a) structurally transparent (easily decomposed into the root and affixes) and b) semantically compositional, that is the meaning of the complex should be a predictable sum of the semantic contents of its morphemic components.

For illustration let us look at the Russian verb *vstavit*' 'insert', which is historically related to *vstat*'. The former is synchronically analyzable as a derivative from the base *stavit*' 'put, place' combined with the prefix *v*- 'INTO'. Combination of the root morpheme with this prefix yields a predictable result – the verb *v-stavit*' with the meaning 'insert'. Both the base *stavit*' and the prefix *v*- are well established in the Modern Russian grammar and can be found in a number of other words. In particular, the base can stand on its own as well as combine with other prefixes as illustrated in (1), while the prefix *v*- is recognizable in a large class of Russian verbs, as exemplified in (2):

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(4) po-stavit' 'put on' (po- 'ON' + stavit' 'put, place')
pri-stavit' 'put against' (pri- 'ARRIVE3' + stavit' 'put')
pere-stavit' 'displace' (pere- 'TRANSFER' + stavit' 'put')
vy-stavit' 'expose' (vy- 'OUT OF A CONTAINER' + stavit' 'put')
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(5) v-letet' 'fly into' (v- 'INTO' + letet' 'fly')
v-pisat' 'write in, insert' (v- 'INTO' + pisat' 'write')
v-pitat' 'absorb' (v- 'INTO' + pitat' 'feed')
vo-vleč' 'involve' (v- 'INTO' + vleč' 'pull')
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The prefix v- 'INTO' occurs in the form of one of its regular allomorphs: it gets devoiced when attached to voiceless onset of the base or is expanded with an epenthetic vowel in order to break up a consonant cluster on the morpheme boundary. Otherwise the prefix is realized as voiced fricative.

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³ Here and henceforth we refer to the meanings of Russian prefixes as they are established in the study Janda et al. forthcoming.

Thus, in v-stavit' the prefix v- is easily recognizable thanks to both the formal and semantic transparency of this verb.

The verb *vstat*' is formally very similar to *vstavit*', but its morphological structure turns out to be much more problematic. On the basis of the analogy to *vstavit*', one could expect *vstat*' to be a similar complex derived from the simplex base *stat*' 'become' and the prefix *v*-'INTO'.⁴ However, a number of questions arise. First, how can the combination of these two elements yield the upward vertical perspective that the verb *vstat*' 'stand up, get up' refers to? Second, are the verbs *vstat*' and *stat*' synchronically related so that the latter clearly motivates the former? Both questions indicate semantic challenges related to the structure *v-stat*' and this is our point of departure. In the next section we give an overview of the existing accounts suggested for the verb *vstat*' in scholarly literature, while in section 4 we present our alternative solution.

3. Previous accounts

Word-formation dictionaries provide a variety of interpretations for the structure of the verb *vstat*'. This indicates that the case is non-trivial and problematic.

The Dictionary of Russian Morphemes (Kuznecova & Efremova 1986: 321, 307, 470) and the Dictionary of Russian Word-Formation (Potixa 1964: 58) both suggest that the verb in question is analyzable and contains the prefix *v*-: *v-sta-t*'.

However, another two authoritative dictionaries (Tixonov 1985 V. 1; p. 198; Tixonov et al. 1995: 103) claim that synchronically the verb is not analyzable, although its morphemic structure contains the prefix v-.

Vinokur, in an earlier article, considers this verb to be analyzable, but does not specify which prefix it has. He argues that in Contemporary Russian the link between *vstat*' and its motivating base *stat*' is preserved, as opposed to the link between *stat*' and *pere-stat*' 'stop' (Vinokur 1946: 423).

A number of dictionaries, for some reason (or, in fact, inexplicably), avoid listing *vstat*' at all (Efremova 2000; Semenov 2003; Širšov 2004), although the verb is very frequent (a simple search in the RNC yields 34,255 attestations and 18,100,000 hits in the Google search

⁴ Both verbs *vstat*' and *stat*' are highly polysemous in Modern Russian and this issue is addressed further on in this paper. For now we refer to the most basic and prominent meanings of these verbs.

engine).⁵ We are not aware of any study devoted specifically to Russian *vstat*'.

The etymological dictionaries Vasmer 1971, Černyx 1993, and Wade 1996 do not provide any information on this verb either. On the other hand, historical data discussed in Šanskij et al. 1975 and Panov et al. 1968 rather support our account, which is presented in the next section.

4. The solution

The objective of this article is to propose a more balanced analysis of the morphemic structure of the verb *vstat*'. We argue that this verb a) is formed via the prefix *vz*- 'UPWARD' rather than the prefix *v*- 'INTO' and b) is a derivative from *stat*' 'become'. We think that this derivational and semantic link is synchronically relevant and alive. This analysis accounts for the semantics of both the prefixed verb and its morphological components. Crucially, the prefix *vz*- 'UPWARD', also found in many Russian verbs, as shown in (3), contributes the vertical spatial axis that we find in the prefixed verb *vstat*' 'stand up, get up'.

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(6) vz-letet' 'fly up' (vz- 'UPWARD' + letet' 'fly')
vs-plyt' 'rise to the surface' (vz- 'UPWARD' + plyt' 'swim')
vzo-jti 'rise' (vz- 'UPWARD' + idti 'walk')
vz-bit' 'fluff up' (vz- 'UPWARD' + bit' 'beat')
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However, in adopting this account, we have to admit that the structure *vs-stat*' is partly opaque due to the blurred morpheme boundary and therefore might be not recognizable by native speakers. To put it differently, within this account the semantic challenge is eliminated at the expense of postulating an opaque morpheme structure.

We argue that although the structure *vs-stat*' is formally less overt than *v-stat*', it is better compatible with synchronic and diachronic Russian data. In favor of this account we offer a range of arguments – semantic, historical, morphophonemic, and typological.

At the same time, while both morphemes are available in Contemporary Russian, and their semantics is accessible, and their combination yields a predictable semantic outcome, the verb *vs-stat*' is

⁵ The searches were conducted in December 2011.

nevertheless not fully analyzable due to lack of formal transparency (fusion of the prefix-root boundary). The controversy of being complex but not transparently analyzable appeals to the fundamental theoretical issue in word-formation.

Indeed, analyzability is traditionally understood as a binary notion which is meant to divide lexicon into morphologically simplex (monomorphemic) and complex (derived) words. The challenge is then what to do in those ambiguous cases where none of the traditional ("+/-analyzable") solutions is appropriate. These are the cases that fall into the gap between the clear extremes of transparent analyzability on the one hand and obvious structural simplicity on the other hand. Where do they belong and how can one possibly account for them?

This general problem has been especially relevant for Russian with its rich inventory of morphemes and various morphophonemic processes that affect morpheme boundaries. The Russian linguistic tradition developed a notion of scalar analyzability long ago, starting with the works of Baudouin de Courtenay from 1912 (cf. Petruxina 2011). This notion was further elaborated into the distinction of different degrees of analyzability (*stepeni členimosti*), proposed and described in Panov 1975, Kubrjakova 1970, Lopatin 1977, etc. Interestingly, the case represented by the verb *vstat*' is not accounted for by Panov's degrees of analyzability (see section 8). This article thus contributes to the long-term discussion of graduality in word-formation that has recently received new input in the theory of gradual structures in morphology proposed in Hay & Baayen 2005.

We now turn to a variety of arguments starting with the argument which seems to us the most important – semantics.

5. Semantics: synchrony and diachrony

As mentioned above, there is a good reason to see a morphemic difference between the verbs *vstat*' and *vstavit*', although formally their onsets look identical. Semantics is the main piece of evidence that enables us to claim that there is the prefix *v*- 'INTO' in *vstavit*' 'insert', but the prefix *vz*- 'UPWARD' in *vstat*' 'stand up'. We assume that both prefixes *v*- and *vz*- have their own semantic contribution to the base and that their semantic contents are different (Janda et al. forthcoming). In this section we offer additional evidence for the following semantic claims: a) *vstat*' and *stat*' are synchronically related (5.1); b) the Church Slavonic

borrowing *vosstat*' sheds light on the related verb *vstat*' (5.2); c) *vstat*' has a potential valency for the prepositional phrase v 'in' + noun but this cannot be an argument for the prefix v- in this verb (5.3).

5.1. Synchrony: vstat' vs. stat'

Both verbs are highly frequent in Contemporary Standard Russian. Both verbs are perfective. However, their semantic contents are significantly different: *vstat*' is very prominent in its concrete lexical (spatial) meanings (exemplified in (1) to (3)), while for the simplex *stat*' it is the more abstract and grammaticalized uses that are central; lexical spatial uses are possible, but limited to a closed list of contexts. In Contemporary Russian the verb *stat*' is most frequently used in the meaning 'become' (*stat' umnee* 'become more clever') and 'start' (as in periphrastic future with infinitive: *stal rabotat*' 'started working'). ⁶

Apart from strong asymmetries between the verb *vstat*' and *stat*', a semantic analysis makes it possible to reveal their synchronic relation. Both verbs are highly polysemous. On the basis of the Ožegov & Švedova (2001) dictionary we identified five submeanings that can be expressed by both verbs. Within those meanings there are collocations where the two verbs are interchangeable, as illustrated below:

- (7) 'Rise, become vertical, get on one's feet':

 stat' (30)⁷ / vstat' (104) na cypočki 'stand on tiptoes'

 volosy stali (66) / vstali (114) dybom 'hair stood on end'
- (8) 'Take stand, take a position, plant oneself':

 stat' (181) / vstat' (16) na jakor' 'anchor'

 stat' (48) / vstat' (56) v pozu' 'plant oneself, take a position'

⁶ A thorough study of the grammaticalization of the verb *stat*' into an ingressive phase verb and an auxiliary verb of periphrastic future in the history of Russian is offered in Moldovan 2011. Moldovan shows that the periphrastic future with the verb *stat*' is not only characteristic of Russian, but can be found in most Slavic languages (Moldovan 2011: 12). This type of periphrastic future is also described by Dickey (1998) and Andersen (2006: 13). Interestingly, both the verb *stat*' in its original meaning 'become vertical' and the prefix *vz*- 'UPWARD' historically developed ingressive meaning. This might be motivated by a general cognitive mechanism that connects an upward motion with the beginning of an action.

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⁷ The number in parentheses is the number of attestations of this verb in the given construction in the RNC. Searches for all the verbal forms were conducted in December 2011.

- (9) 'Get to a place and start an activity':

 stat' (22) / vstat' (2) u vlasti 'take on a position of power'

 stat' (3) / vstat' (3) na vaxtu 'get on the watch'
- (10) 'Step onto a place, stand there vertically and stop': stat' (6) / vstat' (1) na kovër 'step onto the carpet' stan' (4) / vstan' (3) sjuda 'stand here' (imperative)
- (11) 'Stop': *časy stali* (7) / *vstali* (1) 'the clock stopped'

Partial overlap in the use of *vstat*' and *stat*' suggests that the two verbs are closely related in Contemporary Russian. The zone of their overlap lies on the periphery of the semantic network of *stat*' and is limited to particular contexts. At the same time, the overlap includes the primary sense for *vstat*', namely 'rise, become vertical, get on one's feet', as shown in (7).

This analysis suggests a reliable integration of the verb *vstat*' into a system of related prefixed derivatives of the base *stat*', where it preserves its original spatial sense:⁸

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(12) pri-stat' 'stick, adhere to'
do-stat' 'reach'
ot-stat' 'fall behind, become detached'
ob-stat'9 'stand around'
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To sum up, the verbs *vstat*' and *stat*' are related not only historically, but also synchronically. This means that *stat*' can be considered a simplex base for *vstat*'.

5.2. Diachrony: vstat' vs. vosstat'

The verb *vosstat*' 'revolt' is a Church Slavonicism that is parallel and historically related to Russian *vstat*' 'stand up'. The two verbs *vstat*' vs. *vosstat*' are motivated by the same simplex base *stat*'. The prefix *voz*- is

⁸ In a number of derivatives of *stat*' the meaning of the base is more abstract: *na-stat*' 'begin, set in'; *za-stat*' 'get on to, reach', *u-stat*' 'get tired', *pere-stat*' 'stop'.

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⁹ The verb *ob-stat*' might seem very archaic but has forty-four attestations in the RNC. E.g. *Merežkovskij* — *centr večera*; *Brjusov i gosti obstali jego*. [Andrej Belyj. Načalo veka (1930)] 'Merežkovskij is the center of the soiree. Brjusov and the guests **surround** him'.

the Church Slavonic parallel of the East Slavic vz-.¹⁰ The fact that the verb vosstat' is clearly prefixed with voz- indicates that vstat' is prefixed with the Russian equivalent of voz-, that is vz-, but not v-.

In the historical dictionary *Slovar' russkogo jazyka XI – XVII* (1976) both *vstat'* and *vosstat'* are listed as a single verbal lexeme *<vstati*, *vostati*, *vosstati>* with a whole range of interrelated meanings: 'get on one's feet, rise', 'get up, awake', 'recover from illness', 'resurrect', 'revolt against', 'appear, arise', 'begin', and 'stop'. In Contemporary Russian, these meanings are distributed between *vstat'* and *vosstat'* such that the use of the Church Slavonicism is restricted to the senses 'revolt against' and 'resurrect', while the remaining senses can only be expressed by *vstat'*. As we see, in the past, the two verbs were semantically much closer to each other and differed mainly in terms of stylistic register. The meaning 'revolt, fight against' of the verb *vъstati | vstati* is attested in the birch bark letters (Zaliznjak 2004: 244) as well as in the chronicles (Slovar' russkogo jazyka XI – XVII 1976: 152) and other old texts:

- (13) *litva vъstala na korělu* (Birch bark letter # 590, 3rd part of 11th c.) 'Lithuanians **started a war** against Karelians'
- (14) *vstavše novgorodci izbiša varjagi* (The Laurentian Chronicle, 140, (1201)) '**Having revolted**, the people of Novgorod beat up the Varangians'

This meaning was also reflected in the corresponding deverbal nouns: Russian *vstan*' and Church Slavonic *vosstanie*, both glossed as 'rebellion'. The former was preserved in Russian for a long time (Dal' 1863: 66) but was finally outcompeted by its bookish Church Slavonic equivalent. However, in Modern Russian the verb *vstat*' can sporadically appear with the meaning 'rise against', as in (15):

 $^{^{10}}$ Etymologically both prefixes vz- and voz- come from the same Indo-European source *ud - 'up' and are related to Lithuanian uz and English up. Vz- and voz- were different results of positional phonological alternation: voz0 (Vasmer 1971. T.1: 333). Thomas 1969 relates the Church Slavonic prefix voz- to the "artificial church pronunciation of a vowel <...> in the place where spoken Russian had no vowel". In Modern Russian the prefixes vz- and voz- have subtle stylistic and semantic differences. However, a recent study of Endresen & Sokolova (2011) hase shown that the modern meanings of the two prefixes can be described within the same semantic model of a radial category.

(15) Potomu i svjaty dekabristy, čto, vstav protiv vlasti, ne umeli, da i ne xoteli vzjat' vlast' [David Samojlov. Obščij dnevnik (1977-1989)] 'The reason why the Decembrists are saints is because after having risen against the authorities, they did not manage – and did not want – to take the power'

To conclude, the fact that the verb *vosstat*' is clearly prefixed with *voz*-indicates that historically *vstat*' had the prefix vz-, but not v-. The question now is whether the verb could be reanalyzed as containing the prefix v-. This question is addressed in the next subsection.

5.3. Prefixes and prepositions: v- vs. vz-

It is well known that Russian has verbal phrases with a formally identical prefix on the verb and preposition in an adverbial, as shown in (16):

(16) napisat' na stene - NA-write NA wall 'write on the wall'
zajti za širmu - ZA-walk ZA screen 'walk behind the screen'
podložit' pod golovu - POD-put POD head 'put under one's head'

One can argue that if it is unclear what prefix the verb is derived with, the preposition in such constructions can shed the light on the problem. With this in mind, let us look at the prepositional phrases the verb *vstat*' can govern.

At first glance, this test fails, since Contemporary Standard Russian has a preposition v- but lacks the preposition vz-. However, comparative Slavic data provides us with important background information. Interestingly, the preposition v v z was used in Old Church Slavonic (Karskij 1915: 29, 67; Buslaev 1881: 173, §76), the preposition wz – in Old Czech, while its variant uz is found in Modern Serbian (Buslaev 1959: 481 §251).

In Old Church Slavonic, the preposition $v_{\overline{o}z}$ governed the accusative case and had both concrete spatial use in the meaning 'UPWARD, ONTO', as in (17), and an abstract metaphorical use, as in (18); compare with Modern Russian za 'FOR' and na 'ON' (Buslaev 1881. Vol.1: 173, §76; Karskij 1915: 29, 67):

- (17) **voz** dunai 'upstream of the river Dunaj' (Agiography, 14th c.) **voz** vodu 'upstream' (Pilgrimage of Igumen Daniel to Holy Land) **vos** krai 'on the edge'
- (18) **vos**čoto (**vozo**čoto) (from **voz** + čoto 'what.ACC') 'what for' (Codex Supransliensis) **vskuju** (from **voz** + koj 'which.ACC') 'what for' my vosi prijaxomo blagodato **voz** blagodato (Ostromir Gospels, John, 1, 16) 'good for good' vozdaša mi zolaja **voz** blagaja 'bad instead of good'

The data from Old Czech and Modern Serbian (Buslaev 1959: 481 §251) show that the preposition wz / uz is used for indication of spatial relations, particularly for marking the upward direction of motion along a vertical axis, which is fully compatible with the meaning of the prefix vz-'UPWARD' in Modern Russian.

- (19) Old Czech wz horu 'onto mountain.ACC', wz chlumek 'onto a hill.ACC', wz wrahi lit. 'onto enemies. ACC'
- (20) Modern Serbian *uz brdo* 'up onto the mountain.ACC'

A preposition that can express such spatial relations in Modern Russian and in this sense is equivalent to Church Slavonic preposition $v_{\overline{o}z}$, Old Czech wz and Serbian uz is the preposition na 'ON, ONTO'.

In Modern Russian the verb vstat' occurs in constructions with both the preposition v 'IN, INTO' and the preposition na 'ON, ONTO'. We analyzed the data from the RNC and made a list of typical nominal arguments that occur in the two constructions: a) vstat' + preposition na 'ONTO' + noun.ACC and b) vstat' + preposition v 'INTO' + noun.ACC. The data is classified into subcategories and provided in Tables 1 and 2 below.

In both constructions the verb *vstat*' denotes the trajectory and position of an object (the Trajector) with regard to a spatial destination point, a Landmark, represented by a nominal argument in the accusative case. The Landmarks used with the two prepositions in question are significantly different. In the construction with the verb *vstat*', the preposition *na* usually places an object onto another object (e.g. a chair) or a part of the body (e.g. legs), so that it gets into a vertical position

(vstat' na zadnie lapy 'stand on back paws') or, if an object was vertical already, it additionally acquires a higher spatial position along the vertical scale (vstat' na cypočki 'get on tiptoes').

In the construction with the preposition v 'in', a vertically located object gets into an arranged order (e.g. $o\check{c}ered$ ' 'waiting line') or a part of it (e.g. centr 'center') as well as into some "enclosed" space (e.g. ugol 'corner') or state, like a posture (e.g. stojka 'stance'). All these Landmarks are conceptualized as metaphorical containers that an object moves into.

	Examples of typical	
Type of Landmark	nominal arguments	Gloss
	nogi	'legs'
	dyby	'hind legs'
	zadnije lapy	'back paws'
	cypočki	'tiptoes'
A part of the body	četveren'ki	'all fours'
(the lower part usually)	golova	'head'
	stul	'chair'
On an object	stol	'table'
	mesto	'place, spot'
Other	put'	'way'

Table 1. Construction vstat' + preposition na 'ONTO' + noun.ACC

	Examples of typical	
Type of Landmark	nominal arguments	Gloss
	očered'	'waiting line'
	krug	'circle'
	rjad	'row, line'
	stroj	'array'
	šerenga	'line'
Arranged order	para	'pair'
	centr	'center'
	konec	'center'
Part of arranged order	načalo	'beginning of'
	tupik	'dead end'
	ugol	'corner'
"Enclosed" space	proëm	'opening'
	poza	'posture'

Posture stojka 'stance (sport)'

Table 2. Construction *vstat'* + preposition *v* 'INTO' + noun.ACC

What implications do these findings have for the morphemic structure of the verb *vstat*'?

The two types of prepositional phrases correlate with the two dimensions of the movement the verb vstat' refers to: on the one hand, movement along a vertical axis ('stand up (on one's feet, on an object)'), and, one the other hand, movement along a horizontal axis ('move to <a place>'). We argue that the vertical dimension is basic for this verb, while horizontal movement is secondary. This additional valency for the destination argument was developed by the verb vstat' later, and the prepositional phrase with v 'INTO' is only one of possible adverbials that name such a destination. A piece of evidence for this conclusion comes from the Dictionary of 11^{th} to 17^{th} c., which does not list the meaning 'get in, into' for the verb vstati / vostati / vostati. Moreover, the earliest example of vstati used with the preposition v listed in this dictionary comes from 16^{th} - 17^{th} centuries and represents an interesting case of overlap of the two uses: upward movement ('stand up') is simultaneously a movement into a container (shoes):

Vstati vъ bašmaki 'put the feet into the shoes while standing / getting up'

I kakъ novobračnomu **vstati**... movnikovъ velit poslati v mylnju, i kak budetъ gotovo i dru**ška** pridet, i **onъ vstav v bašmaki**, i šubu nagolnuju na sobja, da šapku podskornuju, poidet. (Domostroj, 186, 16th-17th c.)

'And at the time when the groom is about to **get up**, he <should> send the bath assistants to the bath-house, and when it is ready and the best man has come, he (the groom) should **get up / stand up putting his shoes on (lit. getting up into shoes)**, and should put a fur coat on and a fur hat and should go'.

However, the situation is complicated by a recent linguistic change observed in Modern Russian: the verbs prefixed in v- can not only denote an inward movement, as in (22), but also sometimes refer to an upward motion and occur in the construction with the preposition na, as in (23) (Vinogradov et al. 1953: §899, §901):

- (22) *v-bežat' / v-katit' / v-taščit' v komnatu* 'run / roll / drag **into** a room' *v-lezt' v noru* 'crawl **inside** a burrow'
- (23) v-bežat' / v-katit' / v-taščit' na goru 'run / roll / drag on a mountain' v-lezt' na derevo 'climb up on a tree'

The counterparts of the listed verbs with the prefix *vz*- do exist in Modern Russian and are attested in the RNC to different degrees:

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(24) vz-bežat' 'run up' – 535 attesttations (2000 –1766)<sup>11</sup> vs-katit' 'roll up' – 7 attestations (2002 – 1814) vs-taščit' 'drag up' – 7 attestations (1911 – 1849) vz-lezt' 'climb up' – 169 attestations (1968 – 1765)
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Illustrative examples of their use in Contemporary Russian are given in (25) to (28):

- (25) Ne nado, Kolen'ka, otvetila ona laskovo i legko vzbežala po stupen'kam naverx. [Aleksej Varlamov. Kupavna 2000] 'You needn't, Kolen'ka she answered gently and ran lightly up the stairs'
- (26) Oni smogli vskatit' kamen' po sklonu. [Vasil' Bykov. Kamen' (2002)]

 'They managed to roll the stone up the hill'.
- (27) Požalujsta, rebjata, sojdite malen'ko: ne vstaščit ved' lošadenka moja. [V. G. Korolenko. V uspokojennoj derevne (1911)] 'Please, guys, some of you, get off the wagon, otherwise my horse can't drag it uphill'.
- (28) Neržin sbrosil botinki i vzlez naverx. [A. Solženicyn. V kruge pervom. (1968)]
 - 'Neržin took off his shoes and **climbed up**'.

As reported in (Vinogradov et al. 1953: §901), in the first part of the 19^{th} century it was much more common to use the verbs in (24) rather than their counterparts prefixed in v- (23). Interestingly, we can observe that over the last two centuries some verbs of motion underwent a prefix shift: from vz- to v-. Although the shift is limited to a few verbs, one can say that for $ta\check{s}\check{c}it$ 'drag' and katit 'roll' the prefix v- developed the meaning

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¹¹ Here, the first number is the year of the most recent attestation of a given verb in the RNC, while the second number refers to the oldest attestation found there.

'UPWARD' and almost ousted the prefix vz-, while for $be\check{z}at$ ' 'run' and lezt' 'climb' both prefixes are possible in the relevant meaning.

Do these data suggest that the verb *vstat*' could be reanalyzed as having not the original prefix *vz*- but rather the prefix *v*-? This question is very complex, because the prefix shift in some verbs of motion can affect the morphemic parsing of *vstat*'. On the other hand, the blurring of the morpheme boundary in *vstat*' could potentially trigger semantic enrichment of the prefix *v*- and, furthermore, also affect some verbs prefixed with *v*-. Although there is obvious lack of evidence in favor of either of the two hypotheses, the latter possibility might seem more promising. We suggest that the major reason for the problematic analyzability of the verb *vstat*' comes from morphophonemics, which we turn to in the next section.

6. Morphophonemics

The morphophonemic process that resulted in the verb in question can be presented as the following chain of steps:

First, the coda of the prefix VBZ- got devoiced as a result of the regressive assimilation: Z > S, and, second, the geminate consonant SS that occurred on the morpheme boundary was simplified into S. Devoicing of Z into S resulted in blurring of the morpheme boundary and led to fusion. This turned the sequence of the prefix and the root into a partial overlap of these morphemes. As a result, the structure lost its compositional transparency and became opaque.

This analysis is supported by the etymology given for *vstat*' in Šanskij et al. 1975. Moreover, a similar phenomenon on the morpheme boundary is attested for the prefix *vz*- in the verb *vskočit*' 'jump up':

Panov et al. 1968 also discuss this account for *vstat*' and *vskočit*' and argue that synchronically these two verbs have undergone fusion. They argue that in Modern Russian a prefix and a base never overlap (e.g. *ottolknut*', *pod-daknut*', *s-sypat*', *v-vesti*) (Panov et al. 1968: 62). At the same time, such an overlap was present and recognizable in the whole

range of verbs prefixed with *vъz*- in Old Church Slavonic, as shown by Słoński (1937: 319-321):

(31) $v_{\mathcal{O}}(z)$ -sěsti, $v_{\mathcal{O}}(z)$ -sijati, $v_{\mathcal{O}}(z)$ -skočiti, $v_{\mathcal{O}}(z)$ -skrběti, $v_{\mathcal{O}}(z)$ -sladiti si, $v_{\mathcal{O}}(z)$ -slaviti, $v_{\mathcal{O}}(z)$ -slědovati, $v_{\mathcal{O}}(z)$ -slědostvovati, $v_{\mathcal{O}}(z)$ -slěpati, $v_{\mathcal{O}}(z)$ -smijati, $v_{\mathcal{O}}(z)$ -smrděti, $v_{\mathcal{O}}(z)$ -stajati, $v_{\mathcal{O}}(z)$ -staviti, $v_{\mathcal{O}}(z)$ -staviti, $v_{\mathcal{O}}(z)$ -staviti, $v_{\mathcal{O}}(z)$ -sverěpěti, $v_{\mathcal{O}}(z)$ -sverěpěti, $v_{\mathcal{O}}(z)$ -sverěpěti

This indicates that in Old Church Slavonic verbs could occur in texts with or without the prefix-final consonant z / s and this morphophonemic phenomenon was a productive and on-going process.

However, in Modern Russian blurring of the morpheme boundary under the effect of a morphophonemic process is very common and often happens at the juncture of a root and a suffix (32) or two root morphemes (33) (Panov et. al. 1968: 62; Zemskaja 2006: 155; Itkin 2007):

- (32) *smolensk-sk-ij* > *smolenskij* 'related to the city of Smolensk' *rozov-ovat-yj* > *rozovatyj* 'slightly pink'
- (33) *lermontov-o-ved* > *lermontoved* 'Lermontov's specialist'

As we see, morpheme overlap can involve a whole syllable (haplology), as in *rozovatyj* and *lermontoved*, or be limited to simplification of a consonant cluster, as in *smolenskij*.

Petruxina (2011) defines blurring, fuzziness and relativity of morpheme boundaries within a word as a "characteristic feature of Russian word-formation". This brings the morphophonemic pattern of the verb *vstat*' to a systematic level. The place of this case in the system of Russian will be addressed and defined in section 8. Before that, in section 7, we also show how regular this lexeme is in terms of semantic compositionality and present cross-linguistic data that support our account.

7. Typology

The verb *vstat*' can be found not only in Russian but in the whole range of other Slavic languages (e.g. Serbian *ustati*, Polish *wstać*) including Old

Church Slavonic (*vъstati*), as mentioned above. This shows that this verb represents an old formation in Slavic.¹²

Our analysis of the morphemic structure of the Russian verb *vstat*' receives support from a wide range of typological data. The semantic pattern, that we observe in the verb *vstat*', is well attested crosslinguistically. Our findings show that in the languages of the world the meaning 'get into a vertical position' is often expressed by the combination of these two elements: a verb that denotes 'stand' (or some other verb of position or motion) plus an element meaning 'upward'.¹³ Some relevant examples are given below.

Apart from Slavic languages mentioned above, this semantic and structural pattern is widely attested in Germanic languages – both West Germanic (English *stand up*, *get up*, German *aufstehen*, Dutch *opstaan*) and North Germanic (Norwegian *stå opp*, Swedish *stå upp*).

Moreover, attestations of this semantic pattern go far beyond the Slavic and Germanic languages and cover other subgroups of the Indo-European language family, in particular Greek (e.g. Ancient Greek *anístēmi*) and Iranian (e.g. Ossetian *səstən*). Apart from the Indo-European languages, the pattern can be also found among Uralic languages (e.g. Hungarian *felkelni*, *felállni*), Altaic languages (e.g. Turkish *ayağa kalkmak*), and Kartvelian (South Caucasian) languages (as in Old Georgian *ze aγ-dga-*¹⁴ and Modern Georgian *a-dga-*).

As we see, a number of cross-linguistic parallels to the verb *vstat*' combine two elements: a verb of position or motion and a lexical or morphological marker of upward spatial direction. These typological data suggest that the semantic compositional pattern of the verb *vstat*' as well as the formal structure that we argue for is not only linguistically possible, but well established in a number of other languages, including ones belonging to non-Indo-European language families. This lends additional support to the analysis we propose.

 $^{^{12}}$ Interestingly, Bulgarian verb stana / stavam has a meaning 'stand up', although it lacks the prefix in question.

¹³ For the convenience of the reader, in the following examples the element that denotes upward motion is marked with **boldface**.

¹⁴ Old Georgian *ze a\gamma-dga*- even contains "double" expression of the spatial semantics (cf. Rostovtsev-Popiel 2012 for more detail).

8. Discussion: Degrees of analyzability

Although both the base and the prefix of *vstat*' do exist and are productive in Contemporary Russian, they are not clearly recognizable in this verb due to the blurring of the morpheme boundary and the semantic shift of the base lexeme. This forces us to conclude that the verb lacks formal transparency and therefore is not fully analyzable. At the same time, *vstat*' is not monomorphemic either, but rather a complex with a blurred morphemic structure.

This particular case brings us to the general problem of analyzability in word-formation. The instance of *vstat*' suggests that analyzability should not be viewed as a binary notion but rather as a scale with well-defined degrees.

Since blurring of morpheme boundaries is a characteristic feature of Russian word-formation (Petruxina 2011), a number of linguists have worked on this issue before us, starting from Baudouin de Courtenay in 1912. An important contribution was made in the works of Panov and Kubrjakova who proposed a notion of analyzability degrees and provided a matrix of such degrees in order to account for all possible types of intermediate cases.

In Panov's theory, the degree of analyzability depends on the synchronic productivity of the morphemes involved. The main criterion here is whether a morpheme occurs in its meaning in other linguistic environments – i.e. in other lexemes of this language. Panov distinguishes among fifteen possible degrees of analyzability and claims that seven of them are attested for Russian (Panov 1999: 89-91). The first degree is represented by fully analyzable words, that is, words with well-attested and free roots and affixes (e.g. dom-ik 'small house'). Less analyzable are those words that have a free root morpheme but a unique or rare affix (e.g. pas-tux 'cowboy', kotl-ovan 'trench') (2nd and 3rd degrees). Even less analyzable are those words that are built of a bound or unique root morpheme but a regular affix (e.g. bužen-in-a 'roasted ham') (4th degree). The fifth degree stands for those cases where neither a root, nor an affix have clear semantic content. Examples typically given here refer to socalled cranberry morphemes: "mal-in-a 'raspberry', "kal-in-a 'cranberry') (5th degree). The last two degrees, according to Panov, yield unanalyzable lexemes (6th degree: [?]koče-gar 'coal heaver', [?]koče-rga 'fire rake'; 7th degree: kenguru 'kangaroo').

Kubrjakova (1970) offers a similar hierarchy of analyzability

degrees. In addition to the criterion of productivity of a morpheme and its ability to freely occur with the same meaning in other contexts, she discusses the criterion of its recognizability and the formal similarity of allomorphs. Apart from the two extremes of morphologically analyzable and unanalyzable lexemes, Kubrjakova defines two additional cases: defective analyzability ("defektnaja členimost") of rare or unique morphemes with unclear semantic content (cranberry morphemes, e.g. 'kal-in-a 'cranberry', as well as 'bužen-in-a 'roasted ham'; pas-tux 'cowboy'); and arbitrary analyzability ("uslovnaja členimost") of words that are results of semantic shift of the whole lexeme but not its structural parts (e.g. byč-ok 'bull-calf' >> 'byč-ok 'pigfish').

The verb *vstat*' represents a peculiar case which is not captured by either of these hierarchical matrices. A variety of arguments suggest that the verb consists of the prefix *vz*- 'UPWARD' and the simplex base *stat*' 'stand, become', both of which are well-attested building elements in Modern Russian. At the same time, the prefix *vz*- is not well recognizable in the complex *vstat*' due to morphophonemic modification (prefix-stem overlap), which took place in the course of history and is no longer active in the system.

The gradience of analyzability discussed here is characteristic of a synthetic language like Russian and can be best accounted for within cognitive linguistics. The theoretical and empirical benefits of the cognitive approach are thoroughly described by Langacker (1987), Tuggy (2005), and Booij (2010), while experimental and statistic proofs are provided in the recent theory of gradient structure in morphology proposed by Hay & Baayen (2005).

9. Conclusions

In this study we investigate an interesting case of opacity in Russian word-formation – the morphemic structure of the verb *vstat*' 'stand up'. We argue against a number of accounts found in the dictionaries of Russian word-formation and show that (1) the verb *vstat*' 'stand up' is a derivative from *stat*' 'become' even synchronically and (2) is formed via the prefix *vz*- rather than *v*-. Although the structure *vs-stat*' might seem less overt than *v-stat*', it is better compatible with synchronic and diachronic Russian data. We provide a variety of arguments in favor of this analysis – semantic, historical, morphophonemic, and typological evidence.

Our analysis accounts for the semantics of both the prefixed verb and its morphological components. Structural opacity is a result of morphophonemics: simplification of the geminate consonant ss > s led to blurring of the morpheme boundary and turned the original sequence of the prefix and the root into a partial overlap of these morphemes.

We suggest that the verb *vstat*' is complex, but its structure is indeed not transparent and therefore not fully analyzable. On the one hand, this verb lacks regular analyzability but, on the other hand, it is not a simplex either. Thus, this verb represents a border-line case for "prefixedness" and analyzability. Although both the base and the prefix of *vstat*' are productive in Contemporary Russian, they are not clearly recognizable in *vstat*' due to the blurring of the morpheme boundary and the semantic shift of the base lexeme.

These findings conform to the theory of gradient structures in morphology (Hay & Baayen 2005) and suggest that analyzability of a word should be considered not a binary notion, but rather a gradient phenomenon.

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Summary: Russian morphophonemics in a nutshell: The verb *vstat'* 'stand up'

This paper argues against a number of accounts found in dictionaries of Russian word-formation and shows that the verb *vstat*' 'stand up' (1) even synchronically is derived from *stat*' 'become' and (2) is formed via the prefix *vz*- rather than *v*-. We provide semantic, historical, morphophonemic, and typological arguments in favor of this analysis. We argue that the verb *vstat*' is morphologically complex, but not fully analyzable due to a lack of formal transparency. The affix-root overlap found in the verb *vstat*' refers to a distinct pattern of Russian historical morphophonemics. Our findings conform to the theory of gradient structures in morphology (Hay & Baayen 2005) and contribute an additional type to the degrees of analyzability described in Panov 1968 & 1999 and Kubrjakova 1970.

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