

Slavic Prefixes and Morphology: An Introduction to the *Nordlyd* volume

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Abstract

This is an introduction to a special volume of *Nordlyd* available at <http://www.ub.uit.no/munin/nordlyd/>. It outlines those aspects of Slavic verbal morphology which are of relevance to the papers in the volume, explaining various background assumptions, analytic motivations, and glossing conventions along the way, with reference to the papers in the volume. A full list of abbreviations for all the papers is provided in the last section.

1. Introduction

This volume is a product of a project on Slavic prefixes conducted at CASTL (the Center for Advanced Study in Theoretical Linguistics at the University of Tromsø) between January 2003 and July 2004. The aim of the project has been to examine Slavic prefixal and aspectual morphology, and to determine the similarity of Slavic prefixes to Germanic particles. Each article in the volume explores a specific theme connected to these topics, and emphatically furthers the goals of the project.

In this article I sketch those aspects of Slavic syntax and morphology which are relevant to the articles in the working papers volume. I also provide some guidelines for terminology which will hopefully assist in making the contributions more accessible, especially when read in conjunction with each other. The relevant literature contains many different ways of representing prefixed Slavic verbs and of glossing them, and so on; here I point out some conventions used in this volume. Some of the authors consistently distinguish, for example, superlexical categories (e.g., DISTRIBUTIVE, CUMULATIVE, ATTENUATIVE) from lexical prefixes (which are glossed with English prepositions and particles).

This article starts with a sketch of the relevant aspects of Slavic morphology (§2), then moves on to the syntax of perfectivity and imperfectivity (§3), and finally to some issues in the interpretation of the different forms (§4). I discuss mainly Russian (R), Polish (P), Czech (Cz), Serbian or

* Many thanks to the participants in the CASTL Slavic prefixes project; in addition to the authors in this volume, several other people made important contributions. Specifically I would like to thank students Monika Bašić, Marina Diakonova, Jakub Dotlačil, Yulia Rodina, Nina Rojina, Polya Vitkova, and guests Hagit Borer, Hana Filip, and Andrew Spencer. I have also benefitted from discussions with Tanja Miličev, Tarald Taraldsen, Michal Starke, Asya Pereltsvaig, and Tore Nessel.

Serbo-Croatian (SC), and Bulgarian (B) here, as these are the languages represented in the volume.

The individual papers in the volume are cited throughout the volume as independent papers (i.e., by author and year). They are the following:

- (1) a. **Peter Svenonius**: ‘Slavic prefixes inside and outside VP’ (Svenonius 2004b, pp. 205–253 this volume)
- b. **Eugenia Romanova**: ‘Superlexical versus lexical prefixes’ (Romanova 2004, pp. 255–278 this volume)
- c. **Nataša Milićević**: ‘The lexical and superlexical verbal prefix *iz-* and its role in the stacking of prefixes’ (Milićević 2004, pp. 279–300 this volume)
- d. **Vyara Istratkova**: ‘On multiple prefixation in Bulgarian’ (Istratkova 2004, pp. 301–321 this volume)
- e. **Gillian Ramchand**: ‘Time and the event: The semantics of Russian prefixes’ (Ramchand 2004, pp. 323–361 this volume)
- f. **Patrycja Jabłońska**: ‘When the prefixes meet the suffixes’ (Jabłońska 2004, pp. 363–401 this volume)
- g. **Kateřina Součková**: ‘There is only one *po-*’ (Součková 2004b, pp. 403–419 this volume)

The ordering is thematic; the first four deal most explicitly with the distinction between superlexical and lexical prefixes. In addition, the papers by Milićević and Istratkova deal with stacking. The paper by Ramchand is especially concerned with perfectivity, but temporal and aspectual semantics are also treated to some extent in the papers by Istratkova and Jabłońska. The papers by Jabłońska and Součková concentrate on the interpretation of *po-*. All papers are summarized briefly in the course of the introduction.

Also related to the project are four Master’s theses. Three were completed (under my supervision) in the summer of 2004 at the University of Tromsø: Rojina (2004) on lexical prefixes and prepositional complements in Russian as compared with particle constructions in English, Vitkova (2004) on the relationship of Bulgarian prefixes to telicity as compared with the effect on telicity of English particles, and Součková (2004a) on delimitative or attenuative *po-* in Czech. In addition, Nataša Milićević, who was awarded a grant from the Norwegian Research Council to participate in the project, completed a highly relevant Master’s thesis (for which I was a co-supervisor, along with Dr. Radmila Šević) in the fall at the university of Novi Sad (Milićević 2004). That thesis compares verbal prefixes in Serbian with their English verb-particle counterparts.

In general, the papers in this volume operate under the working assumption that there is a fairly close correspondence between syntactic structure and morphological structure. This assumption goes a long way back, but as implemented here it is most directly based on such works as Baker (1985), Baker (1988), Halle and Marantz (1993), Cinque (1999), and Julien (2002). In those works, a morphological complex of the form C-B-A quite commonly

indicates the existence of an underlying syntax structure of the form $[_{AP}A [_{BP} B [_{CP} C]]]$. Given such an assumption, it is important to know how much of the morphological structure can sensibly be parsed into affixes, e.g. when a looking at a form like (R) *peredelyvajut* ‘they are redoing it,’ it is important to know what relation the /aj/ in the suffix bears to the /aj/ in *peredelajut* ‘they will redo it,’ as this may give an indication of the relative location of the secondary imperfective aspect node in the syntactic tree.

2. Perfective and Imperfective

The morphological distinctions between perfective and imperfective are so pervasive in the following discussion that it is necessary to give a basic idea of what is meant by the terms before proceeding to discuss the morphology.

The semantics of aspect are complex and are the subject of much literature; the matter is discussed more extensively in this volume in Ramchand (2004) and Jabłońska (2004), but suffice to say for now that roughly, PERFECTIVE verbs express an event as a bounded whole, while the IMPERFECTIVE may express an event which is ongoing or otherwise not distinctly bounded.

It will often be convenient to use the abbreviations P for perfective and I for imperfective; in the papers in this volume, these abbreviations are often superscripted, either on the verb forms themselves (*brosatj^I ~ brositj^P*), or on the translations or glosses (*brosatj* ‘throw^I’ ~ *brositj* ‘throw^P’).

There are several syntactic and morphological diagnostics for (im)perfectivity, varying somewhat from language to language; for example only imperfective forms can be embedded under certain verbs like ‘start,’ known as PHASE VERBS, as illustrated in (2).

- (2) a. Počeo je da plakati/*za-plakati.
started is that cry^I/PERF-cry^P
 ‘He started to cry’ (SC; from Milićević 2004)
- b. Petja načal čitatj/*pro-čitatj lekciju.
Peter began read^I/PERF-read^P lecture
 ‘Peter began to give a lecture’ (R; from Borik 2002)

Notice that the perfective forms here are prefixed, while the imperfective forms are unprefixes; this is the most basic pattern, though as will be seen there are many deviations from it.

Perfectivity is the main concern of Ramchand (2004) in this volume, where a new approach is proposed. Essentially, Ramchand suggests that perfectivity is akin to definiteness, in that it presupposes the salience of a boundary which must be identifiable to speaker and hearer. In developing this model, Ramchand makes use of a strict distinction between times and events; the verb phrase is an event descriptor, with no temporal variables until it combines with an aspectual operator (Asp), one manifestation of which is the secondary imperfective suffix.

Jabłońska (2004) also makes some explicit proposals about the semantics of perfectivity, for example that the perfective operator can be represented as AFTER because of the way it orders subevents. An interesting consequence of this is that it allows a connection between the prepositional uses of the prefixes and their function as perfectivizers.

3. Suffixes

In this section I lay out the general morphological structure of the Slavic verb, beginning with the suffixal morphology before moving on to the prefixes in §4, concentrating on those morphemes which are relevant to the papers in this volume. I draw here on Jakobson (1948), Halle (1959), Townsend (1975), Rubach (1984), and Townsend and Janda (1996), among other works. Though an effort has been made to take all five languages into consideration, the analysis and examples are specific to Russian unless otherwise noted.

A basic rule of Slavic morphophonology which plays an important role in what follows is that of regressive VV simplification (Jakobson 1948); that is, in a morphologically derived sequence of two vowels, the first deletes; e.g. in (R) *sprositj* ‘inquire,’ there is a vowel /i/ before the infinitive suffix *-tj*, which is missing in the present tense form *sproseš* ‘[you sg.] inquire,’ where the suffix is analyzed as present tense *-e* followed by second person singular *-š*; this is analyzed as involving VV simplification from /spros-i-e-š/ to [sproseš].

Another rule which is important here is a rule (or a set of rules) of consonant mutation or softening. Essentially, this is a palatalization which is typically seen in the final consonant of a root before certain suffixes.

It has been argued that consonant mutation in the root can reveal the underlying presence of an vowel which is deleted on the surface (Halle 1963, Lightner 1972, Flier 1972 for R; Scatton 1983 for B, Rubach 1984 for P): certain underlying sequences of two vowels result in palatalization of the preceding consonant. The deleted vowel is here represented by \emptyset (this convention is used in Jabłońska (2004), but not generally in the other papers in this volume) (R examples here from Flier 1972). Glosses will be explained in the sections to follow.

- (3) a. $s\text{-}pros\text{-}i\text{-}tj \sim s\text{-}praš\text{-}\emptyset\text{-}yva\text{-}tj$
from-ask-v-INF^P from-ask-v-IMPF-INF^I
‘inquire’
- b. $pod\text{-}sid\text{-}e\text{-}tj \sim pod\text{-}siž\text{-}\emptyset\text{-}yva\text{-}tj$
under-sit-v-INF^P under-sit-v-IMPF-INF^I
‘overthrow, dethrone; eject from a position’

This diagnostic will be important as it helps distinguish cases in which morphemes cannot cooccur from those in which their cooccurrence is phonologically obscured.

3.1. Theme vowels

Most Slavic verbs have what is known as a THEME VOWEL. The term ‘theme vowel’ is not to be taken too literally: theme vowels like *-nu* and the very common *-ova* (*-owa* in Polish, *-uva* in Bulgarian) include more than just a vowel, and for the class of verbs lacking any overt theme vowel, it may be analytically expedient to postulate a null theme vowel.

Roughly speaking, we can distinguish between the ROOT, namely the innermost part of the word, and the STEM, here assumed to be the root plus the theme vowel.

For example, here are two verbs with different theme vowels (*-a* and *-i* respectively), in the infinitive, with the infinitive suffix (R *-tj*, P *-ć*, Cz *-t*, SC *-ti*; in the Bulgarian example, the aorist first person singular is used, as there is no infinitive).

(4)	Russian	Polish	Czech	Serbian	Bulgarian	
	‘write’	pisatj	pisać	psát	pisati	pisax
	‘praise’	xvalitj	chwalić	chválit	hvaliti	xvalix

Theme vowels can be predictive of various allomorphic selection. For example, *i*-stems take the /i/ allomorph of present tense (see §3.5); in Polish, *i*-stems take the /en/ allomorph of the passive participle ending (see Rubach 1984); in Czech, *i*-stems get an /m/ ending in the first singular present (e.g. *chwálím* ‘I praise’; cf. Townsend and Janda 1996:205). In general, a given root only occurs with one theme vowel, for example *pisatj* ‘write’ (R) can never take *-i*: **pisitj*, and *xvalitj* ‘praise’ (R) can never take *-a*: **xvalatj*.

However, there are some cases where theme vowels alternate with a single root, and in these cases it can be seen that there is some correlation with meaning, for example with the CAUSATIVE-INCHOATIVE alternations based on nominal or adjectival roots,¹ illustrated in (5) and (6).

- (5) Some Russian alternating causative-inchoative verbs
- | | | | | |
|----|-----------------|----------------|----------------|-----------------------|
| | <i>ej</i> -STEM | | <i>i</i> -STEM | |
| a. | op’janetj | ‘become drunk’ | op’janitj | ‘make (as) drunk’ |
| b. | staretj | ‘grow old’ | staritj | ‘make (appear) older’ |
| c. | bogatetj | ‘get rich’ | obogatitj | ‘make rich’ |
- (6) Some Serbian alternating causative-inchoative verbs (from Milićević 2004)
- | | | | | |
|----|----------------|---------------------|----------------|-------------------|
| | <i>e</i> -STEM | | <i>i</i> -STEM | |
| a. | iz-beleti | ‘whiten’ (intrans.) | iz-beliti | ‘whiten’ (trans.) |
| b. | crveneti | ‘redden’ (intrans.) | crveniti | ‘redden’ (trans.) |
| c. | iz-ludeti | ‘go crazy’ | iz-luditi | ‘drive crazy’ |
| d. | o-slepeti | ‘go blind’ | o-slepiti | ‘blind’ |

¹The roots themselves may have no category, following Marantz (2001) and Borer (to appear), but the roots to which *-ej* attaches typically also surface in nouns and adjectives which are not deverbal.

Occasionally theme vowels can be seen outside other morphology, as in (P) *zajaś-ni-e-ć* ‘get bright’ (from Jabłońska 2004, where the theme vowel *-ej* is attached outside a *-ni* suffix which Jabłońska identifies as adjectival).

It is tempting to identify the theme vowel with the category-defining *v* of Marantz (2001) and related work; in that work, roots are categoriless until they are combined with some categorial head. In many cases, Slavic verbs share their root but not their theme vowel with some non-verbal lexical item. I will generally gloss theme vowels *v* in what follows.

Furthermore, the theme vowel seems to be implicated in the argument structure of the verb. It appears that quite generally *-ej* derives unaccusative verbs, while *-i* derives transitive (or unergative) verbs; in fact, at least in P and R, there seem to be no unaccusative verbs whatsoever in *-i* (Patrycja Jabłońska and Eugenia Romanova, personal communication).

Thus the theme vowel might also, or perhaps alternatively, be identified with the external argument-introducing head of much recent work (e.g. Kratzer 1996). Consider in this context the pattern of nominalization illustrated (with Slovenian) in (7), from Marvin (2002).

- (7) a. *rez-a-l-o* ~ *rez-i-l-o*
 cut-v-PST-NOM *cut-I-PST-NOM*
 ‘cutting device’ — ‘blade’
- b. *barv-a-l-o* ~ *barv-i-l-o*
 color-v-PST-NOM *color-I-PST-NOM*
 ‘coloring device’ — ‘coloring matter’

In each pair, a nominalization is formed from a past participle in *-l*. In the forms on the left, the theme vowel associated with the verb stem is retained, and the nominal form refers to a causer, a type of external argument, of the root event. In the forms on the right, the theme vowel ordinarily associated with the root is replaced with *-i* (here glossed simply “I”), and the resultant nominal does not make any reference to an external argument of the root event (note, however, that Marvin argues that the category-defining head *v* is higher than the theme vowel).

Jabłońska (2004) addresses the nature of the theme vowel directly, in these terms. Building on Déchaine (2003), she distinguishes among different levels of ‘verbalizer,’ including a low verbalizer (*V*) which effectively derives unaccusative stems and a higher one (*ν*) associated with external arguments (she uses *v* as a neutral label for verbalizers which are not readily identifiable as high or low).

There are also indications that theme vowels have some connection to aspect, which I discuss in the next subsection (accordingly, Romanova in her contribution to this volume generally glosses them ASP).

3.2. Perfective–imperfective alternations

Most verbs take a prefix when they appear in the perfective aspect, as will be discussed in §4. However, some verbs show a perfective–imperfective alternation without any visible prefix, as illustrated in (8).²

- (8) Some Russian alternating perfective–imperfective stems (from Townsend 1975)

	GLOSS	IMPERFECTIVE	PERFECTIVE
a.	‘end’	končatj	končitj
b.	‘captivate’	plenatj	plenitj
c.	‘throw’	brosatj	brositj
d.	‘sleep’	stupatj	stupitj

- (9) Some Serbian alternating perfective–imperfective stems (from Milićević 2004)

	GLOSS	IMPERFECTIVE	PERFECTIVE
a.	‘throw’	bacati	baciti
b.	‘jump’	skakati	skočiti
c.	‘hit’	udarati	udariti

In the examples in (9), the theme vowel in the perfective is *-i*, while the theme vowel in the imperfective is *-a* (SC) or *-aj* (R) (the /j/ can be seen when a vowel-initial conjugation is used, e.g. third person plural *končajut* ‘[they] end^I’).

Importantly, (R) *-aj* is used productively to derive imperfective forms in a number of cases, as discussed in §3.3. However, the relationship between the imperfective forms in (9) and the derived imperfective forms is not completely transparent; for example, the derived imperfective of (R) *s-brositj* ‘throw down’ is not **s-brosatj* but *s-brasyvatj*, in which *-aj* is preceded by /yv/. See further discussion in §3.3.³

Another theme vowel which has an aspectual function is the semelfactive theme vowel *-nu*, seen in (10) and (11) (see Istratkova 2004 for examples from B and Jabłońska 2004 for P).

- (10) Some Russian alternating semelfactive verbs (cf. Romanova 2004)

	<i>a</i> -STEM (IMPERFECTIVE)	<i>nu</i> -STEM (PERFECTIVE)
a.	kidatj ‘throw’	kinutj ‘throw once’
b.	dvigatj ‘move’	dvinutj ‘give a push’
c.	dergatj ‘pull’	dernutj ‘jerk’
d.	prygatj ‘jump’	prygnutj ‘jump once’

²There are some cases of root-suppletive pairs, e.g. (R) ‘take’: *bratj^P ~ vzjatj^I*, ‘say’: *govoritj^P ~ skazatj^I*.

³And see Milićević (2004) for examples in Serbian where the suffix in the imperfective is identical to the Serbian derived imperfective suffix *-ova/-ava*.

- (11) Some Serbian alternating semelfactive verbs (from Milićević 2004)
- | | <i>a</i> -STEM (IMPERFECTIVE) | <i>nu</i> -STEM (PERFECTIVE) |
|----|-------------------------------|------------------------------|
| a. | duvati ‘blow’ | dunuti ‘blow once’ |
| b. | kucati ‘knock’ | kucnuti ‘knock once’ |
| c. | štucati ‘hiccough’ | štucnuti ‘hiccough once’ |

Semelfactive *-nu* indicates a punctual event, and will be glossed SEM here (there is a homophonous but distinct theme vowel used with inchoative verbs; see Jabłońska 2004).

Note that unlike the cases discussed in §3.1, there does not appear to be any alternation in argument structure here.

A final illustration of the possible semantic import of theme vowels will be provided from nominalization. Nominalizations may be formed from verbal roots⁴ or verbal stems, including the theme vowel. When they are formed directly on the root, they tend to refer to objects or results of events, whereas when they are formed from the stem, they tend to refer to events (cf. Townsend 1975:158–159, whence the examples below).

The stem formations are based on the passive participial suffix, which is /en/ or /n/ depending on theme vowel; the *-i* theme vowel is not overt before *-en* but its underlying presence can be inferred from the pattern of consonant mutation (as discussed at the beginning of §3). The examples include three *i*-stems, an *a*-stem, and a verb with a zero theme vowel. Glosses and translations are very approximate; see Townsend for more complete translations.

- (12) Russian triplets showing verb, event nominalization, and root nominalization
- | | | | |
|----|--|---------------------------|--------------------|
| a. | sostav-i-tj | ~ sostavl-en-ie | ~ sostav |
| | <i>compose-v-INF</i> | <i>compose-PASS-NOM</i> | <i>compose</i> |
| | ‘compose’ — ‘composing’ (action) — ‘composition’ (result) | | |
| b. | rastvor-i-tj | ~ rastvor-en-ie | ~ rastvor |
| | <i>dissolve-v-INF</i> | <i>dissolve-PASS-NOM</i> | DISSOLVE |
| | ‘dissolve’ — ‘(dis)solution’ (action) — ‘solution’ (product) | | |
| c. | postup-i-tj | ~ postupl-en-ie | ~ postup-ok |
| | <i>enter-v-INF</i> | <i>enter-PASS-NOM</i> | <i>enter-NOM</i> |
| | ‘enter, act’ — ‘entering’ (event) — ‘act’ | | |
| d. | podderž-a-tj | ~ podderž-a-n-ie | ~ podderž-ka |
| | <i>support-v-INF</i> | <i>support-v-PASS-NOM</i> | <i>support-NOM</i> |
| | ‘support, maintain’ — ‘maintenance’ — ‘support’ (result) | | |
| e. | zavéd-itj | ~ zaved-en-ie | ~ zavod |
| | <i>lead-INF</i> | <i>lead-PASS-NOM</i> | <i>lead</i> |
| | ‘lead, introduce’ — ‘establishment’ — ‘factory’ | | |

⁴Again, it is possible that roots have no category; I use the expression “verbal roots” descriptively, to mean ‘roots which are conventionally associated with verbal stems.’

This suggests that the theme vowel may contribute eventiveness, recalling Grimshaw's (1990) suggestion that suffixless nominals in English could not form complex event nominals and could not have argument structure. Alternatively, it is the passive morpheme which contributes eventiveness, but the presence of the *-a* and (underlyingly) *-i* theme vowels suggests that passive is dependent on them.

Although I have noted it already, I should stress again that the theme vowel alternations discussed here are not generally productive, in that e.g. *-nu* cannot be added freely to roots to derive semelfactive verbs. Furthermore, there are semantic and phonological idiosyncracies in individual forms; for example, /g/ deletes from the stem before *-nu* in some examples in (10) but not in all. For an example of semantic irregularity, note that the examples in (5) are not all simply causative, but sometimes have a slightly more complex meaning. For all these reasons, it is clear that theme vowels are listed as part of a stem, and it can reasonably be questioned whether theme vowels should be parsed out as morphemes (in this volume, Milićević (2004) suggests that they should not be in Serbian). However, to the extent that they can be implicated in argument structure, aspect, and eventiveness, they seem to have a place in the morphological system. I return to the matter in §3.3 where cooccurrence restrictions between theme vowels and secondary imperfective suffixes are examined.

3.3. Secondary imperfective

A very important suffix in any complete discussion of Slavic prefixes is the SECONDARY IMPERFECTIVE suffix, abbreviated IMPF in glosses here.

In this volume, Jabłońska (2004) proposes a specific analysis for the Polish secondary imperfective (which she abbreviates SI); she suggests that there are two distinct readings for SI, one which she represents as the relation WITHIN and the other, OUTSIDE, both relating temporal intervals in containment relationships.

Ramchand (2004) also discusses the secondary imperfective (basing her observations mainly on Russian), suggesting that it is an instantiation of the same Asp head which otherwise expresses perfectivity, one which introduces a distinct event with some contextually determined relationship to the main event.

Also in this volume, Istratkova (2004) discusses the Bulgarian counterpart of the secondary imperfective morpheme, arguing that it is the overt expression of imperfectivization in an Asp node outside the verb phrase, used when the VP is quantized (when the VP is non-quantized, the imperfective operator is null).

The secondary imperfective has several allomorphs; in Russian, they all underlyingly end in *-aj* (often preceded by *-yv*; see Flier 1972), the choice generally being predictable on the basis of the theme vowel or the final consonant of the root, but /j/ deletes before a consonant (Halle 1959),

giving forms like *-yva*, *-va* and *-a* before a consonant-initial suffix (like the infinitive).⁵

To illustrate, the verb meaning ‘write’ is repeated in (13) for the five languages; in the first two lines of (13), the citation form is parsed, showing the theme vowel *-a*; in the last pair of lines, a secondary imperfective form is shown (this ordinarily requires a prefix in most cases, omitted here for simplicity).⁶

(13) Some secondary imperfective forms for the stem meaning ‘write’
(prefixes omitted)

Russian	Polish	Czech	Serbian	Bulgarian
pis-a-tj	pis-a-ć	ps-á-t	pis-a-ti	pis-a
<i>write-v-^{INF}</i>	<i>write-v-^{INF}</i>	<i>write-v-^{INF}</i>	<i>write-v-^{INF}</i>	<i>write-v</i>
pis-yva-tj	pis-ywa-ć	pis-ova-t	pis-iva-ti	pis-va-m
<i>write-IMP^F-^{INF}</i>	<i>write-IMP^F-^{INF}</i>	<i>write-IMP^F-^{INF}</i>	<i>write-IMP^F-^{INF}</i>	<i>write-IMP^F-1SG</i>

The absence of the theme vowel might be due to VV simplification. In cases where the theme vowel is *-ova* or *-ej*, for example, a part of the theme vowel survives the suffixation of a secondary imperfective form, as in (14a) and (14b) respectively.⁷

(14) a. za-kold-ova-tj ~ za-kold-ov-yva-tj
into-cast.spell-v-^{INF}^P *into-cast.spell-v-IMP^F-^{INF}^I*
 ‘cast a spell’

b. za-bol-ej-ut ~ za-bol-ev-aj-ut
into-be.ill-v-3PL^P *into-be.ill-v-IMP^F-3PL^I*
 ‘[They] fall ill’

However, there are cases where a theme vowel disappears from the secondary imperfective form for reasons that are not straightforwardly phonological.

(15) a. pere-šag-nu-tj ~ pere-šag-iva-tj
over-step-SEM-^{INF}^P *over-step-IMP^F-^{INF}^I*
 ‘step over’

b. pere-del-aj-ut ~ pere-del-yvaj-ut
RPET-do-v-PRS.3PL^P *RPET-do-IMP^F-PRS.3PL^I*
 ‘[they] redo’

⁵In Bulgarian, the secondary imperfective is *-aj* or *-avaj*; see Scatton (1983:298ff). Polish has *-aj*, cf. Rubach (1984:37). Serbo-Croatian and Czech generally have *-Vva*, where *V* ranges over several vowels.

⁶In Bulgarian, the first person singular is used as there is no infinitive. Note the change in conjugation class: the conjugation class for *a*-stems has a zero first person singular, where the conjugation class for verbs in *-va* has an *-m*.

⁷The latter undergoes a /j/ ~ /v/ alternation, following Flier (1972); alternatively, the allomorph of the secondary imperfective after *-ej* is *-vaj*, and /j/ deletes before the consonant, as in Townsend (1975).

The incompatibility of semelfactive *-nu* with the secondary imperfective is probably related to the fact that the semelfactive suffix creates perfective stems, as discussed in §3.2. Assume for the time being that *-nu* has a [+PERF] feature which is incompatible with the secondary imperfective (I return to the matter below).

Another theme vowel which appeared to be connected to perfectivity was *-i*, as pointed out in §3.2, in the context of pairs like *brosatj^l ~ brositj^P* ‘throw.’ Interestingly, there is evidence in Russian that this *-i* is not the same *-i* as the productive one found in thousands of transitive verbs and not specifically connected to perfectivity; the evidence comes from the pattern of consonant mutation, which is regular for the productive *-i* but idiosyncratic in the paradigm of the perfective *-i* (Townsend 1975:136). I assume, then that the *-i* in *brositj* is specified [+PERF] and therefore incompatible with the secondary imperfective.

As for the theme vowel *-aj*, it alternates with secondary imperfective *-yvaj*; the question is then whether it is deleted before *-yvaj*, like *-nu*, or whether it is retained, and *-yv* is added before it. For the time being I will assume that it is omitted. Suppose that this indicates that it is specified for [−PERF], and that any specification for perfectivity is incompatible with the secondary imperfective.

Given that theme vowels like *-nu* and *-aj* are morphologically omitted in the presence of the secondary imperfective, and given the presence of a VV simplification rule, there are two competing explanations for the absence of the theme vowel in (13).

Recall from §3 that mutation patterns can be used to identify the presence of underlying vowels. By those diagnostics, the theme vowels *-i* and *-e* are underlyingly present in the secondary imperfective (though importantly, the special perfective theme vowel, also realized as /i/, only sporadically triggers mutation in the secondary imperfective).

In the case of R *a*-stems like *pisatj*, however, the same reasoning favors a morphological explanation: there is no mutation of the root in the secondary imperfective, as would be expected if the theme vowel were present (e.g. R **pišyvatj*; cf. the present tense forms in (18)).

(16)	MUTATION	NO MUTATION
	-v phonologically deleted	-v morphologically absent
	piš-Ø-e-š	pis-yva-tj
	<i>write-v-PRS-2SG</i>	<i>write-IMPF-INF</i>

Thus, it seems that theme vowels *-nu*, *-aj*, Perfective *-i*, and *-a* are all omitted before the secondary imperfective. The first three of them have been independently linked to (im)perfectivity. None have been linked to argument structure. Another factor that appears to unify them is that all form secondary imperfectives with *-yvaj*.

The theme vowels that appear to be retained (or phonologically deleted or modified) before the secondary imperfective are (non-perfective) *-i*, *-ej*,

-*e*, and -*ova*. Of these, the first two have been linked to argument structure, and none have been linked to (im)perfectivity. They may form secondary imperfectives with -*yvaj* (e.g. -*ova*) or -*aj* (e.g. -*ej*).

Finally, the evidence from eventive nominalizations linked theme vowels -*a* and -*i* (and/or possibly the passive suffix) to eventiveness; since -*i* appears to be of the argument structure type and -*a* of the aspectual type, this suggests that perhaps all theme vowels are eventive.

3.4. Past tense and agreement

The most commonly used past tense form in the Slavic languages is historically a participial form, appearing with an auxiliary (a form of the verb ‘be’); so it remains in the South Slavic languages, S and B; in the the West Slavic languages, Cz and P, the auxiliary is absent in the third person, and in P it is furthermore a reduced enclitic form, contrasting with the usual verb ‘be’; in R the auxiliary is absent altogether, but so is the copular ‘be.’

The basic suffix for this form is -*l*, and will be glossed PST, for ‘past.’ It is accompanied by gender and number morphology, glossed with combinations of M, F, N, SG and PL. The plural forms in Polish have developed a distinction between adult male humans (‘virile,’ glossed VIR) and the rest (glossed NONVIR for ‘non-virile’). Though the masculine singular often surfaces as null, it is the neuter singular which is used as a default, a point which becomes important in Romanova (2004).

These various facts are illustrated in (17) with S and P verbs.

(17)		Serbian		Polish
	1SG, M	hval-i-o	sam	chwal-i-ł-em
		<i>praise-v-PST.M.SG</i>	<i>am</i>	<i>praise-v-PST-1SG</i>
	2SG, F	hval-i-l-a	si	chwal-i-ł-a-ś
		<i>praise-v-PST-F.SG</i>	<i>be.2SG</i>	<i>praise-v-PST-F.SG-2SG</i>
	3SG, N	hval-i-l-o	je	chwal-i-ł-o
		<i>praise-v-PST-N.SG</i>	<i>is</i>	<i>praise-v-PST-N.SG</i>
	1PL, M	hval-i-l-i	smo	chwal-i-l-i-śmy
		<i>praise-v-PST-M.PL</i>	<i>be.1PL</i>	<i>praise-v-PST-VIR.PL-1PL</i>
	2PL, F	hval-i-l-e	ste	chwal-i-ł-y-ście
		<i>praise-v-PST-F.PL</i>	<i>be.2PL</i>	<i>praise-v-PST-NONVIR.PL-2PL</i>

The past tense suffix combines straightforwardly with theme vowels (as seen above) and with the secondary imperfective (e.g. in Cz *zastav-ova-l*), apart from phonological adjustments (as seen e.g. in the SC masculine singular above; or in R where it deletes following /r/, e.g. R *teretj* ‘rub’ (INF) ~ *tjor* ‘rubbed’ (PST.M.SG)). There is one exception: inchoative -*nu* (distinct from semelfactive -*nu*), not hitherto discussed, disappears before secondary imperfective and before the past: (R) *po-stig-nu-tj* ‘achieve^P’ ~ *po-stig-aj-ut* ‘[they] achieve^I’ ~ *po-stig-la* ‘achieved^P (F.SG).’ See Jabłońska (2004) for discussion of the Polish counterpart.

3.5. Present tense, agreement, and conjugation classes

The present tense has two allomorphs, /i/ and /e/ (Jakobson 1948 for R, Scatton 1975 for B, Rubach 1984 for P). Their distribution can either be described morphologically, as /i/ is the allomorph which is used after *i*- and *e*-theme vowels (cf. Townsend and Janda 1996), or phonologically, as /i/ is the allomorph which occurs after front vowels (/i/ and /e/) (cf. Rubach 1984).

An additional difference between the class of *i*- and *e*-stems (known as Conjugation 2) and the others (Conjugation 1) is the allomorphy of certain agreement suffixes, for example R 3PL *-ut* (Conjugation 1) vs. *-jat* (Conjugation 2). There is also a first person allomorph *-m* which is restricted to occurring with certain theme vowel classes: *-aj* (including the secondary imperfective) in B and (irregularly) P, *-aj* as well as Conjugation 2 in Cz, and all classes in SC (cf. Townsend and Janda 1996:205).

Representative paradigms for the two present tense allomorphs are presented in (18) and (19) (cf. Townsend and Janda 1996:214–215).

(18) Conjugation 1: theme vowel *-a*, ‘write’

	Russian	Polish	Czech	Serbian	Bulgarian
INF	pisatj	pisać	psát	pisati	
1SG	pišu	piszę	pišu	pišem	piša
2SG	pišeš	piszesz	pišeš	pišeš	pišeš
3SG	pišet	pisze	piše	piše	piše
1PL	pišem	piszemy	pišeme	pišemo	pišem
2PL	pišete	piszecie	pišete	pišete	pišete
3PL	pišut	piszą	pišou	pišu	pišat

(19) Conjugation 2: theme vowel *-i*, meaning roughly ‘praise’

	Russian	Polish	Czech	Serbian	Bulgarian
INF	xvalitj	chwalić	chválit	hvaliti	
1SG	xvalju	chwalę	chválím	hvalim	xvalja
2SG	xvalis	chwalisz	chválíš	hvališ	xvališ
3SG	xvalit	chwali	chválí	hvali	xvali
1PL	xvalim	chwalimy	chválíme	hvalimo	xvalim
2PL	xvalite	chwalicie	chválíte	hvalite	xvalite
3PL	xvaljat	chwalą	chválí	hvale	xvaliat

Consider, for example, the SC paradigm, where the first plural ending is *-emo* in the first conjugation and *-imo* in the second; given that the present tense is variably *-i* or *-e*, the SC first person plural (for example) is consistently *-mo* (or first person *-m* plus plural *-o/-e*) and the other agreement suffixes are also general for both (18) and (19). This is schematized in (20), where theme vowels deleted by VV simplification are replaced by the empty set symbol.⁸

⁸Mutation patterns suggest the underlying existence of the theme vowel, cf. §3.3.

- (20) a. piš-∅-e-mo
write-v-PRS-1PL
 ‘[I] write’
 b. hval-∅-i-mo
praise-v-PRS-1PL
 ‘[I] praise’

The present tense suffix can be seen to cooccur with the various theme vowels, though of course many of them are deleted by the general VV simplification rule. It combines with the secondary imperfective just as with the *-aj* stems, e.g. (R) *-aj* stem *dum-aj-e-š* ‘[you sg.] think,’ secondary imperfective *v-dum-yvaj-e-š* ‘[you sg.] ponder.’ It does not cooccur on a single stem with the past tense (**dum-a[j]-l-e-š*, **dum-aj-e-l*, etc.), though if the auxiliary is understood as a bearer of present tense, then the present and past cooccur in a single clause in examples like (SC) *hval-i-l-a si* ‘you (F.SG) praised,’ cf. (17).

3.6. The aorist and the imperfect tense

There are two additional categories of temporal suffix in Bulgarian, which has an AORIST and something known as the IMPERFECT tense, both of which are illustrated in (21), alongside the present tense paradigm, repeated for comparison.

(21) Bulgarian tenses for verb meaning ‘carry’

	PRESENT	AORIST	IMPERFECT
1SG	nosja	nosix	nosex
2SG	nosiš	nosi	noseše
3SG	nosi	nosi	noseše
1PL	nosim	nosixme	nosexme
2PL	nosite	nosixte	nosexte
3PL	nosjat	nosixa	nosexax

In the papers in this volume, the secondary imperfective (IMPF) is quite important, the Bulgarian imperfect tense less so; it will be glossed IMPTNS for ‘imperfect tense’ when it appears. The imperfect can cooccur with the aorist, as in (21), but also with the past, as seen in (22b).

- (22) a. Xod-i-l səm.
go-v-PST am
 ‘I have gone’
 b. Xod-e-l səm
go-IMPTNS-PST am
 ‘I was going’/‘I used to go’

Following Scatton (1983), the imperfect is manifested by a suffix **A*, a vowel which surfaces as [a] after a palatalized consonant and [e] after a non-

palatalized consonant, as here; the aorist is expressed by a suffix *-x* which is deleted in the second and third person singular (the aorist *-x* does not delete when preceded by the imperfect suffix, but softens to [š] before /e/ by a general phonological rule, as in the second and third person singular).

3.7. Summary of suffixal morphology

As mentioned at the beginning of this section, it is a working hypothesis that parseable morphemes correspond to syntactic nodes. The forms discussed in this section can be organized into the following hierarchical structure:

$$(23) \quad \text{Agr}_{\text{[NUM]}}^{\text{[PERS]}} > \text{T}_{\text{[PRS]}}^{\text{[AOR]}} > \text{Agr}_{\text{[GEN]}}^{\text{[NUM]}} > \text{PST} > \text{IMPTNS} > \text{IMPF} > v > V$$

It is of course controversial whether Agr corresponds to a syntactic node at all (cf. Iatridou 1990, Halle and Marantz 1993). Eliminating Agr from the structure, the interpretable morphemes are as follows.

$$(24) \quad \text{T}_{\text{[PRS]}}^{\text{[AOR]}} > \text{PST} > \text{IMPTNS} > \text{IMPF} > v > V$$

Others could be added, for example the passive, future, and negation, but they do not have any bearing on the papers in this volume.⁹

Another refinement can be made: those theme vowels which do not cooccur with the secondary imperfective could be analyzed as belonging to the category *impf*, or as being conflation of *v* and IMPF; in this case the projection should be relabeled Asp, as it is not solely the locus of imperfective aspect.

Summarizing, Tense (including the present in all the languages, as manifested by the auxiliary, and the aorist in Bulgarian) appears to dominate the past tense morpheme; the past tense appears outside the imperfect tense, which appears outside the secondary imperfective suffix, which appears outside the theme vowel, when it does not have perfectivity features. Finally, the root is at the bottom, here represented by V, though on the theory of Marantz (2001) this would actually be categoriless.

Substantial portions of (24) are assumed by most of the papers in this volume, though there are several variations. See in particular Jabłońska (2004) for additional discussion. More structure will be contemplated in connection with the discussion of prefixes in §4.

⁹The passive participial suffix attaches outside the secondary imperfective, and can be included in nominalizations based on that participle. The present perfective in Slavic generally has a future interpretation (cf. Ramchand 2004 for discussion), but there is also a future form with an auxiliary, e.g. (Cz) *budu cestovat* ‘[I] will travel,’ from Součková (2004b); she also points out a prefixal future form: *po-cestuju* ‘[I] will travel.’

4. Prefixes

Having established the identities of the most important suffixes, we can now turn to the focus of this study, the prefixes. Most of the prefixes are homophonous with prepositions (see Matushansky 2002 for arguments from Russian for actual categorical identity), and this fact along with the range of special meanings which they give rise to in conjunction with particular verbs invites a comparison to the Germanic particles.

Prefixes are not morphologically incorporated into the verb stem to the same extent as suffixes (see e.g. Rubach 1984, Fowler 1996). This suggests that they are not combined with the root in the same way; this is discussed in Svenonius (2004a) and Svenonius (2004b).

The distinction between lexical and superlexical prefixes runs through most of the papers in this volume. It is the main focus of Svenonius (2004b) and Romanova (2004) and is a central issue for Milićević (2004) and Isratkova (2004).

4.1. Lexical prefixes

The argument in Svenonius (2004b) is that the lexical prefixes are very much like Germanic particles. For example, Germanic particles have core spatial meanings and can be used to construct resultative predicates with verbs of motion, as in *roll in*, *carry away*, *throw across*, *pile on*, and so on. Similarly, Slavic prepositional prefixes have core spatial meanings and can be attached to verbs to achieve a very similar effect, as illustrated with the Russian examples in the left-hand column in (25).

Furthermore, Germanic particles readily form idiomatic combinations, so that *take off* means ‘start,’ *give up* means ‘quit,’ *rip off* means ‘rob,’ and so on. Idiomatic combinations are equally readily formed by Slavic prefixed verbs, as illustrated by the Russian verbs in the right-hand column in (25).

(25)	SPATIAL EXAMPLES	IDIOSYNCRATIC EXAMPLES
a.	za-katitj <i>into-roll</i> 'roll in'	za-kusitj <i>to-bite</i> 'eat after drinking'
b.	ot-nesti <i>away-carry</i> 'carry away'	ot-rabotatj <i>away-work</i> 'practice'
c.	pere-brositj <i>across-throw</i> 'throw across'	pere-varitj <i>across-boil</i> 'digest'
d.	na-gruzitj <i>on-load</i> 'load'	na-bratj-sja <i>on-take-RFX</i> 'get drunk'
e.	is-pustitj <i>out.of-let</i> 'emit'	iz-bratj <i>out.of-take</i> 'elect'
f.	v-kopatj <i>in-dig</i> 'bury'	vo-plotitj <i>in-flesh</i> 'realize (a plan)'
g.	vy-sušitj <i>out-dry</i> 'dry up'	vy-dumatj <i>out-think</i> 'invent'
h.	pro-kolotj <i>through-prick</i> 'prick through'	pro-datj <i>through-give</i> 'sell'
i.	pod-kinutj <i>under-throw</i> 'throw up'	pod-pisatj <i>under-write</i> 'sign'
j.	pri-katitj <i>by-roll</i> 'roll up'	pri-kinutj <i>by-throw</i> 'assess'
k.	s-kinutj <i>from-throw</i> 'throw away'	s-vjazatj <i>from-knit</i> 'tie up'
l.	do-kinutj <i>up-throw</i> 'throw up'	do-nesti <i>up-carry</i> 'report'
m.	ras-kinutj <i>around-throw</i> 'throw around'	raz-jestj <i>around-eat</i> 'corrode'
n.	u-katitj <i>at-roll</i> 'roll away'	u-goretj <i>at-burn</i> 'get smoke poisoning'

Note that I have glossed each Russian prefix with an English particle or preposition; this is strictly a convention for compact and systematic glossing, and is potentially misleading as prepositional semantics are highly polysemous and subtle. No Slavic preposition is adequately translated in every case with a single English preposition; in fact, even between more closely related languages, prepositions are usually difficult to straightforwardly translate. Just as the Czech P element *při* might translate, in different contexts, as 'to,' 'by,' or 'at,' so might the Norwegian P element *på* variously translate as 'in,' 'on,' 'at,' and so on.

A fairly complete inventory of lexical prefixes for the five languages represented in this volume is given in (26), along with a convenient gloss label (these glosses are not strictly adhered to in the papers in this volume).

SLAVIC PREFIXES: INTRODUCTION

(26) Conventional glosses for lexical prefixes

R	GLOSS	P	GLOSS	Cz	GLOSS	SC	GLOSS	B	GLOSS
do	<i>up</i>	do	<i>to</i>	do	<i>to</i>	do	<i>to, up</i>	do	<i>near, to</i>
iz	<i>out.of</i>	z	<i>up</i>			iz	<i>out</i>	iz	<i>from</i>
s	<i>from</i>			s	<i>with</i>	s	<i>off</i>	s	<i>with</i>
za	<i>onto</i>	za	<i>down</i>	za	<i>behind</i>	za	<i>up</i>	za	<i>for</i>
pod	<i>under</i>	pod	<i>under</i>	pod	<i>under</i>	pod	<i>under</i>	pod	<i>under</i>
pri	<i>by</i>	przy	<i>at</i>	při	<i>at</i>	pri	<i>to</i>	pri	<i>near</i>
ot	<i>away</i>	od	<i>from</i>	od	<i>away</i>	od	<i>from</i>	ot	<i>from</i>
v	<i>in</i>	w	<i>in</i>	v	<i>in</i>	u	<i>in</i>	v	<i>in</i>
vy	<i>out</i>	wy	<i>out</i>	vy	<i>out</i>	uz	<i>out</i>	vyz	<i>out</i>
po	<i>along</i>	po	<i>along</i>	po	<i>over</i>	po	<i>along</i>	po	<i>along</i>
na	<i>on</i>	na	<i>on</i>	na	<i>on</i>	na	<i>on</i>	na	<i>on</i>
pere	<i>across</i>	prze	<i>across</i>	pře	<i>across</i>	pre	<i>across</i>	pre	<i>across</i>
pro	<i>about</i>			pro	<i>through</i>	pro	<i>through</i>	pro	<i>through</i>
ras	<i>around</i>	raz	<i>outward</i>	roz	<i>outward</i>	raz	<i>around</i>	raz	<i>around</i>
u	<i>at</i>	u	<i>at</i>	u	<i>from</i>			u	<i>at</i>
		o	<i>about</i>	o	<i>about</i>			o	<i>about</i>
		ob	<i>around</i>	ob	<i>around</i>	ob	<i>about</i>		
				před	<i>in.front.of</i>				

As discussed at length in the first three papers in this volume, the typical properties of lexical prefixes include spatial or idiosyncratic meanings, affecting the argument structure of a verb, allowing the formation of secondary imperfectives, attaching closest to the stem (in case there is more than one prefix), and some other properties.

Various attempts are made to identify the lexical prefixes with material in the complement of V, for example locating it in R (a Result head which is part of the lexical entry of verbs that express result states, cf. Ramchand 2003) or in the complement of R, as suggested in Svenonius (2004b); see also Rojina (2004).

4.2. Purely perfectivizing prefixes

Some prefixes do not seem to make much of a contribution to meaning apart from inducing perfectivity.

- (27) a. lečiti ~ iz-lečiti
cure^I PERF-*cure^P*
‘cure’ (SC; from Milićević 2004)
- b. pisatj ~ na-pisatj
write^I PERF-*write^P*
‘write’ (R; from Romanova 2004)
- c. smutnět ~ ze-smutnět
wither^I PERF-*wither^P*
‘wither’ (Cz; from Součková 2004b)

- d. drożec ~ z-drożec
get.expensive^I PERF-*get.expensive^P*
 ‘get expensive’ (Polish; Jabłońska 2004)

Such forms strongly resist secondary imperfectivization in most cases. The simplest explanation for that is based on a notion of blocking; if the secondary imperfective would mean the same as the unprefix stem, then the simpler form might block the more complex one. However, the actual implementation of this intuition is not yet fully worked out.

Several of the papers in this volume address the issue of purely perfectivizing prefixes. In particular, Milićević notes that some pairs like the one in (28a) have special aspectual properties, providing an independent diagnostic for this special class and possibly providing an alternative explanation for the failure of secondary imperfectivization.

4.3. Superlexical prefixes

In addition to their lexical uses, many of the prefixes discussed in §4.1 have functional uses as superlexical prefixes. The table below shows some of the labels which have been used (not all of them are used in the papers in this volume).

(28) Typical instantiations of superlexical prefixes

Label	Gloss	R	P	Cz	SC	B
INCEPTIVE	INCP	za	za		za	za
TERMINATIVE	TRMN	ot	od			do
COMPLETIVE	CMPL	do	do		iz	iz
PERDURATIVE	PRDR	pro	prze	pro		
DELIMITATIVE	DLMT	po	po	po		po
ATTENUATIVE	ATTN	po	pod	po		po
DISTRIBUTIVE	DSTR	po	po	po	po	po
CUMULATIVE	CMLT	na	na	na	na	na
SATURATIVE	STRT	na	na	na		
REPETITIVE	RPET	pere	prze		pre	pre
EXCESSIVE	EXCS	pere	prze			raz

In some cases it is unnecessary or even undesirable to give an explicit gloss for a prefix, for example as when the exact interpretation is under discussion; in such cases, prefixes are glossed with their own spelling in capitals, for example *po-* glossed “PO.”

When stems show a perfective–imperfective alternation of the type mentioned in §3.2 (e.g. *brosit^P* ~ *brosat^I* ‘throw’), it is usually the perfective stem that appears with lexical prefixes, and the imperfective stem that appears with superlexical prefixes, as illustrated in (29) (SC, from Milićević 2004).

- (29) a. *baciti* ~ *iz-baciti*
 throw^P *out.throw^P*
 ‘throw’ — ‘throw out’
- b. *bacati* ~ *iz-bacati*
 throw^I *CMPL-throw^P*
 ‘throw’ — ‘throw extensively’

Note that the superlexical prefix results in perfectivity, just like a lexical prefix.

In this volume, Romanova (2004) proposes that superlexical prefixes in Russian select not for imperfective stems, but for atelic ones, noting mismatches between perfectivity and telicity. For Polish superlexical *po-*, however, Jabłońska (2004) argues specifically that it selects for a stem that is featurally [-Perf]. For Bulgarian, Istratkova (2004) suggests that prefixes do not induce perfectivity, but that a perfective head selects for quantized stems.

In general, verb forms with superlexical prefixes do not form secondary imperfectives in R, SC, P, or Cz, though there are numerous exceptions, many of which are discussed in this volume.

For example, the lexically prefixed form (SC) *izbaciti* ‘throw out^P’ (from (29)) has a secondary imperfective form *izbacivati* ‘throw out^I,’ but the superlexically prefixed form *izbacati* ‘throw extensively^P’ does not have a secondary imperfective form (this is not true of Bulgarian, as discussed in Istratkova 2004).

There is, however, a systematic case in which superlexical prefixes cooccur with the secondary imperfective suffix: if a superlexical prefix is to be added to a stem which already bears a lexical prefix, then the stem must generally undergo superlexical prefixation, e.g. in (SC) *po-iz-bacivati*, discussed by Milićević 2004, *po-* is superlexical, *iz-* is lexical, and the secondary imperfective suffix is present. Importantly, the verb form is perfective, indicating that the superlexical prefix scopes over the secondary imperfective suffix. This is discussed in more detail in the next section.

5. Structure

The subsection on suffixal morphology ended with a hierarchy of categories (repeated here from (24) in §3.7 above, and substituting Asp for IMPF):

$$(30) \quad T_{\left\{ \begin{array}{l} \text{AOR} \\ \text{PRS} \end{array} \right\}} > \text{PST} > \text{IMPTNS} > \text{Asp} > v > V$$

Recall that there was some complexity in the *v* domain but that most of it could be roughly characterized by assuming that some theme vowels combine the ASP and *v* positions. Omitting the morphemes which are only overt in Bulgarian, we obtain:

$$(31) \quad T > \text{PST} > \text{Asp} > v > V$$

Now, the question is, can the prefixes be placed somewhere in this hierarchy? There is evidence that the lexical prefixes are below the imperfective position, while the superlexical prefixes tend to be above it (as mentioned in the previous section). First, consider the perfectivizing effect of adding a lexical prefix to an imperfective stem, as in (32) (examples from Romanova 2004).

- (32) kry-tj ~ ot-kry-tj
cover-IMP^I *away-cover-IMP^P*
 ‘cover’ — ‘open’

Next, consider that the secondary imperfective, when added to a lexically prefixed stem, consistently results in an imperfective form.

- (33) ot-kry-va-tj
away-cover-IMP^F-IMP^I
 ‘open’

This suggests that the secondary imperfective scopes over the lexical prefix. Now, consider that in general, it is not possible to add a superlexical prefix to a lexically prefixed perfective form, but it is sometimes possible to add a superlexical prefix to an imperfectivized lexically prefixed form like that in (33), as suggested in (34).

- (34) *po-ot-kry-tj ~ po-ot-kry-va-tj
DSTR-away-cover-IMP *DSTR-away-cover-IMP^F-IMP^I*
 ‘open one after the other’

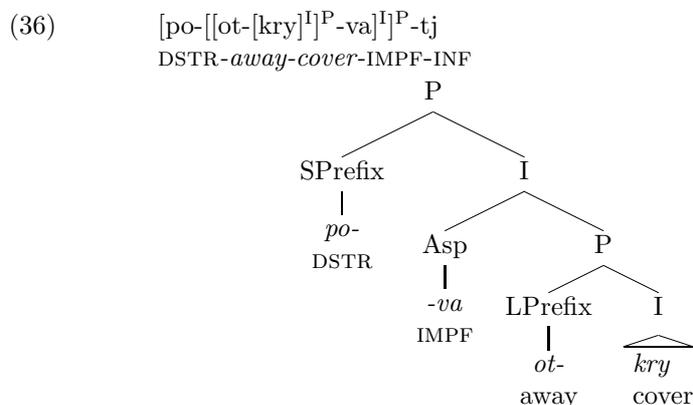
Similar examples for P, SC, and B appear in the papers by Jabłońska, Milićević, and Istratkova, respectively.

- (35) a. *po-ob-kopa-ć ~ po-ob-kop-ywa-ć
ATTN-around-dig-IMP *ATTN-around-dig-IMP^F-IMP^I*
 ‘dig around for a while’ (P)
 b. *po-iz-baci-ti ~ po-iz-baci-va-ti
DSTR-out-throw-IMP *DSTR-out-throw-IMP^F-IMP^I*
 ‘throw out one by one’ (SC)
 c. *za-raz-kaža ~ za-raz-kaž-va-m
INCP-around-tell.1SG *INCP-around-tell-IMP^F-1SG^I*
 ‘[I] start narrating’ (B)

The pattern suggests that the superlexical prefix is sensitive to the presence of the secondary imperfective (see Romanova 2004 and Milićević 2004 for some discussion). Furthermore, note that the end result, as indicated, is perfective in R, P, and SC, which also suggests that the superlexical prefix scopes over the secondary imperfective suffix.

That is, a verb like the one in (34) has a structure schematically like that in (36), using “P” and “I” to suggest perfective and imperfective levels

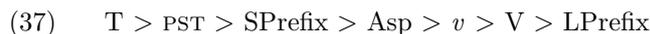
(though of course the standard tests for (im)perfectivity apply to whole words).



In rough outline, this accords with the conclusions of most of the papers in this volume. However, several of the papers, among them Svenonius 2004b, argue that the lexical prefixes actually originate lower, within VP, and must move up into a preverbal position.

However, Bulgarian shows a significantly different and more complex pattern, as demonstrated in Istratkova (2004); furthermore, the paper by Součková demonstrates that superlexical and lexical prefixes may stack on stems in Cz without the presence of the secondary imperfective.

Svenonius (2004b) argues that superlexical prefixes are located below the past tense, and that lexical prefixes originate below V; this gives an underlying hierarchy like that in (37), at least for R, P, and SC; and plausibly for Cz as well since lexical prefixes (LPrefix) but not superlexical prefixes (SPrefix) are subject to secondary imperfectivization.



Similarly, Ramchand (2004) postulates an Asp projection hosting the secondary imperfective suffix. She proposes that the same projection is also the locus of some superlexical prefixes. Others, however, notably the ones which quantify over DP arguments (like cumulative *na-*), are higher up, on her proposal. Lexical prefixes are located in a verbal complement.

Jabłońska (2004) argues for three distinct aspectual projections, labeled Asp₁, Asp₂, and Asp₃. The lowest, Asp₁, provides a licensing position for lexical prefixes. The middle one corresponds to the secondary imperfective suffix, or alternatively the purely perfectivizing prefixes. The highest hosts superlexical prefixes.

Romanova (2004) also postulates an Asp projection which alternatively hosts either the secondary imperfective suffix or the purely perfectivizing prefixes; she assumes, however, that this projection is below the head introducing the external argument, rather than above it. She suggests that

some superlexical prefixes are also below this head, e.g. cumulative *na-*, while others are higher, for example delimitative *po-*.

Bulgarian, as noted, deviates more from the overall pattern than the other languages. Accordingly, Istratkova (2004) proposes a somewhat different structure. Above VP there is a site for lexical prefixes, called Q1, and another site for a single superlexical prefix, called Q2. Above this is the aspectual projection associated with the secondary imperfective. Additional superlexical prefix sites are arranged in a hierarchy above Asp.

6. The papers in this volume

In this section, I briefly summarize the papers in this volume. They have been referred to at various relevant points in this introduction, so here I provide simply a brief précis of each. Each paper is accompanied by an abstract which provides more detail.

Svenonius (2004b) is concerned chiefly with the syntactic representation of the difference between lexical and superlexical prefixes. In this paper, it is argued that the configurational distinction, placing lexical prefixes inside VP and superlexical prefixes outside VP, accounts for a whole slew of distinctions independently observed between the two classes; namely, lexical prefixes may exhibit irregular morphology (in the form of stem selection), may have idiosyncratic meanings, may affect the argument structure of the verb, must be close to the verb root, may not iterate, generally allow the formation of secondary imperfectives, and so on.

Romanova (2004) is also concerned with the difference between lexical and superlexical prefixes, but stresses the complexity of the system rather than promoting a simple di- or trichotomy. This paper argues that the superlexical prefixes attach to atelic stems, while lexical prefixes select for telic ones. Focusing on Russian, it conducts a detailed investigation of lexical *pri-* and *pod-*, and also examines the distribution of superlexical *na-* with verbs of directed and non-directed motion.

Milićević (2004) provides a case study of Serbian *iz-*, examining both its lexical and superlexical uses; Serbian *iz-* is interesting as a potential borderline case, comparable to English completive *up* in *tear up*, etc. However, it is demonstrated that certain tests, such as the formation of secondary imperfectives, distinguish among uses of *iz-* in a way consistent with a division into lexical and superlexical uses; the two types may even cooccur. It is pointed out that although English particles (analyzed as involving the Ramchandian R) do not entail telicity, corresponding Serbian prefixes do.

Istratkova (2004) examines prefix cooccurrence in Bulgarian, which is freer than the other Slavic languages in allowing stacking (the appearance of more than one prefix on a single stem). It is argued that prefixes are a manifestation of inner aspect, rather than outer, and hence do not directly express perfectivity; Istratkova argues that prefixes provide quantization, which is necessary for the aspectual operator which confers perfectivity.

The stacking properties of a range of superlexical prefixes are examined, and it is argued that most of them, like the perfective operator, select for a quantized stem. She suggests that Bulgarian superlexical prefixes can be arranged in a hierarchy along the lines of Cinque (1999).

Ramchand (2004) presents a new conception of perfectivity, in terms of definiteness. The backdrop against which this analysis is set is one in which event structure and temporal structure are carefully distinguished. The two correspond to structural domains, with the event structure being essentially the verb phrase, and the temporal domain being the functional structure above it. Roughly as in Istratekova (2004), lexical prefixes do not directly confer perfectivity but facilitate it, by providing the right kind of anchoring for a perfective operator.

Jabłońska (2004) analyzes the interaction between the prefixes, concentrating on Polish *po-*, and the suffixes, especially the innermost set, which I referred to above as ‘theme vowels’ and which Jabłońska analyzes as verbalizers which confer verbal categorial features on roots or larger structures. In this paper, perfectivity is a formal feature, a value of which can be selected for by a prefix or suffix. The intricate selectional restrictions of the prefixes and suffixes interact, determining which may cooccur.

Součková (2004b) argues that Czech *po-* is an extensive measure function. Sometimes it quantifies over times (‘for a short time’), sometimes over distances (‘for a short distance’), sometimes over intensity (‘to a low degree, a little bit’), but Součková argues that in each case, the same *po-* is involved, with a constant meaning. This entails that *po-* can provide a measure for something already bounded.

7. List of Abbreviations

1	first person	IMPF	imperfective
2	second person	IMPTNS	imperfect tense
3	third person	INCH	inchoative
a	adjective	INCP	inceptive
ACC	accusative	INST	instrumental
ADJ	adjective	irreg.	irregular
AF	attenuative- frequentative	lit.	literally
AOR	aorist	LOC	locative
Asp	aspect	LPrefix	lexical prefix
AST-T	assertion time	M	masculine
ATTN	attenuative	n	nominal
AUX	auxiliary	N	neuter
B	Bulgarian	NOM	nominalizer
BEG	BEGIN	NONDIR	non-directed
CMLT	cumulative	NONVIR	non-virile
CMPL	completive	OV	object-verb
Cz	Czech	P	perfective
<i>d</i>	degree	P	preposition
D	determiner	P	Polish
D&U	Demirdache and Uribe-Etxebarria (2001)	p.c.	personal commu- nication
DA	degree achieve- ment	PASS	passive
DAT	dative	PERF	perfective
DIR	directed	PL	plural
DLMT	delimitative	POSS	possessive
DPrefix	distributive pre- fix	PRDR	perdurative
DSTR	distributive	PREF	prefix
e	event	PREP	prepositional (case)
E	event time	PRS	present
ET	event time	PST	past
EV-T	event time	QP	quantifier phrase
EXCS	excessive	R	reference time
F	feminine	R	result
f_{seq}	functional seque- nce	R	Russian
FUT	future	RFX	reflexive
GEN	genitive	RPET	repetitive
HORT	hortative	RT	reference time
I	imperfective	S	speech time
		SC	Serbo-Croatian
		SEM	semelfactive
		SG	singular
		SI	secondary imper- fective

SLAVIC PREFIXES: INTRODUCTION

SPrefix	superlexical pre- fix	v	verbalizer
		v	'little V'; theme
ST	speech time		vowel
STRT	saturative	ν	high verbalizer
SUBJ	subjunctive	V	verb; low verbal- izer
t	time		
T	tense	VIR	virile
TRMN	terminative	Z(P)	Zeit (phrase)
u	uninterpretable		
U	utterance time		
UT-T	utterance time		

References

- Baker, Mark. 1985. The Mirror Principle and morphosyntactic explanation. *Linguistic Inquiry* 16 3: 373–415.
- Baker, Mark C. 1988. *Incorporation: A Theory of Grammatical Function Changing*. University of Chicago Press, Chicago.
- Borer, Hagit. to appear. *Structuring Sense: An Exo-Skeletal Trilogy*. Oxford University Press, New York.
- Borik, Olga. 2002. *Aspect and Reference Time*. Ph.D. thesis, Universiteit Utrecht.
- Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. Oxford University Press, New York.
- Déchaine, Rose-Marie. 2003. Morphology as the intersection of phonology and syntax: evidence from roots. Talk presented at CASTL Workshop on Morphology, Tromsø 30-31 May.
- Flier, Michael S. 1972. On the source of derived imperfectives in Russian. In *The Slavic Word: Proceedings of the International Slavistic Colloquium at UCLA, September 11–16, 1970*, edited by Dean S. Worth, pp. 236–253. Mouton, The Hague.
- Fowler, George. 1996. An articulated theory of aspect and prefixation in Slavic. In *Annual Workshop on Formal Approaches to Slavic Linguistics: The College Park Meeting 1994*, edited by Jindřich Toman, pp. 97–122. Michigan Slavic Publications, Ann Arbor, Mi.
- Grimshaw, Jane. 1990. *Argument Structure*. MIT Press, Cambridge.
- Halle, Morris. 1959. *The Sound Pattern of Russian: A Linguistic and Acoustical Investigation*. Mouton, The Hague.
- Halle, Morris. 1963. O pravilax russkogo sprjaženija (Predvaritel'noe soobščenie). In *American Contributions to the Fifth International Congress of Slavists, Sofia, 1963*, vol. I, pp. 113–132. Mouton, The Hague.
- Halle, Morris and Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In *The View from Building 20: Essays in Lin-*

- guistics in Honor of Sylvain Bromberger*, edited by Kenneth Hale and Samuel Jay Keyser, pp. 111–176. MIT Press, Cambridge, Ma.
- Iatridou, Sabine. 1990. About Agr(P). *Linguistic Inquiry* 21 4: 551–577.
- Istratkova, Vyara. 2004. On multiple prefixation in Bulgarian. In *Nordlyd 32.2: Special issue on Slavic prefixes*, edited by Peter Svenonius, pp. 301–321. University of Tromsø, Tromsø. Available at www.ub.uit.no/munin/nordlyd/.
- Jabłońska, Patrycja. 2004. When the prefixes meet the suffixes. In *Nordlyd 32.2: Special issue on Slavic prefixes*, edited by Peter Svenonius, pp. 363–401. University of Tromsø, Tromsø. Available at www.ub.uit.no/munin/nordlyd/.
- Jakobson, Roman. 1948. Russian conjugation. *Word* 4 3: 155–167.
- Julien, Marit. 2002. *Syntactic Heads and Word Formation*. Oxford University Press, New York.
- Kratzer, Angelika. 1996. Severing the external argument from the verb. In *Phrase Structure and the Lexicon*, edited by Johann Rooryck and Laurie Zaring, pp. 109–137. Kluwer, Dordrecht.
- Lightner, Theodore M. 1972. *Problems in the Theory of Phonology, volume 1: Russian Phonology and Turkish Phonology*. Linguistic Research, Edmonton.
- Marantz, Alec. 2001. Words. Ms. MIT.
- Marvin, Tatjana. 2002. *Topics in the Stress and Syntax of Words*. Ph.D. thesis, MIT, Cambridge, Ma.
- Matushansky, Ora. 2002. On formal identity of Russian prefixes and prepositions. In *Phonological Answers (and their corresponding questions)*, vol. 42, pp. 217–253. MITWPL, Cambridge, Ma.
- Milićević, Nataša. 2004. *Konstrukcija glagola sa partikulom u engleskom i glagolski prefiks u srpskom jeziku*. Master's thesis, Univerzitet u Novom Sadu.
- Milićević, Nataša. 2004. The lexical and superlexical verbal prefix *iz-* and its role in the stacking of prefixes. In *Nordlyd 32.2: Special issue on Slavic prefixes*, edited by Peter Svenonius, pp. 279–300. University of Tromsø, Tromsø. Available at www.ub.uit.no/munin/nordlyd/.
- Ramchand, Gillian. 2003. First phase syntax. Ms. Oxford University.
- Ramchand, Gillian. 2004. Time and the event: The semantics of Russian prefixes. In *Nordlyd 32.2: Special issue on Slavic prefixes*, edited by Peter Svenonius, pp. 323–361. University of Tromsø, Tromsø. Available at www.ub.uit.no/munin/nordlyd/.
- Rojina, Nina. 2004. *English Particles, Russian Prefixes, and Prepositional Phrases*. Master's thesis, Universitetet i Tromsø.
- Romanova, Eugenia. 2004. Superlexical vs. lexical prefixes. In *Nordlyd 32.2: Special issue on Slavic prefixes*, edited by Peter Svenonius, pp. 255–278. University of Tromsø, Tromsø. Available at www.ub.uit.no/munin/nordlyd/.
- Rubach, Jerzy. 1984. *Cyclic and Lexical Phonology. The Structure of Polish*.

SLAVIC PREFIXES: INTRODUCTION

- No. 17 in *Studies in Generative Grammar*. Foris, Dordrecht.
- Scatton, Ernest A. 1975. *Bulgarian Phonology*. Slavica, Cambridge, Ma.
- Scatton, Ernest A. 1983. *A Reference Grammar of Modern Bulgarian*. Slavica, Columbus, Oh.
- Součková, Kateřina. 2004a. *Measure Prefixes in Czech: Cumulative na- and Delimitative po-*. Master's thesis, Universitetet i Tromsø.
- Součková, Kateřina. 2004b. There is only one *po-*. In *Nordlyd 32.2: Special issue on Slavic prefixes*, edited by Peter Svenonius, pp. 403–419. University of Tromsø, Tromsø. Available at www.ub.uit.no/munin/nordlyd/.
- Svenonius, Peter. 2004a. Russian prefixes are phrasal. Ms. University of Tromsø; to appear in *Proceedings of FDSL 5*; available at ling.auf.net.
- Svenonius, Peter. 2004b. Slavic prefixes inside and outside VP. In *Nordlyd 32.2: Special issue on Slavic prefixes*, edited by Peter Svenonius, pp. 205–253. University of Tromsø, Tromsø. Available at www.ub.uit.no/munin/nordlyd/.
- Townsend, Charles E. 1975. *Russian Word Formation*. Slavica, Columbus, Oh.
- Townsend, Charles E. and Laura A. Janda. 1996. *Common and Comparative Slavic: Phonology and Inflection. With special attention to Russian, Polish, Czech, Serbo-Croatian, Bulgarian*. Slavica, Columbus, Ohio.
- Vitkova, Polya. 2004. *The Interaction of English Particles, Bulgarian Prefixes, and Telicity*. Master's thesis, Universitetet i Tromsø.