

On binding, lexical and superlexical prefixes, and the marker *SI* in the Baltic verb

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Abstract

The present paper is concerned with the peculiar ordering of morphemes characteristic of standard Lithuanian and some Latvian dialects, jointly subsumed under the notion of the extant Baltic languages: the changing position of the marker *SI*, which appears before the root in prefixed verbs and verb-finally in prefixless verbs, as opposed to standard Latvian and Slavic, namely Russian, where *SI* is always verb-final. Traditional accounts posit this phenomenon as a historical puzzle. The proposed analysis examines this ordering within a larger picture of morpheme linearization, focusing primarily on Lithuanian, but also attracting Latvian and Latgalian data, to account for the Baltic paradigm. To this end, the placement of the marker *SI* is examined in light of the affixal material on the verb. It is

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argued that, historically a pronoun, the marker *SI* has undergone incorporation into the verbal structure and now functions as a nominal anaphor in Lithuanian, while its changing position is stipulated by the need to maintain the binding relationship with the subject of the sentence. Consequently, the placement of the marker within the verb depends on two factors: the type of the antecedent and the morphosyntactic composition of the verb. It is shown that Baltic prefixes fall into two classes, lexical prefixes and superlexical prefixes, the former of nominal nature and merged below the verb, and the latter merged above the verb and attaching to it in an adjunct-like manner. The presence of resultative prefixes and aspectual suffixes in Lithuanian suggests roll-up movement of the aspectual phrase, including the verb phrase below it, to the position preceding T, followed by the remnant movement of the verb itself into the aspectual phrase. The aspectual phrase of lexical prefixes is argued to form a phase. In this way, a regular (lexically) prefixed verb consists of two phases: Asp_LP and v/VP (the latter phase comprising the remaining aspectual morphology and tense/agreement inflections) while the marker *SI* is consequently shown to behave as a regular second position clitic to a phase: the Asp_LP phase in prefixed verbs and the v/VP phase in prefixless verbs. In verbs involving superlexical, but not lexical, prefixes, the former are argued to “activate” the Asp_LP phase, which, again, results in the movement of *SI*. Consequently, the placement of *SI* may be reformulated in terms of phases on the verb, but the marker itself is shown to never raise higher than Asp_LP. Meanwhile in standard Latvian and Russian, the Asp_LP does not form a phase. Consequently the respective markers (Latv *-s/š*, Rus *-sja*) only

require coreference with the antecedent, hence their perception as affixes, but may also be interpreted as second position clitics to the v/VP phase on the grounds that in Standard Latvian and Russian, unlike Lithuanian and dialectal Latvian, the lexical prefixes do not form a phase. The findings provide new evidence against the Lexicalist Hypothesis and support the idea that the boundary between syntax and morphology is fuzzy hence for accuracy of representation, the two have to be analyzed as a single morphosyntactic continuum.

Keywords: the marker *SI*, verb, anaphor, binding, aspect, lexical prefixes, superlexical prefixes, morpheme linearization, remnant movement, roll-up movement, anti-Lexicalist.

1. INTRODUCTION

Lithuanian and Latvian are two extant Baltic languages, Lithuanian credited with having retained a more archaic grammatical system, close to that of Indo-European (Geniušienė 2007). The two languages have similar morphological and grammatical systems and, consequently, similar means of verb formation (see Arkadiev, Holvoet and Wiemer 2015 for a recent overview). Both languages, Lithuanian showing a greater diversity, can form verbs with the marker *SI*¹, which is traditionally referred to as the *reflexive marker* or a

¹ The marker *SI* has several allomorphs in Baltic: *-s/-š* in Latvian and, depending on whether it is placed in prefixless or prefixed verbs, *si-/-(i)s(i)* in Lithuanian and *-s/sa-* in Latgalian, and *za* in prefixed

reflexive-middle marker (Arkadiev et.al. 2015: 35; Geniušienė 2007: 637)². As in other languages, the marker contributes a broad range of meanings and is used to form reflexive, reciprocal, Subject-experiencer, unaccusative, middle and impersonal predicates (the latter means available only for impersonal passives in Lithuanian), following the classification of Reinhart and Siloni (2005), functioning as an arity operator which reduces valency of the verb. In addition, *SI* is used to form verbs which do not change their valency, and is usually perceived as conveying an intensifying meaning, similarly to Polish (Goledzinowska 2004)), the means productive in Lithuanian, but very rare in Latvian (Geniušienė (2007). Since the discussion of this paper will be centred on the formal properties of *SI*, and given the diversity of constructions in which it can appear, I will refer to *SI* as *the marker SI* throughout the paper, assuming, similarly to Reinhart & Siloni (2005), that it is a formal marker licensing a range of lexical operations which usually involve a change in verb valency.

Across the Baltic continuum, *SI*-verbs exhibit an interesting derivational pattern: in standard Lithuanian and dialectal Latvian, prefixless verbs have the marker *SI* word-finally, whereas prefixed verbs have *SI* following the prefix; in standard Latvian, the

forms in some other dialects (Mathiassen 109, Nau 2011: 43, Kalnača 2014:159). For convenience and uniformity of representation, the marker will be referred to as *SI* in the text and glosses.

² The marker is frequently referred to as a *reflexive marker* under the traditional approach, even in recent literature (e.g. Arkadiev, Holvoet and Wiemer 2015), but, due to the range of meanings *SE/SI* conveys, an Anonymous Reviewer warns, the term ‘reflexive’ is misleading and hence will not be used here.

marker is used verb-finally in both prefixless and prefixed verbs, as in Russian or Icelandic. The verb-final position of *SI* in prefixed forms is also attested in dialectal Lithuanian (Endzelīns 1971).

The present article seeks to account for the placement of *SI*. While the analysis is driven primarily by Lithuanian data, I also consider Latvian, Latgalian, and Russian facts, seeking to provide a uniform account for *SI* placement in Balto-Slavic³. I incorporate evidence from dialectal Latvian, namely Latgalian, to show the continuum with respect to *SI* placement, in which Lithuanian and Russian take two polar positions with Latvian manifesting the features of both, and also to avoid excluding Latgalian from research in Baltic linguistics, a caveat voiced in recent literature (e.g. Arkadiev, et.al. 2015; Lazdiņa&Marten 2012).

The issue of *SI* placement is explored within a larger issue of morpheme linearization, in particular, relative to aspectual morphemes. As regards the theoretical framework, I employ the minimalist syntactic and the Distributed Morphology frameworks for general issues and refer to Condition A of the Binding Theory (Chomsky 1981). I argue that the position of the marker *SI* depends on the type of the argument and, in light of its changing position within the verb, the need to maintain proper binding with the sentence subject. The inherent relation to the sentence subject accounts for the range of lexical operations *SI* can license, which itself is believed to have only one lexical entry,

³ The author is a native Russian speaker highly proficient in Lithuanian. All Lithuanian examples have been verified with Lithuanian native speakers for whom Lithuanian is the only native language.

a preferred approach cross-linguistically (Marelj&Reuland 2016). Having shown that the analysis of prefixes is indispensable in determining the landing position of *SI*, I examine the status and place of adjunction of Baltic prefixes. I show that, similarly to Slavic, Baltic prefixes can be classified into two classes: lexical and superlexical prefixes, the former originating below the verb and the latter having adjunct-type features and originating above the verb, which bears influence on their meaning as well as stacking properties. Building on Svenonius (2006) and Embick&Noyer (2007), I show that the presence of aspectual material on both sides of the verb root points to roll-up and remnant movement mechanisms at the $\text{AspP}^4 / (\text{v}/\text{VP})$ level. I argue that in Lithuanian and dialectal Latvian lexical prefixes form a phase at Asp_LP , and, reformulating binding

⁴ The following abbreviations are used throughout the article: ACC – Accusative, Asp – aspect, AspP – aspect phrase, CAUS – causative, CNT – continuative, DAT – dative, DEB – debitive, DM – Distributed Morphology, DP – determiner phrase, ECM – Exceptional Case Marking, EPP – External Projection Principle, ϕ – phi features, GEN – genitive, F – feminine, FREQ – frequentative, FUT – future, INF – infinitive, INS – instrumental, L – lexical, Latg – Latgalian, Latv – Latvian, LCA – Linear Correspondence Axiom, LD – Local Dislocation, Lith – Lithuanian, LP – lexical prefix, LOC – locative, M – masculine, NEG – negative, NOM – nominative, 2P – second position (clitic), PART – partitive, PAST – past, PL – plural, POSS – possessive, PPP – past passive participle, PRAP – present active participle, PREF – prefix, PRS – present, PRM – permissive, PRPP – present passive participle, PRO – a phonologically null pronominal DP, PROG – progressive, Θ – thematic vowel, RSTR – restrictive, Rus – Russian, S – superlexical, SG – singular, SI – the marker *SI*, SLP – superlexical prefix, T – tense, TP – tense phrase, V – verb, VP – verb phrase, v – light verb, vP – light verb phrase, t – trace, TrP – transitive phrase, Tr – transitive.

domains as phases, show that *SI* is a regular second position clitic to a phase. In contrast, in standard Latvian and Russian, where the marker *SI* is always verb-final, lexical prefixes do not form a phase of their own, and *SI* functions as a second position clitic to the v/VP phase, on the surface figuring as maintaining coreference, rather than binding, with the subject antecedent.

The article is structured as follows. In section 2, I present the problem: the lineup of aspectual morphemes relative to *SI* in Balto-Slavic. Section 3 is a brief overview of previous approaches to the marker *SI*. In section 4, on the basis of *SI*-constructions in Lithuanian, I outline the properties of the marker relevant for the discussion. In section 5, analysis of Lithuanian verbal prefixes is conducted and their landing site is determined. In section 6, a more fine-grained analysis of the placement of *SI* as well as its status in Baltic and Russian is proposed. Section 7 puts the findings in the context of the Lexicalist Hypothesis. Section 8 summarizes the results. For clarity of exposition and because it is the most stable manifestation of the phenomena to be discussed, I will restrict illustration mainly to Lithuanian data, but will include examples from Latvian, Latgalian and Russian where relevant.

2. ASPECT AND *SI*

2.1. *Where is aspect?*

As is known, aspectual information on the verb in Baltic and Slavic may appear both through derivational and inflectional means, the former means being “the least

widespread typologically” (Holvoet 2004: 141, Dahl 1985). Though not a grammatical category in the strict sense⁵, aspect in Russian is more grammaticalized than in Lithuanian and Latvian, consequently the debate whether aspect in Baltic should be seen as “a grammatical or lexical category“, or a mixture of both (Arkadiev 2015, 2011a; Galnaitytė 1962; Holvoet and Čížik 2004; Paulauskienė 1994; Vaičiulytė-Semėnienė 2012; Zinkevičius 1981 for Lithuanian; cf. Andronov 2010; Holvoet 2004, 2001; Kabelka 1987; Kalnača 2005; Mathiassen 1996 for Latvian; see also Dahl (1985) for the difficulties in separating the notions of *aspect* and *Aktionsart*). Dahl (1985), in particular, argues that in certain languages without as clear a grammaticalised category of aspect as in Slavic, Lithuanian among them, relevant morphemes nevertheless have “a natural connection to aspectual categories“ (1985: 86). These considerations suggest that aspectual relations have to be formally accounted on the tree with a dedicated functional projection which would give credit to their role and effect on the verb. The projection that grasps the resultative meanings is AspP located above the verb. But postulating an aspectual projection brings up one more aspect to be considered dealing specifically with Lithuanian: the notion of perfectivisation. While in Slavic a prefix like *s-* is able to turn the imperfective stem into a perfective stem (e.g., *delat*‘ – *s-delat*‘ ‘to do‘, *chitat*‘-*pro-chitat*‘ ‘to read‘), with the distinction largely preserved throughout verbal conjugation, in

⁵ There is abundant literature on the topic; Filip (2000) is often cited as a classical example. See also e.g., Tatevosov (2008, 2015; Paslawska & von Stechow 2003) and references there, for an overview and discussion.

Lithuanian, the change from imperfective to perfective is only identifiable in the infinitive (e.g., *skaityti* - *per-skaityti* ‘to read’); when conjugated, the verb often does not preserve formal aspectual differences and, if so, will be interpreted as either perfective or imperfective⁶.

In Balto-Slavic, derivational aspectual relations can appear a) in prefixed form, as a resultative prefix (e.g., Lt *su-*, Lat *uz-*, Rus *po-*), and b) in suffixed form, as, for instance, a secondary imperfective suffix (Lt *-inė-*, Rus *-yva-*). Latvian has no aspectual suffixes. Instead, it has developed a different means of expressing aspectual relations involving an opposition of a prefixed verb to form perfective and a combination of an unprefixed verb and an adverb, to form imperfective, the latter viewed as a “periphrastic construction which can be included in morphology” (Mathiassen 1997: 117)⁷. For the current purposes, I will assume that Latvian follows the same pattern as Lithuanian and Russian, following Chomsky’s (2001) Uniformity Principle:

⁶ E.g. (i) Russian:		(ii) Lithuanian:	
a. <i>s-dela-et</i>	b. <i>pro-chita-et</i>	a. <i>per-skait-o</i>	b. <i>per-skait-ė</i>
pref-do-3PRS	pref-read-3PRS	pref-read-3PRS	pref-read-3PST
‘he/she will do’-	‘he/she will read’ -	‘he/she reads’-	‘he/she read’-
perfective	perfective	imperfective	perfective

⁷ The aspectual distinction is in line with Verkuyl’s (1972, 1993) view on aspect as compositional, which may be determined by both morphological and lexical means. For a crosslinguistic perspective on the availability of such constructions, see, e.g., Felser (2000), van Gelderen (2004). For Latvian traditional view on aspect, see Kalnača (2005) and references there.

(1) In the absence of compelling evidence to the contrary, assume language to be uniform, with variety restricted to easily detectable properties of utterances (Chomsky 2001:2).

Following Uniformity Principle, I will assume that Latvian has a phonologically zero aspectual suffix. This stance will be further substantiated in section 6 of the discussion.

Given the above stipulation, Baltic and Russian verbs would seem to have very similar composition, as illustrated below for the past verb form “sent” to express a resultative state:

(2) a. iš-siunt-ė / iš-siunt-inė-j-o Lithuanian
 PREF-send-3.PAST / PREF-send-FREQ-Θ-3.PAST
 ‘(he/she) sent’

b. vy-pisa-l / po-vy-pis-yva-l Russian
 PREF-write-SG.PAST / PREF-write-FREQ-SG.PAST
 ‘(he) wrote out’

c. uz-rakstīj-a Latvian (cited from Mathiassen 1997,
 PREF-write-3.SG.PAST slightly adjusted for glossing)

‘(he/she) wrote down’

- d. iz-syutej-a Latgalian (cited from Nau 2011: 61, slightly
 PREF-send-3.SG.PAST adjusted for glossing)
 ‘(he/she) sent’

Consequently the basic verbal morphemes in Baltic and Russian verbs have the following order:

(2) Asp>v>V>Asp>T>Agr

This is yet an oversimplified structure, and we will elaborate it in the discussion that follows.

2.2 *Where is SI?*

The order in (3) suggests that there are two aspectual positions: one realized by prefixes to the left of the verb stem, and the other by aspectual suffixes to its right. Economy considerations would require that there should only be a single aspectual projection distinguished, and this issue has been tackled in the relevant literature (see also discussion below). But the picture is complicated by the placement of the formal marker *SI*, which participates in a number of arity operations and in part of the Baltic areal

depends on the morphemic composition of the verb. With no exception in Standard Lithuanian and some Latvian dialects, e.g. Curonian subdialects and Latgalian, an East Latvian dialect (Kalnača 2014, Nau 2011), *SI* appears verb-finally in prefixless verbs and between the prefix and the root in prefixed verbs⁸. To contrast, in standard Latvian and Russian no such change takes place and the marker *SI* is always verb-final:

- | | | |
|--------|----------------------|--|
| (4) a. | at- <i>si</i> -kel-ė | Lithuanian |
| | pref-SI-lift-3.PAST | |
| | ‘(he) got up’ | |
| b. | sa-runāt- <i>ies</i> | standard Latvian (cited from Kalnača 2014: 159, |
| | pref-talk.INF-SI | slightly adjusted for glossing) |
| | ‘to talk’ | |
| c. | sa- <i>sa</i> -runāt | dialectal Latvian (cited from Kalnača 2014: 159, |
| | pref-SI-talk.INF | slightly adjusted for glossing) |
| | ‘to talk’ | |

⁸ This results in *st* having several allomorphs: ((-)s(i)- in Lithuanian and -s in Latvian when it appears verb-finally and -sa- (or -za- (in Latgalian dialects (Nau 2011: 49)) when it appears between the prefix and the verb (Kalnača 2014:159).

d. pī- <i>sa</i> -cēl-e	Latgalian (cited from Nau 2011: 43,
pref-SI-rise-3.SG.PAST	slightly adjusted for glossing)
‘he/she got up’	

e. podnial- <i>sj</i> a ⁹	Russian
lift-3.SG.PAST-SI	
‘(he) got up’	

The doubling of *SI* and its simultaneous use post-prefixally and verb-finally is also attested in the history of Lithuanian (Zinkevičius 1981, 1996) and present-day sub-dialectal Latvian (Kalnača&Lokmane 2012: 233-234). Considering standard use, Lithuanian and Russian can then be regarded as located at the two poles of *SI* placement with Latvian in the middle: Standard Latvian verbs behaving like Russian, and dialectal Latvian following the same paradigm as Lithuanian. In all these languages, the marker *SI* is regarded historically as a reflexive pronoun which has lexicalised onto the verb. Notably, in Latvian, Russian and prefixless Lithuanian forms, verbal tense and agreement morphology precedes *SI*, a phenomenon shared beyond the the Baltic-Slavic domain, e.g., in Icelandic (Anderson 1989: 302).

⁹ Russian has three genders: feminine, masculine, and neuter, and Baltic has two: feminine and masculine. Since gender does not have influence on the present discussion, in the interest of space it will not be marked in glosses. Case and number are marked throughout the paper.

Incorporating the marker *SI* into verbal morpheme composition in Baltic and Slavic, we arrive at the following layout:

- (5) a. $v > V > Asp > T > Agr > SI$ - Russian, Standard Latvian, prefixless standard Lithuanian, dialectal Latvian;
- b. $Asp > SI > v > V > Asp > T > Agr$ - prefixed standard Lithuanian and dialectal Latvian verbs.

The formula as presented in (5b) is not yet complete due to the range of material that can figure as prefixes in Baltic.

While stacking properties of prefixes in Slavic are well-known, the fact that certain present-day prefixes can stack in Baltic is mentioned only *en passim* in traditional grammatical accounts (e.g., Andronov (2010) for Latvian), or indirectly, specifying that *SI* appears between the prefix and the stem (e.g., Kalnača 2014, Nau 2014). But the prefixal inventory is heterogeneous enough in Baltic: Lithuanian prefixes *te-*, *ne-*, *be-*, and complexes made out of them *tebe-*, *nebe-*, and Latvian prefixes *jā-* (Latg. *juo-*) and *ne-* (Latg. *na-*) constitute what is referred to as ‘outer prefixes’ (see also the discussion below). Following analysis and notation proposed by Arkadiev (2010, 2011_b), the Lithuanian prefix *te-* will be referred to as permissive (PRMS) or restrictive (RSTR), and the prefix *be-* will be marked as continuative (CNT), though two main uses are

distinguished: 1) continuative, when *-be-* is used in constructions *tebe-/nebe*, and 2) avertive, when *be-* is used in present active participle forms (Arkadiev 2011: 42). In addition, *-be-* is also widely used in Subjunctive constructions¹⁰. Consequently, the marker *SI* can be preceded by several prefixes:

(6) Lithuanian:

a. te-be-pa-si-kel-ia	b. ne-si-kel-k
RSTR/PRM-CNT-PREF-SI-rise-3.PRS	NEG-SI-rise-2.IMP
‘Still keeps rising / may it rise’	‘don’t rise’

(7) Latgalian (cited from Nau 2011: 43):

a. na-pī-sa-cēļ-s-im	b. juo-pī-sa-cēļ	c. na-sa-cel-it
ne-PREF-SI-rise-FUT-1.PL	DEB-PREF-SI-rise	ne-SI-RISE-2.SG.IMP
‘we will not get up’	‘must get up’	‘don’t rise’

¹⁰ Without going into the issue any further, I would tentatively suggest for now that *-be-* in these constructions rather conveys a meaning of potentiality, for instance, compare:

(i)	a. kur be-važiuot-um	b. kur važiuot-um
	where POT-go-2SG.SUBJ	where go-2SG.SUBJ
	‘wherever you go’	‘where you would go’

(8) Latvian (Lokmane&Kalnača 2012:244(a), 233(b), slightly adjusted for glossing):

a. aiz-gulēj-ā-s

PREF-lie-3.SG.PAST -SI

‘to oversleep’

b. sa-runātie-s

PREF-speak.INF-SI

‘to speak’

(9) Russian:

po-na-za-khazh-yva-l-*sja*

PREF-PREF-PREF-go-FREQ-3.SG.PST.-SI

‘stopped by to a great degree (to the effect that something has happened)’

Apparently, formulating the placement of *SI* in prefixed verbs as a PREF-SI-verb pattern does not exactly reflect the case at hand.

2.3. *Questions to be resolved*

The question of *SI* placement in Baltic has remained unresolved. Given the prefixal and suffixal aspectual means and the changing position of the marker *SI* and before taking a closer look at *SI* itself, let us formulate the questions to be answered:

a) Why are there two or more overt aspectual positions in Lithuanian and Russian, one for prefixes and one for suffixes?

b) Why is the marker *SI* placed in one dedicated position in Russian and standard Latvian, but in two different positions, one of which is verb-internal, in Lithuanian and dialectal Latvian?

c) Speaking of the verb-internal position of *SI*, why is it *not* placed in any other position except immediately before the verb root in prefixed verbs?

These are the questions the present article seeks to answer. As has been mentioned above, for convenience and clarity of exposition, we will focus analysis on standard Lithuanian, which manifests stability in “the other” pattern, but will provide examples from Latvian and its Latgalian where needed for illustrative purposes. For the same reasons, language data and the analysis itself will be based on agentive verbs, but with minor formal adjustments to be mentioned below the proposed analysis accounts for the entire class of *SI*-verbs. The reasoning and conclusions are regarded to hold for the placement of *SI* in Baltic and Russian.

3. PREVIOUS APPROACHES TO *SI*

3.1. *Traditional approaches*

Traditional grammatical approaches to Lithuanian and Latvian grammars do not provide an explanation for the placement of *SI* and examine *SI*-verbs either from the typological or historical perspective, the term *particle* (Lith *dalelytė*), still widely used in Lithuanian terminology deriving from the historical perspective on the formation of reflexive/reciprocal verbs in general and pointing to its originally non-verbal non-affixal

status (Ambrazas 2006; Geniušienė 2007; Paulauskienė 1994; 2006; Stolz 1989; Zinkevičius 1981; see also Zinkevičius 1996; Rosinas 1995; Razanovaitė 2010; Stolz 1989 for Lithuanian; e.g., Kalnača 2014; Nau 2011; Andronov 2010; Bukšs 1973; Kabelka 1987 for Latvian).

In a recent account, Lithuanian prefixes have been divided into ‘inner’ and ‘outer’ on the basis of their stacking properties, with the marker *SI* found in the latter group. The table below is a summary of Lithuanian pre-verbal morphological and morphosyntactic inventory as well as the meanings contributed (Arkadiev 2014_a:16):

(10)

Outer			Inner		
permissive, restrictive, affirmative	negation	aspectual-modal prefix	actional preverbs ¹¹	reflexive	base
<i>te-</i>	<i>ne</i>	<i>be-</i> <i>ap-, at-, da¹²-, į-, iš-, nu-, pa-, par-, per-, pra-, pri-, su-, už-</i>	<i>-si</i>		

Table 1. Arkadiev's (2014) taxonomy of Lithuanian verbal prefixes.

¹¹ Historically, actional preverbs derive from prepositions. See also discussion below.

¹² *Da-* is a prefix of Slavic origin previously widely used in Lithuanian as a borrowing in prefixed verbs following a calque principle and contributing, like the Russian equivalent *do-*, the meaning of completion of an action: **da-dirb-ti*, cf. Rus *do-rabotat* ‘to work on something (a little) more in order to complete or improve it’. The prefix is regarded as ungrammatical in Standard Lithuanian.

Under this approach, not only the outer, but also inner prefixes are a heterogeneous class and the entire range of meanings *SI* may contribute is placed alongside modality or aspectuality/resultativity.

I argue against this way of generalization for several reasons. First, the approach above overlooks one important distinction between the marker *SI* and prefixes *per se*: their relationship to the verb base. Any lexical verb can combine with at least one or several “actional preverbs”, taking one preverb at a time¹³, and there is not a single verb that would not be able to take an outer prefix, including modal verbs, for example:

(11) te-reik-ia

RSTR-need-PRS

‘One needs but (something)’

But *SI* apparently has a defected status: first, it will never appear as prefixed to the verb in the absence of another, “real” prefix; second, it would perhaps be too strong a claim that *SI*-verbs can be formed on the basis of any verb (even though verbs with intensifying *SI*, middles and derived unaccusatives seem to be formed very easily) (cf.

¹³ The number of attachable prefixes may ultimately be attributable to their semantics. As research for Russian has shown, the combinability between the prefix and the verb may be stipulated by a search for a best match between verbal semantics and that borne by a prefix (see, for instance, Janda&Lyashevskaya 2013 for Russian).

Geniušienė 2007). Next, the relationship between the marker *SI* and the verb goes beyond the verb proper: *SI* always involves some “external”, nominal, material, which is not all contained within the theta-grid of the verb, as the discussion below will show. Viewed as such, *SI* in the table above is the only element whose use partly depends on the verb, and partly, on non-verbal material; hence it is not exact to interpret *SI* as an inner prefix, albeit with a defected status. Moreover, *SI* is neither of adverbial, nor prepositional origin, nor is it attributable to the terminological distinction between the prefix and the preverb: its meaning is not grammatical (when *SI* would qualify as a prefix), nor (necessarily) lexico-aspectual (when *SI* would qualify as a preverb). If the reason for placing actional preverbs and the marker *SI* together is solely in their ability to supply aspectual and metaphorical meanings to the verb, we run, again, into a generalizability issue since *SI* never contributes the directional component. Finally, such an analysis prevents one from a constructing a unified approach to the marker *SI* in Baltic and, ultimately, Baltic vs Russian (remember that *SI* only takes the pre-verbal form in standard Lithuanian and dialectal Latvian; standard Latvian follows the Russian/Icelandic verb-final paradigm). Therefore, although it provides a convenient and quick view of the pre-verbal material, an analysis as illustrated in Table 1 oversimplifies the general picture and is incapable of either motivating the position of *SI* within the Lithuanian verb, or drawing conclusions for the Balto-Slavic paradigm of *SI* placement in general. Meanwhile we can now formulate the following possible combinations of *SI*-placement in prefixed Lithuanian verbs (being more restricted, Latgalian combinations are specially marked where relevant), referring

to the ‘outer’ prefixes as *modal* (Lith *te-*, Latg. *juo-*), *negative* (Lith *ne-*, Latg. *na-*), *aspectual* (Lith *be-*) and *actional* (Lithuanian and Latvian/Latgalian derivational prefixes; see a more detailed discussion in section 4.6 below):

(12) a. verb-*SI*

b. actional-*SI*-verb (including Latgalian/dialectal Latvian)

c. aspectual-actional-*SI*-verb

d. negative-aspectual-*SI*-verb

e. negative-*SI*-verb (including Latgalian/dialectal Latvian)

f. negative-actional-*SI*-verb (including Latgalian/dialectal Latvian)

g. modal-*SI*-verb

h. modal-actional-*SI*-verb

i. modal-aspectual-*SI*-verb

j. modal-negative-aspectual-actional-*SI*-verb

k. modal-aspectual-negative-aspectual-actional-*SI*-verb (this is a marginal instance, restricted to colloquial register; see section 5 for an example).

3.2. *Generative approaches*

Within the generative domain, an approach within the Distributive Morphology framework has been proposed. The morphosyntax of Lithuanian reflexives was explored in Embick&Noyer (2001). They consider *SI* to be a “dissociated morpheme” with the

status of a Subword which left-adjoints to the leftmost subword within the Morphosyntactic Word, that is, a larger unit dominated by no other units, in the present case, the verb and accompanying morphology. *SI* then undergoes Local Dislocation (LD) from its initial position to become right-adjointed to the leftmost material: the prefix in prefixed verbs, or verb-finally in prefixless cases. To make the latter case possible, Embick&Noyer add a stipulation: they argue that the verb and the tense and agreement morphology constitute an indivisible string, given that Indo-European suffixes are more closely attached to the verb than prefixes, to prevent *SI* from appearing between V and T, which both are subwords. The analysis is criticized in Williams (2007) who questions the properties of Subwords before and after LD, namely, why Subwords before LD should be prioritized over those formed after LD has taken place and consequently, why configurational parameters, initially stipulating Subwords, do not apply after LD. But there is also another problem with Embick&Noyer's approach, having to do with their analysis of prefixal material: Embick&Noyer allow *SI* to appear "between a prefix and a following stem or prefix", even though shortly before they state that the prefix, which *SI* attaches to "as a suffix", must be "of a certain type" (2001: 579). First, *SI* never appears

between *any* two prefixes¹⁴. Second, the status of the prefix “of a certain type” is vague. Embick&Noyer state that LD explains the placement of *SI* “whenever the verb has a prefix or is negated” (ibid.). The problem is, the verb can be both prefixed and negated, and then different stipulations for the negative component, now prompting LD of *SI*, now not, are unclear, just as its status as a subword. Finally, Embick and Noyer do not give due credit to the outer prefixes *te-*, *be-*, *tebe-*, *nebe-*, which, when used alone, cause *SI* replacement, but when used with another prefix, including the negative prefix, do not.

4. IDENTIFYING SI

4.1. *SI*-constructions: a brief overview

In Baltic, the marker *SI* licenses a number of lexical operations and is used, following the classificatory approach of Renhart& Siloni (2005), to form reflexives, reciprocals, middles, derived unaccusatives¹⁵, constructions with an Experiencer as the subject, as well as may contribute an intensifying meaning. The most characteristic uses are illustrated below with the examples from Lithuanian, which, at least numerically, shows a

¹⁴ It has to be acknowledged that one example has been attested with *SI* occurring between two lexical prefixes: *iš-si-par-dav-ė* “has sold out”. In the absence of the prefix *iš-*, *SI* will occur in its regular position between the (other) lexical prefix *par-* and the verb root: *par-si-dav-ė* ‘(has) sold himself/herself’ meaning ‘has betrayed sth/smb for personal gain’. The possible explanation for this phenomenon may be the lexicalization of the prefix *par-* with the verb in order to produce the lexical meaning ‘to sell’.

¹⁵ The term *unaccusatives* is contested by some scholars (e.g. Sportiche 2014) and I will use the term *derived unaccusatives* following related research (Goledzinowska 2004).

greater prevalence than in Latvian (Geniušienė 2007; see also Kalnača & Lokmane 2012; Arkadiev et.al. 2015)¹⁶. Whenever meaning allows, the examples are provided with a prefixed and unprefixed form:

A) With valency reduction

(13) a. Tom-as_i slep-ia-s_i / pa-s_i-slep-ė. reflexives

Tomas-SG.NOM hide-3.PRS-SI / PREF-SI-hide-3.PAST

‘Tom is hiding/has hidden (himself).’

b. Tom-as_i ir Marij-a_j buč-iuo-j-a-s_{i,j} / pa-s_{i,j}-buč-iav-o. reciprocals

Tomas-SG.NOM and Marija-SG.NOM kiss-3.PRS-SI / PREF-SI-kiss-PST-3

‘Tomas and Marija are kissing / (have) kissed’.

c. Durys_i at-s_i-dar-ė. derived unaccusatives

Door-PL.NOM PREF-SI-do-3.PAST

‘The door opened’.

d. Mergin-a_i lauk-i-a-s_i. experiencer subjects

Girl wait-Θ-3.PRS-SI

¹⁶ Geniušienė (2007) provides a detailed traditional account of reflexive/reciprocal constructions in Baltic.

‘The girl is expecting (a baby).’

d. Knyg-ai lengvai skait-o-*si*. middles
 Book-SG.NOM easily read-3.PRS-SI

‘The book reads easily.’

e. Pirma yra bučiuoj-a-ma-*si*, o impersonal passive

First be-3.PRS kiss-3.PRS-PAS-SI and

paskui tuok-ia-ma-*si*.

then marry-3.PRS-PAS-SI

‘First one kisses and then one marries’ (literally ‘First it is kissed, and then it is married.’; the example is a Lithuanian translation of Schäfer’s (2011: example 2b))

B) Without valency reduction; *SI* adds the meaning of the subject performing an action for their own benefit.

(14) Mokytoj-a liep-ė vaik-ams_i pa-(*si*)-skait-y-ti straipsn-į.
 Teacher-SG.NOM tell-3.PAST children-PL.DAT PREF-SI-read-Θ-INF article-SG.ACC
 ‘The teacher told the children to read the article’.

Instances like above illustrate the frequently optional nature of *SI*-verbs. Native speakers perceive *SI*-verbs as more personalized and intensifying the ultimate beneficiary

of the action; thus, commenting on the difference with or without *SI*, a native speaker said that, when *read* appears without *SI*, the idea is that one must obey the instructions; but when *SI-read* is used, the idea essentially is that ‘you are expected, but do not actually have to conduct the reading’. To paraphrase, the final interpretation of this expression in Lithuanian would be ‘*The teacher told the children to read the article because she believes it will be useful for them*’. In general, the use of reflexive forms where they are not required by context is quite widespread crosslinguistically, including English, where the reflexive form may be used for emphasis, e.g. *you must read it for yourself* (Ronnie Wilbur, *p.c.*)¹⁷.

Importantly, in all constructions, *SI* seems to be related to the subject of the sentence, regardless of 1) the function of *SI*; 2) of what the subject is, bearing in mind example (13e) and adopting analysis of impersonal passive constructions, as proposed for Russian by Bowers (2002).

4.2. A digression: Bowers (2002) on Russian impersonal passive constructions

On the basis of adversity impersonal constructions in Russian, Bowers (2002) argues that all impersonal passive constructions have a null expletive merged late during the derivation to satisfy the agreement requirements of the probe T. According to Bowers,

¹⁷ There is also evidence that the mechanism of constructing intensifying meaning involving reflexivisation takes place in both English and Russian (Tatevosov 2009_b). For now I will only state that Lithuanian is said to differentiate between the intensifying and reflexive uses (<http://wals.info/feature/47A#2/21.0/148.2>), but will not explore this issue further.

since there is no overt subject bearing Nominative case, the noun in the Accusative should be able to bear ϕ -features and satisfy the EPP condition, hence the Transitivity Phrase (TrP), located between the light verb and the VP, and a null expletive bearing the Nominative case.

Adversity impersonal constructions are also available in Lithuanian (see also Holvoet&Judžentis (2005)), for example:

- (15) Vaiką pykina nuo šokolado.
 Child-SG.ACC nauseate-3.PRS from chocolate-M.GEN
 ‘Chocolate makes the child nauseous’.

Applying Bowers’ analysis, the example above may be interpreted in the following way: while the argument ‘*vaiką*’ is generated at VP, with the Accusative case assigned at TrP, to fulfill the EPP condition, the Nominative case is assigned to the silent 3rd person neuter expletive *it* merged at Spec-vP (Bowers uses the predicate phrase PrP to refer to vP):

- (16) [_{TP} T [_{vP} *it* v [_{TP} Tr [_{VP} vaiką [_{v'} pykina [_{PP} nuo šokolado]]]]]]

This serves as evidence for the tenability of placing Lithuanian within the class of languages with null expletives.

4.3 SI and coreferentiality considerations

With Lithuanian being a pro-drop language, obligatory coreferentiality is not so apparent in complement clauses (17) when the subject of the complement clause is omitted, especially given the fact that the Lithuanian verb in the third person is differentiated neither for gender, nor number:

- (17) Monik-a_i tiki, kad [PRO_{i/j}] ap-si_{i/j}-reng-s šiltai.
 Monika-SG.NOM believe-3.PRS that PREF-SI-dress-3.FUT warmly
 ‘Monika believes that she/ (someone) will dress warmly’.

In (17), *SI* on *ap-si-rengs* as well as the [PRO] subject, have two candidates they both can refer to: *Marija*, the subject of the matrix clause, and a different person who is not mentioned in the sentence overtly. In this situation, *SI* on the verb may refer to either, showing obligatory coreference with the [PRO] antecedent.

Constructions with multiple *SI*-verbs are possible with *SI* markers referring to their respective antecedents. Below is an example how the presence of a matrix *SI*-verb can allow for subject control and object control constructions.

- (18) a. Direktor-ius_i kvieč-ia darbuotoj-a_j pa-si_{*i/j}-aiškin-ti.
 Director-SG.NOM invite-3.PRS employee-SG.ACC PREF-SI-explain-INF.
 [TP Direktorius_i T[VP kviečia darbuotoją_j [TP PRO_{*i/j} pasi_{*i/j}aiškinti]]].
 ‘The director summons the employee to explain him/herself’.

- b. Direktor-ius_i kvieč-ia-si_i darbuotoja_j pa-si_{i/j}-aišk-in-ti.
 Director-SG.NOM invite-3.PRS-SI employee-SG.ACC PREF-SI-clear-CAUS-INF.
 [_{TP}Direktorius_i T[_{VP}kviečias_i darbuotoja_j [_{TP}PRO_{i/j} pasi_{i/j}aiškinti]]].
 ‘The director summons the employee to explain him/herself’.

In the examples above, the form of the first verb with or without *SI* ultimately determines the interpretation of the infinitival form in the embedded clause. In (18a), the non-*SI* matrix verb functions as an object control predicate allowing only one interpretation. When *SI* is added, as in (18b), two interpretations become available, reminiscent of the strict and sloppy identities: both the director and the employee may have to explain themselves, and consequently, the matrix predicate can function both as a subject control and as an object control predicate. In the object control construction, *SI* on the matrix verb is coreferential with the matrix subject, and *SI* on the verb of the embedded clause is coreferential with the latter’s subject, which has checked case as the matrix object. When the matrix verb functions as a subject control predicate, *SI* on both verbs is coreferential with the sentence subject. It appears that in both cases, *SI* correlates with the subject. Following the VP-Internal Subject Hypothesis, and considering the “longer”, “strict” reading with both verbs bearing *SI*, the marker can be interpreted as marking the intermediate positions of the subject antecedent on its way from the subject position in the embedded clause to that of the matrix clause (cf. Hornstein 1999, 2001,

2003). In addition, the functions of *SI* on the verbs in (16b) are clearly different: in the lower predicate *SI* functions as a valency reducing morpheme, in the matrix verb it does not. But besides conveying an intensifying meaning, *SI* on the matrix verb *kviečia-si* ‘invites-SI’ in the subject control construction serves the role of connecting the matrix subject with the rest of the sentence, thereby constructing the “strict” reading, which is otherwise ruled out.

The possible constructions and the number of arguments taken in *SI*-verbs are summarized in the table below (*n/a* stands for *non-applicable*):

(19)

Type of verb construction	Transitive before <i>SI</i> is added	Transitive after <i>SI</i> is added	Number of nominal arguments taken when used with <i>SI</i>
<i>Agentive</i>	+	+/-	2/1
	-	-	1
<i>Experiencer</i>	+	+/-	2/1
<i>Derived Unaccusative</i>	+	-	1
<i>Impersonal passive</i>	n/a	n/a	0

Table 2. Possible constructions and arguments taken by *SI*-verbs

4.4. Relations and the status of *SI*

Let us now look specifically at the characteristics of *SI* with reference to a) arguments to which it refers and b) verbs in which it appears.

4.4.1. *SI* with reference to sentence arguments.

Following Reinhart&Siloni (2005), I have shown that *SI* is best interpreted as an operator, licensing a number of lexical operations. However, given its stable morphophonological form and the flexible syntactic property of subsuming one of the theta roles of the verb, I would like to supplement its syntactic characteristics with one more stable property, lest the behavior of *SI* as an arity operator should appear as chaotic or put to chance. In all cases, *SI* must corefer with the grammatical subject of the clause and disallows other arguments:

(20) a. [Aš]_i pa-si_i-dar-iau kav-os.

[I-SG.NOM] PREF-SI-do-1.PAST coffee-SG.PART

‘I cooked-*SI* coffee’. / ‘I made myself coffee’.

b. *[Aš]_i pa-si_i-dar-i-au Jon-ui_j kav-os.

[I-SG.NOM] PREF-SI-do-1.PAST Jonas-SG.DAT coffee-SG.PART

‘I cooked-*SI* coffee for John.’

Thus, as an operator, *SI* is obligatorily coreferential with the *subject* of the sentence.

4.4.2. *SI* relative to the verb

As regards its appearance on the verb, the mechanism is regular in standard Lithuanian: *SI* is added verb-finally in prefixless verbs and between the prefix and before the root in prefixed verbs. Put simply, *SI* takes the following two positions:

- (21) a. V-Af-SI— -*SI* features as enclitic
 b. PREF-SI-V-Af — -*SI* features as mesoclititic, or just another affix (cf. Haspelmath 2002: 164; Bukšs 1973: 153 for Latgalian)

The fact that *SI* can appear now verb-finally, now toward its left boundary in Lithuanian and dialectal Latvian, makes *SI*-‘hopping’ very reminiscent of clitic climbing in Romance languages. “Climbing” is in general a characteristic feature of null-subject languages (Sola 2002), of which Lithuanian, belonging to the Baltic Languages group, is part. Crucially, however, in Balto-Slavic *SI* never leaves the verb, hence, whether positioned low or high, it resides within the immediate proximity of the v/VP domain.

Let us take stock of what we have discussed so far. In all instances, *SI* obligatorily refers to the subject, which is a manifestation of *coreference* between the antecedent expressed through a free form, an independent variable, and a morphologically expressed anaphora, whose meaning depends on that of the antecedent. But the placement of *SI*

within the verb is different: in Slavic and standard Latvian *SI* does not move, whereas in Lithuanian and dialectal Latvian it does. Since *SI* is not a free form and its meaning entirely depends on the subject of the sentence, it seems reasonable to suggest that the changing position of the marker *SI* is stipulated by the need to be placed within a certain distance to the antecedent. This activates the generative approach to anaphoric relations: what is special about Lithuanian and dialectal Latvian is that *SI* seems to be *bound* by the noun in the subject position and consequently acts as a nominative anaphor (Carnie 2013). If so, it appears that Lithuanian, alongside Latvian dialects, obeys Condition A of the Binding Theory:

(22) An anaphor is bound in its Governing Category (Chomsky 1981).

Thus in prefixless verbs— regardless of their type, the subject of the sentence c-commands and is coindexed with the anaphoric *SI* marker on the verb. The fact that the marker has an anaphoric-like relationship with the nominal antecedent has one more important attribute: appearing in the position following the prefix, *SI*, as we have shown, is intrinsically related to the EPP properties of its antecedent. Therefore, we get the following bundle of features: *SI* stands in an anaphoric relation to the antecedent, hence it has to be properly bound by the antecedent within its local domain; and 2) *SI* is dependent on the EPP features of its antecedent, which is a necessary condition to account for instances where the antecedent is not an agent, but a theme, for example (cf.

Marelj&Reuland 2013). In other words, *SI* is a subject anaphor and a physically manifest trace of the subject argument on the latter's way to check Case and, importantly, get the EPP features, hence a manifestation of A-movement. If so, the locus of *SI* is where the subject of any given sentence is merged, namely spec-vP for agentive and experiencer verbs and spec-VP for thematic verbs. On this view, when *SI* takes a changeable position of the verb, it does so out of necessity to maintain the binding domain with the subject.

Let us now digress briefly and place the discussion in the context of approaches to binding within the generative tradition.

4.5. Extensions to the Classical Binding Theory

4.5.1. Behaviour of copies

The status of the anaphor as the copy of the respective antecedent as well as the relationship between the two is not a new idea in generative approaches and has been explored in a number of works. Below I will mention some of them and will look for possible correlation with the present data.

Let us first consider the idea of the antecedent and its anaphor merged in the same position. Hornstein (2000) argues for this analysis of the reflexive forms in English, whereby the antecedent is first merged in the position of its anaphor and then moves on the tree to check Case. The copy/trace of the antecedent is deleted in its merge position, whereas the anaphor is filled. Since it has the status of a bound morpheme, but no overt realization in English, it is filled with the pronoun *self*.

The consequences of a copy being overt have also been explored, with the copy having to be “masked” in order to converge the derivation at PF and LF (Nunes 1995, 1999, 2004). Boeckx, Hornstein and Nunes (2005) proceed from the assumptions that a) movement leaves a copy in the original position (following Hornstein (1999, 2001) and b) reflexivizing and control constructions are manifestations of movement, and seek to account for the differences between languages that do not have overt copies (like English), and those that have copies manifest in either reflexive or control constructions. They agree with Nunes (1995, 1999, 2004) that the crucial factor for the generally problematic status of overt copies is Kayne’s (1994) Linear Correspondence Axiom (LCA) and further explore Nunes’ (2004) proposal that the presence of overt copies is due to language-specific morphological operations, whereby two forms can fuse, and consequently become “masked” and invisible to the LCA, and that the complexity of the candidates for fusing is one of the criteria. From this conclusion naturally follows the fact that multiple copies will be blocked, since they will not find matching candidates for fusion.

4.5.2. Binding as a phase

The binding domains of anaphors have also been analyzed in light of phases. Hicks (2009) argues that Condition A be eliminated altogether, giving way to the phase-internal Agree-based interpretation of binding of anaphors, which allows to cope with the cases challenging Condition A. Consequently, anaphors are distinguished from DPs and

pronouns in that the latter have the valued [Var] feature on entering the derivation, while the former do not thus must have it valued through an Agree operation in the course of derivation. Despić (2011), too, pursues interpretation of binding domains through phases, hence CPs, vPs, and DPs constitute appropriate phases, and examines binding relations in light of a larger issue of whether the DP is a universal category. Despić argues that languages, such as Serbo-Croatian and Russian, are NP, rather than DP, languages, which affects their syntax and stipulates the “subject-orientedness” of their anaphors. While I will not be exploring the issue in depth from the perspective of the DP/NP, as our data already suggest, *SI* placement is indicative of a particular kind of the phrase in Baltic.

4.5.3. A digression: why and when SI?

One might wonder why in general, in some languages, like Lithuanian, the trace position is filled with an overt morpheme, while in others, like English and Dutch, it is not¹⁸. I will present two possible explanations. My first suggestion is along Hornstein’s (2000) lines presented above. I would only add that the ultimate question why there are no relevant bound morphemes in English and Dutch would apparently have to do with the fact that these languages have poorer agreement systems than Balto-Slavic languages, or Icelandic, considering the Germanic domain. For instance, Dutch and Icelandic both inflect verbs, but in Dutch to a significantly lesser degree than in Icelandic. Thus Dutch

¹⁸ This is a question asked by an Anonymous Reviewer. My tentative answer is too long for a footnote.

only distinguishes between plural and singular verb forms, person bearing no influence, whereas in Icelandic verbs conjugate according to both person and number (<http://www.verbix.com>). In English, the distinction is only made between singular and plural 3rd person Present Indicative forms. Given the weak status of the category of person in Dutch and English contrasted by a greater diversity in Icelandic and Balto-Slavic, I would suggest that the agreement system is a precondition for the absence of presence of a bound *SI* morpheme. The view on the antecedent-anaphor relation as the Agree operation is pursued in some approaches (e.g., Reuland 2006, 2007); hence the proposed answer may fall largely within the same domain.

There seems to be an alternative proposal, too, which I may have more to say about at this stage. Following Despić (2011), whose part of analysis relevant for the discussion is stipulated by Bošković's (2010) criteria delimiting DPs (vs NPs) and Reuland's (2007, 2011) criterion of definiteness marking, we can build the opposition between English and Dutch on the one hand and Icelandic and Baltic and Russian on the other, on the basis of the presence of the DP. Thus English and Dutch have a DP (both have definite and indefinite articles). To contrast, Icelandic has only one article, which is attached postnominally, and Baltic languages and Russian have no overt articles with words that could be categorized as determiners behaving like adjectives (hence the distinction between the two groups is made according to whether definiteness is marked pre- or post-nominally (consider, e.g., Lithuanian pronominal adjectival forms where definiteness is marked word-finally). Another particular example to illustrate the

opposition at hand is the fact that English does not allow Left Branch Extraction, but Russian does (Despić 2011: 5). Consequently, Despić argues, Russian and, given their similar features, we can tentatively speculate that Icelandic and Baltic, too, are NP languages. One consequence of NP languages is that they have reflexive affixes attached word-finally and are “subject-oriented“. Therefore the DP/NP distinction may be responsible for why *SI*-forms can figure on the verbs in Icelandic, Baltic and Russian, but not in English or Dutch¹⁹.

4.5.4. *Anaphor types*

Charnavel& Sportiche (2016) argue for the computation of plain anaphors to be confined to the domain where they get their interpretation, plain anaphors roughly corresponding to inanimate anaphors, which all obey Condition A, unlike the so-called exempt anaphors, comprising animate anaphors, which show variation. Charnavel&Sportiche perceive subjects as markers of phase boundaries and classify phases into Tolerant and Intolerant phases, i.e. those allowing and those disallowing multiple extraction. While we will not go into details, given the uses of *SI* in Baltic, it may be relevant to reassess its manifestations in light of two categories, with reflexive, Experience-as-subject and

¹⁹ Another consequence of Despić’s (2011) distinguishing NP languages is the absence of a TP. At least within the Baltic domain, these data have not yet been verified and may go counter other related analyses, e.g., the distinction of zero expletives in Russian, as proposed by Bowers (2002) and my suggested extension to Lithuanian. For the present purposes, I will assume the standard tree structure with subjects taking spec-TP position and will leave the issue of DP/NP status in Baltic for further research.

intensifying uses of *SI* as well as impersonal passive constructions jointly referred to as manifestations of the animate-*SI* domain, as opposed to the middle and derived unaccusative constructions seen as the inanimate-*SI* domain, given that *SI* is a copy of the subject.

4.3.5. Proxy readings as X^0

Marelj&Reuland (2013) consider reflexive and middle constructions and also argue that the range of meanings of SE_{cl} is stipulated by its merging position. Building on Chomsky (1995) and Bošković (1997), they argue that the underspecification of phi-features on SE_{cl} should not be taken as a criterion of SE_{cl} functioning as an anaphor, but rather points to its ability to function both as a head and a phrase. Consequently the distinctive property of SE_{cl} is that it enters “an Agree relation with the first available source of phi-features (finite AGR)”, which explains their matching features (Marelj&Reuland 2013: 78). They state further that the availability of proxy, or “near reflexive” readings reveals whether SE_{cl} has the status of X^0 or XP. Thus Russian reflexive *–ся* (*–sia*) does not allow proxy readings and is an affix with the status X^0 .

As in Russian, proxy readings are not available in Lithuanian *SI*-verb forms, but are quite frequent with the pronominal form *save*, e.g.

- (23) Saul-ius už-*si*-deng-ė. ≠ Saul-ius už-deng-ė
 Saulius-SG.NOM PREF-SI-cover-3.PAST / Saulius-SG.NOM PREF-cover-3.PAST

save nuotrauk-oje.

self photo-SGLOC

‘Saulius covered himself. / Saulius covered himself [his image] on the photo’.

The fact that *SI* moves on the tree in Lithuanian, at least within the limits of the present discussion, prevents me from following Marelj&Reuland’s (2013) concept of SE_{cl} -affixation on two principles: a) the non-anaphoric analysis of *SI*; b) application of an affixal approach on the basis of the availability of proxy readings. The analysis proposed here will also offer an alternative interpretation to the Russian marker *–sia*.

4.5.6. *Binding as Move or Agree*

Drummond, Kush and Hornstein (2011/2012) view binding as a grammatical process and a phenomenon which can be derived and accounted for within the two major minimalist concepts: Move and Agree. In the Move-based approach, the anaphor is viewed as a “morphological offspring of a copy of the antecedent” (399), and hence are directly linked to the antecedent. In the Agree-based approach, the relationship between the anaphor and the antecedent is maintained via the Agree operation manifest through a functional head, directly connected to both the antecedent and the anaphor, which have no direct connection in between. Due to space constraints and since the proposed analysis will also rely heavily on movement within a single morphosyntactic form, we will only consider the former view. One immediate consequence of the Move-based approach is

that it helps resolve the issue of the referent of *SI* in animate *SI*-constructions, which we can further subdivide into reflexive and non-reflexive constructions. According to this approach, movement can occur into two case-bearing positions. Drummond et.al. provide the following example of reflexivizing and A-movement constructions in (5a) and (6a) presented respectively as (24 a-b) below (2011/2012: 402):

- (24) a. John washes himself.
 b. John washes *t*.

Drummond et.al argue that in reflexivization, movement takes place into two theta-positions, whereby John in (24a) is both the subject and the object; whereas in (b) John has only one theta-role.

Let us consider Lithuanian examples:

- (25) a. Jon-as bar-a save.
 Jonas-SG.NOM scold-3.PRS self-ACC
 ‘Jonas scolds himself’.
- b. Jon-as bar-a-*si*.
 Jonas-SG.NOM scold-3.PRS-SI
 ‘Jonas is swearing/swears’.

c. Jonas neš-a-*si* kompiuterį į darbą.

Jonas-SG.NOM carry-3.PRS-SI computer-SG.ACC in work- SG.ACC

‘Jonas carries/is carrying the computer to work (for himself)’.

In (25a), the anaphoric pronoun *save* ‘self’ takes the object position; in (25b), the object theta-role is subsumed by *SI*; in (25c), *SI* may be perceived as subsuming an indirect object theta-role. Both *save* in (25a) and *SI* in (25b-c) stand in an anaphoric relation to the antecedent, *Jonas*. On the basis of these examples, I would like to suggest that, in animate constructions, the anaphoric *SI* acts as a morphological offspring of a copy of A-movement that has taken place from either one locus into two theta positions, which can further be subdivided into *SI*-reflexivisation (if the relevant positions are subject and direct object, or *SI*-intensification, as in (25c) (if the relevant positions are subject and indirect object), or into one theta position (the subject) to enable the undirected meaning, as in (25b) (cf. Korostenskienė 2014). For *SI*-reflexivization to take place, crucially, there has to be one-to-one semantic identity between the subject and the object, which distinguishes it from constructions with the reflexive pronoun, as in (25a). In (25b) there is only partial overlap of identities, but no full identity, as there is not in programmatic sentences within the field of semantics, like *The Morning Star is the Evening Star*. When scolding, apparently *Jonas* scolds only some part, however big it is claimed to be, of his own identity, and never in entirety, which is impossible for logical reasons. I would argue

that full identity between the subject and the object is, on the contrary, present in verbs like in (26a-b) below:

- | | |
|-----------------------------------|--------------|
| (26) a. su- <i>si</i> -žeis-ti | b. slèp-ti-s |
| PREF-SI-injure-INF | hide-INF-SI |
| ‘to injure oneself’ ²⁰ | ‘to hide’ |

In these examples the subject is fully affected by the action, whether it is manifest through metonymy in the former or *SI*-reflexivization in the latter case. In all other cases of *SI* being an animate anaphor, *SI* obligatorily shares full identity with one theta-role only, the subject. Hence in (25b), *SI* shares full identity with the subject, and consequently the addressee of the action is never specified and the sentence has a non-directed meaning.

4.6. The proposed approach to *SI*

Let us now return to our discussion in which *SI* appears to behave as a subject anaphor.

²⁰ Just as grooming verbs, *susižeisti* ‘to injure oneself’ can be specified by a direct object, e.g., *su-si-žeis-ti rank-q* ‘to injure one’s arm’, but is an accomplishment verb. Native speakers say that the non-*SI* form with the reflexive pronoun is possible, e.g., *Jon-as su-žeid-è save* ‘John has injured himself’, but it implies that injuring himself was a purposeful act, rather than an accident, which, again, is indicative of dissociating the identities of the subject and the object.

Since subject position is in spec-TP, its binding domain has to be formed between T and some (functional) projection where both the prefix and the verb can appear, supposing that in prefixless verbs, the verb moves up to occupy a certain position to maintain the binding domain, while in prefixed verbs the binding domain is overtly marked by the prefix. But the problem is that the right boundary of the binding domain is not at all clear: saying that *SI* appears between the prefix and the verb root somehow obscures the fact that there may be several prefixes before the verb root. The combinability of “grammatical” prefixes in general invites a further study of its own, but will be illustrated here briefly in order to demonstrate how long prefixed verbs can be and, in light of the present discussion, how far *SI* can occur relative to the left boundary of the verb complex. Below is an illustration for the verb *šnek-è-ti* ‘to talk’ in the third person Present tense. For simplicity of exposition, I provide the translation and give the formula for the prefixal material of the verb:

- (27) a. nu-*si*-šnek-a, ‘talk(s) nonsense’ -actional-*SI*
 b. ne-*si*-šnek-a , ‘doesn’t talk’ -negative-*SI*
 c. te-*si*-šnek-a, ‘may_{IMP} talk’ -modal-*SI*
 d. ne-nu-*si*-šnek-a, ‘don’t/doesn’t talk nonsense’ -negative-actional-*SI*
 e. te-ne-nu-*si*-šnek-a, ‘may_{IMP} not talk nonsense’ -modal-negative-actional-*SI*
 f. [te-be]-ne-nu-*si*-šnek-a, ‘does not talk nonsense anymore’ -modal-aspectual-negative-actional-*SI*

g. [te-be]-[ne-be]-nu-si- šnek-a²¹, ‘may_{IMP} not talk nonsense anymore’ -modal-aspectual-negative-aspectual-actional-S/

What about Latvian? Experts in Latvian do not have a unanimous opinion on forms with multiply prefixed grammatical prefixes. Thus, Ilya Seržant (p.c.) argues against DEB-NEG-*verb* combinations emphasizing the grammaticalization of the debitive in Latvian. Nicole Nau (p.c.) finds such forms unexpected, but, commenting on their presence on the Internet, says that contexts in which they appear (she provides examples *jā-ne-iet* ‘to be obliged not to go’, *jā-ne-dara* ‘to be obliged not to do’, *jā-ne-but* ‘to be obliged not to be’) suggest that these forms cannot be merely put to non-native speakers’ (in)competence and might consequently be viewed as marginally possible.

The combinability of modality and negative morphemes is not critical for the analysis at hand, but has interesting implications considering the fact that modality expressions (in our case, morphemes) pertain to the category C on the syntactic tree (Felser 2000). I will return to them in the discussion below.

The examples in (27) above pose a problem to both the traditional and generative answers voiced at this stage. From the traditional perspective, hence binding ignored, it is

²¹ Note that there are two complex prefixes: *tebe-* and *nebe-*. The form in (27g) has been provided by a 20-year-old native informant when asked to construct as long a prefixal combination as possible. She said she found this form fairly natural and my other informants responded quite leniently to it. One will not find such forms in a grammar book, though.

unclear why in prefixed verbs *SI* should be moving to the position between the verb and the most internal prefix. From the generative perspective, hence binding-related phenomena being relevant, it is not clear why, given the same antecedent (the subject) and the anaphor (*SI*), the binding domain (which is located somewhere in the left periphery of the verb) should be extendable and why, if we assume that there is one functional operator where prefixes go while the binding domain should be stable, Lithuanian does not have forms like e.g., **ne-si-nu-suk-a* (cf. 27d), **te-si-be-ne-nu-suk-a* (cf. 27f), where *SI* would be placed immediately after the topmost prefix. The fact that we perceive *SI* as a manifest trace overtly representing A-movement helps us identify the merging position of the subject/*SI* as spec-v/VP, but says nothing about the stage at which *SI* is finally “dropped off” by the subject on its way to get EPP features at spec-TP. In this respect, the following questions arise: a) what is the location of verbal prefixes relative to the v/VP; b) what stipulates the interaction between the marker *SI* and verbal prefixes, depending on whether there is one or several of them? We thus have to consider Baltic prefixes.

5. INCORPORATING PREFIXES²²

²² A few words have to be said regarding the notation of prefixes throughout the remaining part of the article. Prefixes of prepositional origin, except *pa-* will be glossed through the respective preposition, following Svenonius’ approach, e.g., *iš-*, *at-* ‘from’ (Zinkevičius 1981); prefixes for which no immediate prepositional correlate is available, such as *pa-*, contributing the meaning of perfectivity and, on some occasions, temporality, will be glossed *pref* ‘prefix’. The notation of ‘outer’ prefixes will remain the same.

‘loved no longer, did not long love Gvidon, and he did not love her’.

b. *Ar* *aš dar gal-iu* *ką* *nors rink-ti-s?* *Matyt,* *ne-be.*

Q+ I yet can-1.PRS what-ACC else choose-INF-SI See-INF ne-CNT

‘Can I still choose anything? Obviously, not anymore’.

c. ...*lyg* *norė-dam-as* *pa-tikrin-ti,* *ar* *te-be-sėd-i*

as if want-PTCP-SG.NOM PREF-check-INF Q+ RSTR-CNT-sit-3.PRS

girinink-as. *Te-be.*

forester-SG.NOM RSTR-CNT

‘..as if willing to check whether the forester is still sitting. He still does’.

Notably, when appearing as detached from the verb, complex clitical prefixes must have the continuative *be-* as their second element. In this combination, the idea of continuity of an action is very palpable and the meaning contributed by the prefixed complex is that an action is either *still* ongoing (*tebe-*), or is *no longer* ongoing (*nebe-*). When used on the verb without *-be-*, *te-* and *ne-* “resume” their primary meaning(s): the restrictive/permissive and negative respectively.

Except for the separability issue, all Baltic particle prefixes share a number of properties: the meaning they contribute is compositional; they do not affect the arguments of the verb and only the negative prefix *ne-* obligatorily induces Genitive case on the

object (the rule is much less strict in Latvian (Pirnat 2015)); they allow stacking in that they can attach freely to the already prefixed verb. Unlike Lithuanian, in Latgalian, the particle prefixes – the negative *na-* and the debitive *juo-* cannot co-occur in standard forms, but each can attach to the verb with a lexical prefix (Nau 2011; see also section 4.6).

5.1.2. Prepositional prefixes

As for prepositional prefixes, the Baltic inventory is rich: there are 14 prepositional prefixes in Lithuanian: *ap-(api-)*, *at(ati-)*, *i-*, *iš-*, *nu-*, *pa-*, *par-*, *per-*, *pra-*, *pri-*, *pra-*, *pri-*, *su-*, *už-* (Paulauskienė 2006) and 11 in Latvian: *aiz-*, *ap*, *at-*, *ie-*, *iz-*, *nuo-*, *pa-*, *pār-*, *pie-*, *sa-*, *uz-* (Andronov 2010: 68-72). While all verbs can combine with particle prefixes, the extent of combinability of the verb with lexical prefixes ranges from the ability of the verb to combine with all prefixes, each time forming a certain shade of meaning, or only with a few prefixes. The meanings contributed by the prefix may have associations with the original prepositions, or be metaphorically extended, for example:

(29) Lithuanian (cited from Paulauskienė (2006: 58)):

a. *api-bėg-ti* (aplink ką) vs *ap-valg-y²³-ti*

²³ Ø stands for a thematic vowel, which determines the type of the conjugation of the verb. All in all, there are three conjugations in Lithuanian.

about-run-INF (around what/who-ACC)	about-eat-Θ-INF
to run about	to eat sb out of house and home

b. ģ-bēg-ti (ģ kur)	vs	ģ-valg-y-ti
in-ru-INF (in where)		in-eat-Θ-INF
to run into		to eat into sth

c. nu-bēg-ti (nuo kur)	vs	nu-valg-y-ti
from-run-INF (from where)		from-at-Θ-INF
to run down from (a hill)		to eat a little from

30) Latvian (cited from *Latviešu valodas* 2014, adapted for glossing)

a. aiz-iet	vs	aiz-mirs-t
away-go-INF		away-die-INF
‘to go away’		‘to forget’

b. sa-stāv-ē-t	vs	sa-smalcin-ā-t
with-put-Θ-INF		with-cut-Θ-INF
‘to put together’		‘to cut, up, chop’

Prefixes are perceived as a means to convey aspectual or Aktionsart-related information (hence the term *preverb*), sometimes specifying that the information is more “semantic” or “lexical”, rather than purely morphological (Sawicki 2000: 134). Thus the terminative reading contributed by Baltic prepositional prefixes may optionally be supplemented with the directionality component.

Given the apparent similarities between Slavic and Baltic aspectual systems, with prefixation being a productive means in the formation of resultative constructions as well as stacking prefixes, albeit contributing different meanings to the verb, analysis within the framework proposed by Svenonius (2004, 2008_b) for Slavic prefixes seems reasonable.

5.2. *The lexical / superlexical distinction*

Svenonius' approach to Russian prefixes has largely been stipulated by inquiries into Germanic particle constructions (e.g., Svenonius 1996, 2003). The general ability of certain Slavic prefixes to stack has been shown to have crucial consequences for the understanding of the prefixational mechanism in Russian, resulting in the distinction of two kinds of prefixes: *lexical* and *superlexical*, the origins of the terminology traced back to Smith (1991) (Svenonius 2004). The issue has been widely discussed for Russian in particular and Slavic in general, sometimes with terminological variation (e.g., Babko-Malaya 1999, Svenonius 2004, 2008_b, Ramchand 2004, Romanova 2006, Slabakova 2005, Žaucer 2009, Tatevosov 2009_a, 2013, Tolskaya 2015). Lexical prefixes contribute

“directional or idiosyncratic lexical meanings” (Svenonius 2008_b: 527), the latter sometimes being argued to be metaphorical extensions of their primary spatial meaning. Superlexical prefixes “are like adverbs or auxiliary verbs” and contribute “aspectual or quantificational meanings” (Svenonius 2004: 205). Consequently, when scalarity of meaning is emphasized (e.g., Kagan 2012 and references there; Tolskaya 2015, cf. Tatevosov (2008)²⁴), the need to distinguish between lexical and superlexical prefixes is put to question, given their phonological equivalence. Since in Baltic the structural distinctions between prefixes are much clearer and, if relevant, scalarity will remain the property holding within either class of prefixes, but never both, I will not pursue this issue further²⁵.

For clarity and in order to highlight the generative perspective, I will preserve the terminological distinction into *lexical* vs *superlexical*.

After we have established the properties of lexical and superlexical prefixes, we should be able to answer the following questions: a) why can certain prefixes (Lith *ne-be-*, *te-*, *nebe-*, *tebe-*; Latv *ne-*, *jā*) stack on “derivational” prefixes? b) why does this

²⁴ Tatevosov distinguishes a class of intermediate prefixes in Russian, such as the repetitive *pere-* ‘to do again / to do one by one’ and the completive *do-* ‘to finish doing sth’.

²⁵ It seems that in Lithuanian intermediate prefixes can be distinguished, too, although this usage would be constrained to colloquial contexts, e.g.

- | | | |
|-----|--|--|
| (i) | a. <i>per-ap-žiūr-ė-ti</i>

PREF _L -PREF _L -see-Θ-INF

‘to examine (by looking) again’ | b. <i>per-ap-šnek-ė-ti</i>

PREF _L -PREF _L -see-Θ-INF

‘to talk over, to discuss sth again’. |
|-----|--|--|

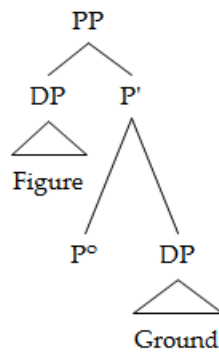
former group of prefixes evoke replacement of the marker *SI* in the verb with or without one prefix, but does not attract *SI* in stacking constructions.

5.3. *Lexical prefixes through Figure/Ground relation*

To account for the different properties of Slavic prefixes, Svenonius (2004) employs his earlier analysis of Germanic particle constructions in light of Talmy's (1978; 2000) distinction of the notions FIGURE and GROUND²⁶, the former denoting the variable subject to relocation or movement and the latter the reference point against which this event is measured expressed, for instance, by a prepositional phrase. Talmy argues that, underlyingly, the relationship between FIGURE and GROUND is unidirectional and Svenonius (2004_b) parallels this relation to the syntactic c-command, in which Figure syntactically dominates and c-commands the relevant expression (Ground) identifying its location or movement. To capture spatial relations, Svenonius (2004, 2008_a, 2010) introduces a functional category *P*, whose members can have both literal and metaphorical meanings and are regularly followed by a complement. Svenonius argues that "when spatial relations are lexicalized as adpositions, the complement of the adposition is always the Ground" (2004: 208). The tree diagram below depicts the Figure-Ground relationship (Svenonius 2004: 208; cf. Svenonius 2010):

²⁶ For an alternative approach with similar findings see, e.g., Di Sciullo and Slabakova (2005).

(31)



Consequently, the preposition introduces the Ground while, once identified as merged in PP, Figure is always merged in PP, i.e., it does so regardless of the type of the argument. Svenonius (2010) proposes a cartographic approach to the means of expressing spatial relations, and consequently places the PP under pP, the projection handling the internal argument within the verb group, dominated by the projection PathP, which in its turn is dominated by DirectionalP, designating/capturing the directional context of the entire phrase.

Svenonius argues that, for example, to render directed motion, languages employ essentially the same structure, with the particle left-adjacent to the verb. He observes that in Slavic the verbal prefix is frequently doubled by the respective preposition²⁷. The same is true of Baltic. Compare the examples:

²⁷ An Anonymous Reviewer asks how one can account for the fact that, while in Germanic the particle and the adjective are in complementary distribution, in Lithuanian (and Baltic and Russian in general), one must have both. An explanation can be provided within the Nanosyntax framework (Pantcheva 2011, 2009 and references there) and in light of Chomsky's Uniformity Principle: the relevant

- (32) a. On za-shel za ugol. Russian
 He behind-go-3.PAST behind corner-SG.ACC
 ‘He went round the corner’.
- b. Jis už-ėj-o už kampo. Lithuanian
 He behind-go-3.PAST behind corner-SG.GEN
 ‘He went round the corner’.
- c. Cikos at-iet vilciens uz Liepāju? Latvian
 at-what-time away-go-3.SG.PRS train-SG.NOM from Liepaja
 ‘At what time does the train leave for Liepaja’? (Praulīšs & Moseley 2015:47, 49)

Svenonius argues that, appearing as part of the prepositional phrase in the verbal complement, the preposition thus points to its relation to the Ground. He proposes that lexical prefixes originate in an extended projection *p*P below the R[esult]P and then move out to the aspectual projection above the verb to express the resultative state²⁸. Given

morpheme may lexicalize several heads at spellout. This is a language-specific feature, and the structure is inherently the same.

²⁸ An Anonymous Reviewer notes: “A possible (and more recent) view is that the prefix is not in the R head, actually, but rather in a PP, which also contains the resultative adjective, while the R head spells out

their nominal status, they can only take the specifier position of the aspectual phrase.²⁹ Svenonius (2004) develops his analysis to Slavic complex prepositions proposing a PP³⁰ projection split into PathP and PlaceP, but since they are of no immediate relevance for the discussion, we will not be concerned with this distinction here. Below I apply Svenonius' analysis to Lithuanian. For illustrative purposes, I use a prefixed *SI*-verb to reflect the interaction between the prefix, both in its merge and final position, and the marker *SI*, in the tree diagram. The structure is also somewhat simplified: rather than use PathP and PlaceP for reasons just mentioned, I opt for the standard Prepositional Phrase, but retain the ResultP and *p*P projections to demonstrate the interrelationship holding between the preposition and the prefix. The aspectual head AspP is an ad hoc solution to capture resultativity and is tentative. Its position will be reassessed later.

The square boxes around *tFigure* and DP '*kalno*' show the merging domains of Figure and Ground respectively. The root of the square arrow shows the merging position of the prefix and its subsequent movement to the aspectual projection above the verb.

(33) Jis nu-*si*-leid-o nuo kalno.

the verb root". Due to space constraints, I will leave the detailed analysis of the aspectual relations in Baltic for further study.

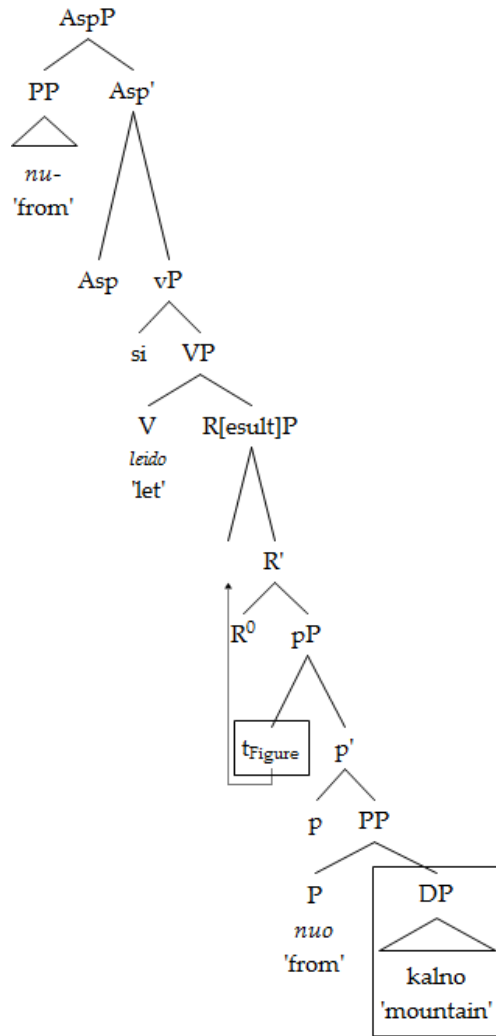
²⁹ The idea is not entirely new: Felser (1999) develops a similar account for the English imperfective and Dutch and German preposition-article compound combinations.

³⁰ Svenonius' PP encodes spatial relations, and is homophonous to the generative prepositional phrase PP in the most common sense.

He-SG.NOM from-SI-let-3.PAST from mountain-SG.GEN

‘He descended from the hill’.

(34)



The discussion of lexical prefixes suggests that, as stated before, the marker *SI* cannot be included into the paradigm for definitional reasons: it cannot be doubled by a respective prepositional counterpart unlike inner/lexical prefixes; its movement to the position preceding the verb cannot be stipulated by aktionsarten reasons only; and, finally, if

included into the class, it would immediately compromise it by appearing pre-verbally in a stacking construction with a true lexical prefix, bearing in mind that inner/lexical prefixes cannot stack. We can also define the highest point of attachment of manner adverbs in Baltic: the latter seem to be able to adjoin to modal superlexical prefixes, as the following examples suggest (of course, this use is not frequent; the examples below are from *Perfectae caritatis*, <http://www.lcn.lt>)³¹:

- | | | | |
|-------------------------|------------------|--------------------------|-----------------|
| (35) a. <i>noriai</i> | <i>te-duod-a</i> | b. <i>nuoširdžiai</i> | <i>te-myl-i</i> |
| willingly | PRM-give-3PRS | sincerely | PRM-love-3PRS |
| ‘should give willingly’ | | ‘should love sincerely’. | |

5.4. Superlexical prefixes

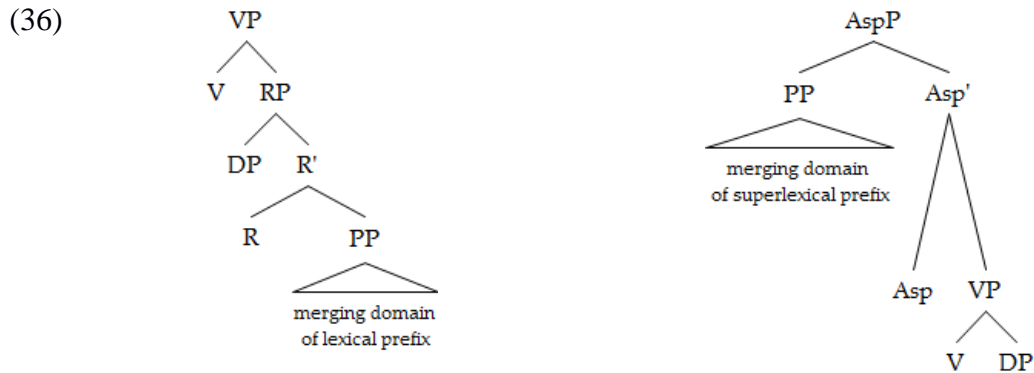
Unlike lexical prefixes, which are merged low, superlexical prefixes, given their optional status, are argued to merge above the verb and attach to it in an adjunct-like manner.

³¹ Here is the context in which these expressions appear followed by the official English translation:

- (i) *Patys institutai... noriai iš savo gėrybių kai ką teduoda kitiems Bažnyčios reikalams ir vargdienių, kuriuos visi vienuoliai nuoširdžiai temyli Kristuje, išlaikymui...*

...religious communities should gladly use their own goods for other needs of the Church and the support of the poor whom all religious should love after the example of Christ... (<http://www.vatican.va>)

Schematically the merging positions of the lexical and superlexical prefixes are given in trees below (based on Svenonius 2004: 206):



Differently from lexical prefixes, superlexical prefixes have the following set of properties (Svenonius 2004: 229; cf. Svenonius 2008_b):

- (37)
- a) Temporal meanings, rather than spatial
 - b) Absence of idiomatic collocations
 - c) Argument structure: Failure to license unselected arguments
 - d) Secondary Imperfective scopes over lexical, not over superlexical
 - e) Stacking: Superlexical are outside lexical

Baltic superlexical prefixes are more heterogeneous than their Slavic counterparts and include modal meanings, inviting the distinction of a modality phrase ModP. Indeed, due to the fact that they describe the situation rather than the verb alone, the meanings

conveyed by superlexical prefixes seem to be closer to the properties of T or C rather than to the properties of V, which is supported by the fact that superlexical prefixes go beyond the scope of secondary imperfective and habitual past in Lithuanian, expressed by the affixes *-inè-* and *-dav-* respectively and because the use of the permissive/restrictive *te-* in the modal use may and essentially form an entire clause:

(38) a. *te-ne-be-[[iš-si-dirb]-inè-ja]*

RSTR-NEG-CNT-PREF-SI-work-FREQ-3.PRS

‘may he/she/they not behave arrogantly anymore’ (in colloquial speech)

5.5. The proposed inventory of Baltic prefixes

In this way, the proposed analysis identifies Baltic prefixal inventory as follows:

(39)

Language	Superlexical prefixes	Lexical prefixes
Lithuanian	<i>ne-, be-, te-, (nebe-, tebe-)</i>	<i>ap-(api-), at(ati-), į-, iš-, nu-, pa-, par-, per-, pra-, pri-, pra-, pri-, su-, už-</i>
Latvian & Latgalian	<i>Latv. ne / Latg. na-, Latv. jā- / Latg. juo-</i>	<i>aiz-, ap, at-, ie-, iz-, nuo-, pa-, pār-, pie-, sa-, uz-</i>

Table 3. The proposed distinction of Baltic prefixes into superlexical and lexical.

Taking into consideration, as far as possible, the fine-grained distinctions within the class of superlexical prefixes and leaving their detailed analysis for further study, superlexicals can now be tentatively defined as stored under two umbrella functional domains ModP and AspsP comprising the following functional projections:

(40)

ModP	PrmP - Permissive Phrase, locus of the permissive use of Lith <i>te</i> - RstrP - Restrictive Phrase, locus of the restrictive use of <i>te</i> - NegP - Negative Phrase, locus of Lith <i>ne</i> -, Lat <i>ne</i> -, Latg <i>na</i> - DebP - Debitive Phrase, locus of the debitive use Lat <i>jā</i> -, Latg <i>juo</i> -
AspsP	CntP - Continuative Phrase, locus of Lith <i>be</i> -

Table 4. The tentative taxonomy of projections of Baltic superlexical prefixes

Returning to the earlier question on the placement of the marker *SI* within the verb, the proposed analysis explains why Lithuanian (and dialectal Latvian, by extension) has forms like

(41) ne-be-nu-*si*-suk-o

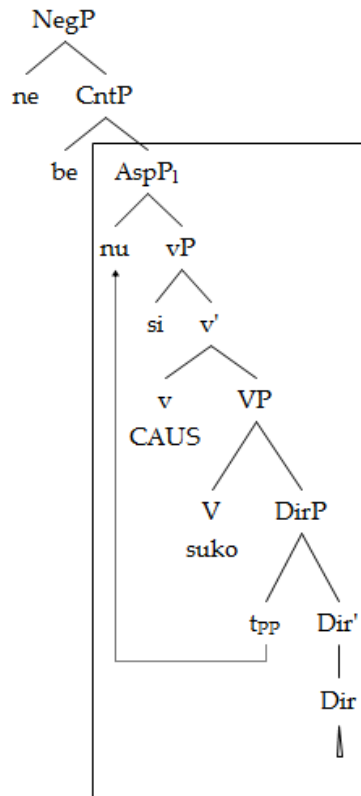
ne-CNT-from-SI-turn-3.PST

‘no longer turned away’,

but not Lith **ne-be-si-nu-suk-o*, **ne-si-be-nu-suk-o*, etc.; in other words, why the marker *SI* is sensitive to whether or not the verbal form is prefixed, but never climbs up (superlexical prefixes) to show up higher still in the tree. The answer is as follows: as a physically manifest copy of the subject of the sentence, the marker *SI* never leaves the material originating within the verbal complex.

The interim tree below illustrates the Lithuanian verb with prefixal positions filled with both superlexical and lexical prefixes. The square frame in the tree diagram marks the region with material produced/merged within the verbal complex with NegP and CntP forming the superlexical domain:

(42)



6. A MORE FINE-GRAINED APPROACH TO *SI* PLACEMENT

Let us now identify the possible positions of the marker *SI*. They are as follows:

- (43) a. Verb-*SI*
b. Pref_I-*SI*-verb
c. Pref_S-*SI*-verb
d. Pref_S-Pref_I-*SI*-verb

We now have to consider more closely what happens specifically at the left boundary of the vP region, in other words, what motivates the placement of the marker *SI* in verb forms with the composition like *Verb-SI* vs *Pref_S-SI-verb* and *Pref_S-Pref_I-SI-verb*, but not *Pref_S-SI-Pref_I-verb*. Let us first consider prefixless *SI*-verbs.

6.1. Prefixless reflexive verbs

So what about the position of *SI* verb-finally in prefixless verbs? On the one hand, it seems that *SI* has maintained strong ties with its historical pronominal roots. While verb-final position is perceived as its historical origins, the marker *SI* appears to be preserving its anaphoric status and incorporates into the verb structure by following closely the morphological structure of the verb on the one hand and the generation of the subject at

the syntactic level on the other. Since it always appears as a copy of the noun bearing EPP features, the marker *SI* forms what Carnie refers to as ‘*nominative anaphor*’ (Carnie 2013: 484), a notion which, with respect to Lithuanian subjecthood does not seem to be so homogenous and merits a study of its own, but which may tentatively be rephrased in a more general way as a subject anaphor, the notion to be regarded in light of the noun bearing EPP features. Therefore, the binding domain of *SI* is determined by the TP region and necessarily above the VP domain of the internal argument. As it combines the features of the anaphor and a physically manifest nominal copy, *SI* in its specifier position cannot form the left word boundary of the prefixless verb. How can this issue be resolved?

Let us now consider several examples. As is known, valency reduction is a common feature of *SE/SI* cross-linguistically. Lithuanian *SI*-verbs are also known to sometimes change the meaning dramatically. In addition, as an example below suggests, the Lithuanian marker *SI* is capable of turning the verb from static into dynamic:

- (44) a. Tom-as (*greitai) myl-i Monik-ą.
 Tomas-SG.NOM (quickly) love-3.PRS Monika-SG.ACC
 ‘Tomas (*quickly) loves Monika’.
- b. Tom-as ir Monik-a (greitai) myl-i-si.
 Tomas-SG.NOM and Monika-SG.F.NOM (quickly) love-3.PRS-SI

‘Tomas and Monika are (quickly) making love‘.

In the examples above two things happen: first, the argument structure is changed depending on whether the verb is used with *SI*, or not (we will not be concerned with the change of the verb’s meaning here, since formally, it is only the marker *SI* that is added); second, the verb changes its status from stative to dynamic only through its use with *SI*, disallowing a low manner adverb in stative use (44a), but not in dynamic use (44b). Let us consider a few more pairs of examples in which the argument structure is changed due to the presence of *SI*:

(45) a. Vaik-as tik-i tèv-ams.

Child-SG.NOM believe-3.PRS parents-PL.DAT

‘The child believes her parents‘.

b. Vaik-as tik-i-*si* gau-ti dova-nų.

child-SG.NOM believe-3.PRS-SI get-INF presents-PL.GEN

‘The child hopes to get presents‘.

(46) a. Jam gail-a vaikų.

he-SG.DAT pity-3.PRS child-PL.GEN

‘He feels sorry for (the) children‘.

b. Jis *gail-i-si* vaik-ų.
 he-SG.NOM pity-3.PRS-SI child-PL.GEN
 ‘He feels sorry for (the) children‘.

(47) a. Jis *nor-i* mieg-o.
 he-SG.NOM want-3.PRS sleep-SG.GEN
 ‘He wants to sleep‘.

b. Jam *nor-i-si* mieg-o.
 he-SG.DAT want-3.PRS-SI sleep-SG.GEN
 ‘He wants to sleep‘.

(48) a. Jie (pa-)naudoj-o *virykl-ę*.
 They (pref-)use-3.PAST stove-SG.ACC
 ‘They use the stove‘.

b. Jie naudojo-*si* / *pa-si-naudojo* virykle.
 They use-3.PAST-SI / PREF-SI-use-3.PAST stove-SG.ACC
 ‘They (have) used the stove‘.

In the example (45), the meaning of the verb is idiomatised by adding *SI*; in (46), the presence of the marker *SI* changes the sentence with a non-Nominative subject (traditionally referred to as impersonal) into the sentence with a Nominative subject. In (47), the process is reversed: the experiencer verb is changed into a *SI*-containing counterpart with the case of the subject changed from Nominative into Dative. In (48), there is a change in the argument structure, the subject argument being the same. As can be seen, in all these pairs, the only formal change that takes place within the verb is the addition of the marker *SI*. It is known that changes involving argument structure and idomaticity are characteristic of verb-complement relationship. With respect to the examples above, the marker *SI* has to appear as a verbal complement in order to enable relevant changes. Since it has been shown that *SI* is merged in the vP in agentive and experiencer verbs, it is significant that in prefixless forms, the verb appears above *SI*. This is only possible if the verb has raised to an aspectual position to precede the marker *SI*. The motivation for verb movement to the aspectual domain is in line with Kempchinsky's (2003): the verb, as having interpretable temporal features, moves up to check and delete the uninterpretable temporal features of the aspectual head. In Lithuanian, there is one more tenable reason for the verb to move: it does so in order to maintain the binding domain between the subject and the *SI*-anaphor.

Let us now examine what happens when superlexical prefixes come into play.

6.2. Does *SI* have aspectual properties?

Let us first summarise what we have so far. There are lexical and superlexical prefixes in Lithuanian. Lexical prefixes derive from prepositions and consequently are merged within the verbal complex. Superlexical prefixes can be of various origin; but none of them induces movement of the marker *SI* to any position in-between two superlexical prefixes. *SI* can either appear between the lexical prefix and the verb, if the former is present; or it can appear between the lowest superlexical prefix and the verb, if there is no lexical prefix. Lexical prefixes cannot stack. Meanwhile superlexical prefixes can stack, albeit in a strictly defined order, and, given the distribution of *SI*, invariably following and never appearing in between them, are perceived by the marker as one whole. Therefore, keeping all superlexical prefixes under one cover notion would be helpful in defining the binding domain for the anaphoric *SI*. Recall that with the lexical prefixes only, the binding domain is formed between the T and AspP. Let us now consider the case when there is one or more superlexical prefixes, but no lexical one. This is illustrated below:

(49) ne-be-*si*-tik-i

ne-CNT-SI-believe-3.PRS

‘Does not expect/hope any more‘

The example (49) reveals three things: 1) the domain of superlexical prefixes is filled; 2) there are no lexical prefixes to form the AspP; 3) *SI* appears above the verb. This is possible in either of the two cases: *SI* has remained in its spec-vP position and there is a

null Asp_{LP}; or *SI* has moved to spec-Asp_L. Cross-linguistic parallels favor the latter option. For instance, reflexivity has already been examined as bearing aspectual properties for Romance (Kempchinsky 2003). Given that superlexical prefixes always precede the marker *SI*, it may be stated that *SI* is forced to raise to the aspectual position following the Minimal Link Condition on the one hand and in order to maintain its binding domain on the other, which is now formed between T and Asps_P; since it is of nominal origin, the only possible position is that of Spec-Asp_L, while the verb itself apparently raises to Asp⁰ and consequently follows *SI*. When there are no superlexical prefixes, *SI* cannot raise, but needs a binding domain to be formed; the latter is created by the verb raising to Asp⁰. The question to be answered is: Why wouldn't the number of superlexical prefixes matter?

6.3. *Enter phase*

It must be due to the locus of the phase and the Phase Impenetrability Condition at work. Given the fact that *SI* is capable of redefining the argument structure of the verb, the node responsible for this sort of permutation falls within the same domain as the verb. Disregarding for a moment the distribution of *SI*, the existence of resultative prefixes and their ability to modify verbal behaviour with respect to the arguments it takes in Lithuanian suggests that the phase comprising the verb should go beyond vP limits, and I argue here that it is precisely Asp_{LP}³². When there is a lexical prefix, the phase naturally

³²

A similar idea has been expressed by Dyakonova (2009) for Russian.

becomes complete and, even if the verb has the *SI* marker on it, neither the phase, nor *SI* itself is affected by further addition of one or more superlexical prefixes. When there is no lexical prefix, but there is at least one superlexical prefix, the marker *SI* raises, too, due to the Minimal Link Condition, to spec-Asp, and the phase is complete again, so it becomes impenetrable to further operations, and the number of superlexical prefixes is of no importance: *SI* will always remain in its position in spec-Asp while the binding domain is formed between T and “upper“ aspectual projection of the superlexical prefix *be-*, if it is present, or the respective modality-type prefixes *te-* and/or *ne-*. Returning to the properties of the marker *SI*: since *SI* is a copy of the subject of the sentence, it cannot check any features at spec-Asp, because if it could, verbal forms with the order *SI-verb* would be possible, which is never the case. If we disregard the phase for a moment and only consider the lexical/superlexical and Figure/Ground distinctions, the proposed analysis seems just as logical: the aspectual projection is still formed within the verb (recall that lexical prefixes are of prepositional origin which appear as Ground on the syntactic tree); so *SI* essentially is quite at home as it is located within the material originally c-commanded by the verb. Meanwhile Baltic superlexical prefixes are of adjunctival nature; in Lithuanian they can form clitical compounds and from this standpoint are quite independent in their behaviour. In addition, they also mark an area where *SI*, being a physically manifest copy of the subject of the sentence, just cannot raise, because if it could, this would be movement of a full-fledged element on the way to its position in the sentence. In the present analysis, *SI*, however, is regarded but a copy of

the subject, hence first, it never figures independently, second, it is always found 'within' the verbal complex, and never outside.

Understandably, the position of *SI* following only superlexical prefixes, in the absence of a lexical prefix, is somewhat weaker. This is felt by native speakers when they occasionally use the non-grammatical form with the misplaced marker responding to the question in a jocular manner:

(50) a. Question: Kaip tau sek-a-si?
 how you-SG.DAT follow-3.PRS-SI
 ‘How are you?’

b. Response: *Ne-sek-a-si. intended: ne-si-sek-a
 ne-follow-3.PRS-SI ne-SI-follow-3.PRS
 ‘Not well’.

The incorrect form as used in the response in (50b) is arguably confined to the negative clitical prefix only; neither the continuative *be-*, nor the restrictive/modal *te-* have been encountered in verbs with this morpheme order, which may also be due to their far less frequent use relative to verbal negations. This incorrect layout is not possible if the verb has a lexical prefix, either. But what the presence of such forms suggests is that the verb and *SI* do not react to the presence of a superlexical prefix and, in the absence of

the lexical prefix, retain their ordering *v-SI* as if there was no prefix at all. In the latter case, the phase would be closed by the verb raising to Asp^0 .

It is also interesting that the appearance in the aspectual projection also determines the type of the verb: thus only dynamic verbs can move to the aspectual head; consequently, for a state verb like *mylėti* ‘to love’ to appear at AspP , it has to convert to a dynamic verb. As the discussion above has shown, this can be achieved by prefixation or/and a *SI*-verb.

Another reason why the phase should include the aspectual projection is because this is where argument composition is ultimately determined. Consequently, *SI* appears to share several properties with Lithuanian prefixes: both influence argument composition and both can convert a state verb into a dynamic one. Since both lexical prefixes and the marker *SI* are merged inside the verbal group, but affect the argument structure outside the verb, it is plausible to consider the aspectual phrase as part of the tree structure of the verb. Given that arguments as well as their cases are determined at the aspectual level, the phase should cover the lower Asp_LP , but not the domain of superlexical prefixes, which, as I have suggested, are comprised of at least two domains, Asp_SP for *be-* and a cover modality phrase ModP for *te-* and *ne-*. Since Lith *be-* is a superlexical prefix and is optional, let us exclude it from the discussion and focus only on the meaning-forming material, i.e. lexical prefixes and what comes below them. The formula for the morphemic order in Lithuanian and dialectal Latvian agentive and experiencer verbs given in (5b) is repeated as (51) below:

(51) Asp>SI>v>V>Asp>T>Agr

6.4. *Handling aspect: movement considerations*

In the present order, there are two aspectual positions: one for resultative prefixes to the left of the verb, and, as has been argued, for the verb to take in prefixless configurations, and one for aspectual suffixes to its right. Economy considerations of the generative approach would require that there should only be a single aspectual projection distinguished and consequently, the appearance of two aspectual positions must be formally explained. I have suggested that in prefixless verbs, the verb moves to AspP and thus forms a binding domain for *SI*. Notably, the process takes place in any verb that can combine with a frequentative (secondary imperfective) affix, which I assume is characteristic of only dynamic verbs. Considering the fact that aspect is a clausal, rather than verbal, property, and remembering the phasal (and phrasal) status of the upper aspectual projection, we are now ready to tackle this issue.

Building on the classical DM model (Embick&Noyer 2007), which suggests that complex heads are formed by movement and that relevant functional projections can be linearized both as prefixes and as suffixes, we would expect that, when clausal properties, such as tense and aspect are expressed elsewhere, this is manifest of movement. Given the unavailability of rightward movement, it is the verb that moves. According to the minimalist perspective on movement, placement of two elements next to each other is not accidental, but rather is stipulated by a certain functional projection with strong features

that need to be checked (Svenonius 2006). Consequently, if there are two elements X and Y, such that X is (universally and underlyingly) higher on the syntactic tree than Y, but in a given language Y moves over X and ultimately features higher than X, this is suggestive of Y being attracted to a certain functional head F with which it needs to check features. Svenonius (2006) summarises the possible linear combinations of three items standing in hierarchical relationship to each other, all of which are attested in various languages, with ‘1’ being “the highest and ‘3’ the lowest <...>:

- (52) a. 1-2-3 Straight
 b. 1-3-2 Curl
 c. 3-2-1 Roll-up
 d. 3-1-2 Skipping
 e. 2-3-1 Constituent Fronting or Sinking
 f. 2-1-3 Hopping (Svenonius 2006:3).”

So if the primary order $T > Asp > V$ is perceived as $1 > 2 > 3$, the order Asp-V-T, the aspectual projection distinguished for lexical prefixes, is suggestive of rolling, which Svenonius, on the same grounds, postulates for Russian (page 17, note 13). But we also have the secondary imperfective suffix to account for and hence the aspectual phrase is split by the verb. Enter remnant movement: “Remnant movement is movement of an XP from which extraction of has taken place earlier in the derivation” (Müller 2001: 1).

Therefore, both in Lithuanian and Russian, there are two types of movement manifest overtly. In Latvian there is no overt secondary imperfective suffix, but, as stated early in the discussion (see section 2), there is nothing in its morphological system that would prevent us from postulating a phonologically zero aspectual suffix. Going back to our discussion, it has been shown that prefixes take the specifier position of the aspectual phrase, and now, arguing that there can only be one aspectual phrase, we are ready to locate the verb as left-adjoining the aspectual suffix as a result of remnant movement.

We only have to add one more element: *SI*. We now have to explore the mechanism of its movement.

The tree in (54) below shows all processes we have so far been able to identify. It is built on the basis of the prefixless verb *važ-inē-j-a-si* ‘frequently goes by transport’ and its prefixed counterpart, shown in (53a-b):

(53) a. *važ-inē-ja-si*

go-FREQ-3.PRS-SI

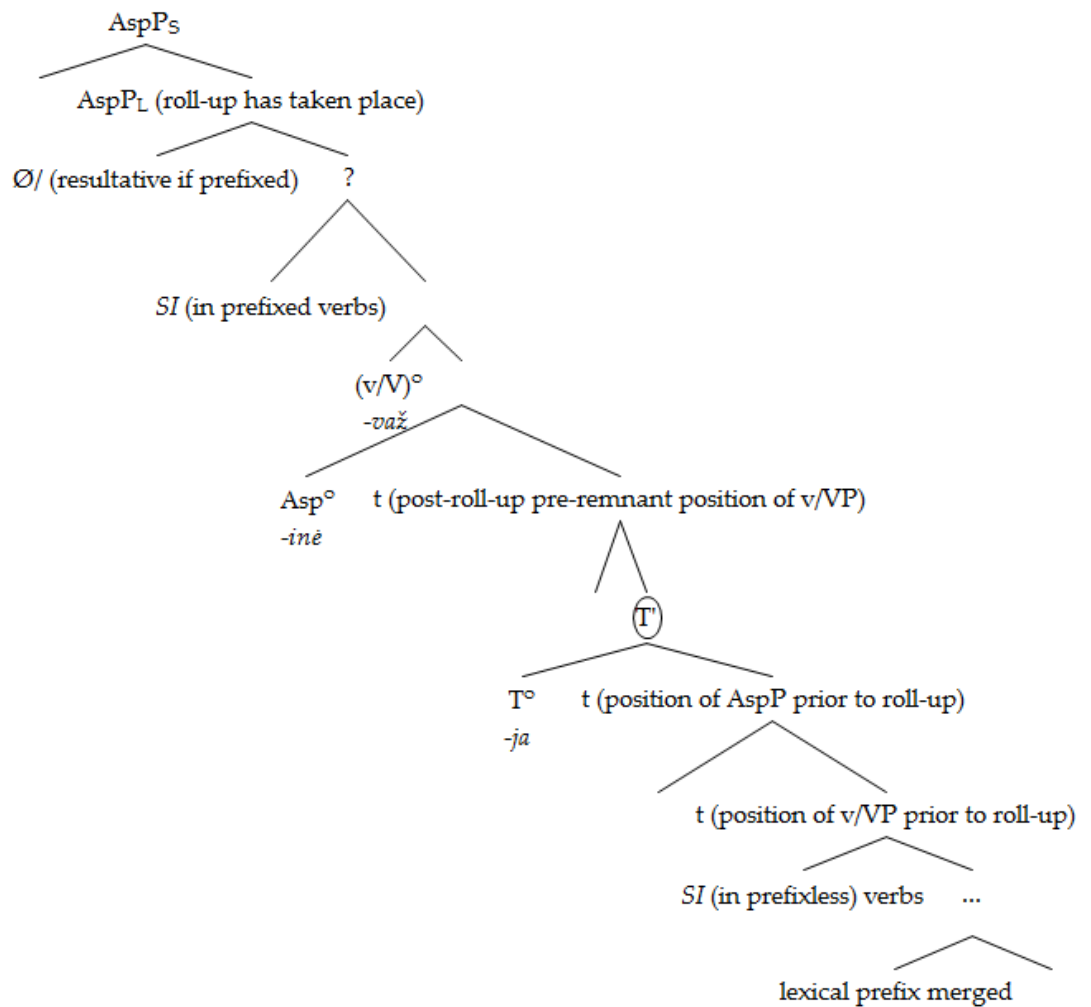
‘frequently goes (by a certain kind
of transport)’

b. *pa-si-važ-inē-ja*

pref-SI-go-FREQ-3.PRS

‘goes by transport
occasionally, from time to
time’

(54)



Let us analyze the processes as presented on this tree.

The circled T' marks the original position, that is, the position proposed by the canonical order T>Asp>V. As illustrated, it is followed by the AspP and v/VP in their original positions, prior to any movement. To “enable” prefixation and consequently resultative meaning, v/VP and AspP roll-up to a position above the tense to give the order AspP>v/VP>T. Notably, *SI* has to merge in the pre-roll-up position, that is, below T, as

evidenced by prefixless forms. We see that the lexical prefixes (LPs) move up from the position below the verb and below T, since originally prepositions are free standing words unaffected by the relationships holding between the tense and the verb. I am also ready to explain why I argue for the presence of a zero aspectual marker in Latvian: it is because otherwise prefixes have no motivation to exist. Indeed, I have shown that prefixes take the specifier position of the aspectual phrase, and now I argue that there can only be one aspectual phrase. Consequently, both Lithuanian and Latvian have an aspectual head, which is always zero in Latvian and may be filled with the secondary imperfective suffix in Lithuanian (as in Russian). To get resultative reading, the preposition/prefix goes up to the spec-Asp. In Standard Lithuanian and dialectal Latvian, this leads to the movement of the marker *SI* to the position immediately following the LP. But we do not know yet what the exact position of the moved *SI* is and whether *SI* is moved for binding considerations or – let us play the devil’s advocate – it may be moved by any other mechanism. It seems that there are two possibilities: 1) *SI* moves with the LP in a roll-up fashion; 2) *SI* moves with the v/VP, which can further be subdivided into two more options: a) *SI* moves with the v/VP as part of the v/VP phrase; b) *SI* moves independently from the verb for binding reasons. Let us consider these alternatives in more detail.

6.5. *The mechanism of SI placement*

Alternative 1: *SI* moves with the LP in a roll-up fashion: passing through specifier positions on its way to spec-Asp, the LP attracts *SI*. This is why at the spellout the order is reversed: LP > *SI*. Prosodically this would seem possible since *SI* can occur in a stressed position and when this happens, this is indicative of the historically stressed prefix (Kazlauskas 1968).

The problem with this approach lies in the presence of superlexical prefixes. As said before, these do not merge below the v/VP, but above it. In forms with one or more SLPs, the marker *SI* has no way to raise to the position before the verbal root, yet it does so, as a recent example (49) repeated for convenience below as (55) suggests:

- (55) ne-be-*si*-tik-i
 ne-CNT-SI-believe-3.PRS
 ‘Does not expect/hope any more’

Since we cannot account for how the marker *SI* appears before the verb root in such cases, the alternative of the marker *SI* moving with the LP has to be abandoned.

Alternative 2: The marker *SI* moves up independently from the LP, but as part of the v/VP. This alternative has two further options depending on whether or not the marker *SI* is regarded as an anaphor. Let us first clarify the relationship between the verb and the marker *SI* and, more specifically, consider whether the two can move as a complex, disregarding anaphoric relations and binding, hence *Alternative 2 (a)*: Suppose AspP

takes v/VP in roll-up movement, and the v/VP moves up in its entirety, together with the marker *SI*. When the pre-remnant v/VP stops just above T, it is essential that it move as a remnant as the entire phrase, too, to prevent forms like in (56a), the potentially possible nature of which, as has been shown before, caused problems to the analysis by Embick and Noyer (2001):

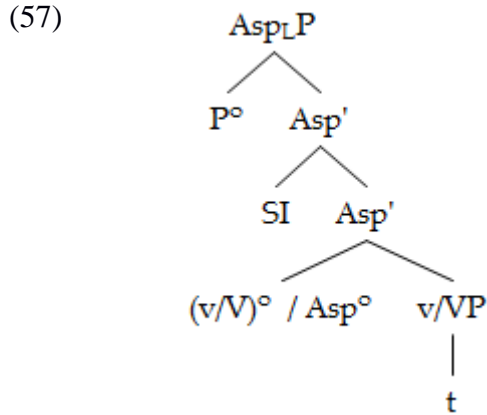
- (56) a. *važ-inė-si-j-a intended: b. važ-inė-j-a-si
 go-FREQ-SI-Θ-3.PRS go-FREQ-Θ-3.PRS-SI
 ‘frequently goes (by a certain kind of transport)’

Movement of *SI* together with the verb, an instance of phrasal movement, would seem possible. But in prefixless cases, the correct form being as in (56b), it appears that the root appears above the aspectual head (the latter filled with *-inė-*), while –the marker *SI* figures below T. Therefore, the idea that the roll up and remnant movement of the v/VP proceeds with its specifier on board is untenable. Nor can the verb move within the aspectual projection first with the marker *SI* and then, in the absence of the lexical prefix, have the marker *SI* go down to the “absolute” pre-movement position below T, which would be an instance of (long-distance) rightward movement. The essential difference between the verbal movement and that of the marker *SI* is that the verb always undergoes remnant movement, but the marker *SI* moves only in the presence of the prefix and it does so only in Lithuanian and dialectal Latvian: crucially, the marker *SI* stays at this point in

prefixless verbs in entire Baltic and Russian and in prefixed standard Latvian and Russian forms. This is the crossroads where Baltic and Russian part their ways, and from where Aspect gets more (grammatical) strength in Russian, but not in Baltic, the latter due to the further navigation of *SI*. Given the conditions when the marker *SI* does move (that is, prefixed dialectal Latvian and standard Lithuanian forms), two implications follow: 1) *SI* has to move up independently from the verb; 2) it is independent already prior to the first roll up initiated by Asp. These facts disprove our Alternative 2(a) since, as we initially agreed, the marker *SI* makes part of the v/VP.

Alternative 2(b): The marker *SI* is a subject anaphor which has to maintain its binding domain with its antecedent. According to this analysis, as a bound subject anaphor, the marker *SI* moves in order to maintain the binding domain with its antecedent. I argued earlier that a binding domain is formed between the T and AspP. When moved, what position will *SI* take on the tree? I suggest that there is a second specifier position of the AspP, following Rizzi and Roberts (1989) and Roberts (1993), who argue that, under the conditions when a complex head is derived via simple head movement, each of the conjoining heads contributes a specifier position. As regards the relationship of specifiers to their heads and the timing of the incorporation of the prepositional head P^0 on V^0 relative to V^0 on Asp^0 , it seems to be exactly because the verb has moved into the aspectual phrase that the preposition can now “apply” for the resultative reading as a

prefix and for convenience will follow this line³³. Then we end up with the aspectual phrase that looks as follows:



Consequently two specifier positions become available³⁴. One specifier position is for P° and is taken by the operator: enter the resultative prefix. The other specifier position is for $((v^\circ/V^\circ)/Asp^\circ)$ (nominal position reserved for A-movement) and is taken by *SI*. The aspectual (suffixal) head (Asp°) does not morphologically select for either the

³³ Both Lithuanian and Russian can have prefixless forms with the secondary imperfective, which suggests that the verb undergoes remnant movement into the aspectual phrase before prefixes are formed. The presence of prefixal verbal forms without the secondary imperfective suffix does not challenge this view: for the prefix to get the resultative (Aktionsarten) reading, it must already be found in the aspectual domain, an argument I proposed in the text to account for the zero aspectual head in Latvian.

³⁴ I remain somewhat agnostic on whether *SI* always takes this position in prefixed verbs. It seems to me that the postulation of different merging positions for *SI* is a sufficient condition for it to realize the different range of uses it does in animate (agents, experiencers) vs inanimate (themes, derived unaccusatives) as well as the null expletive subject constructions. However, I remain open to the option that its merge position may bear influence on where *SI* occurs after it moves up for binding reasons.

prepositional, or verbal heads; rather, the prepositional and the verbal heads freely incorporate on it. The outcome is a complex head licensing (at least) two specifiers, each “typical“ for its relevant head (Roberts 1993: 45).

The refined view of the processes in verb pairs like in (53a-b) presented for convenience below as (58a-b) is presented in the tree in (59):

(58) a. *važ-ině-ja-si*

go-FREQ-3.PRS-SI

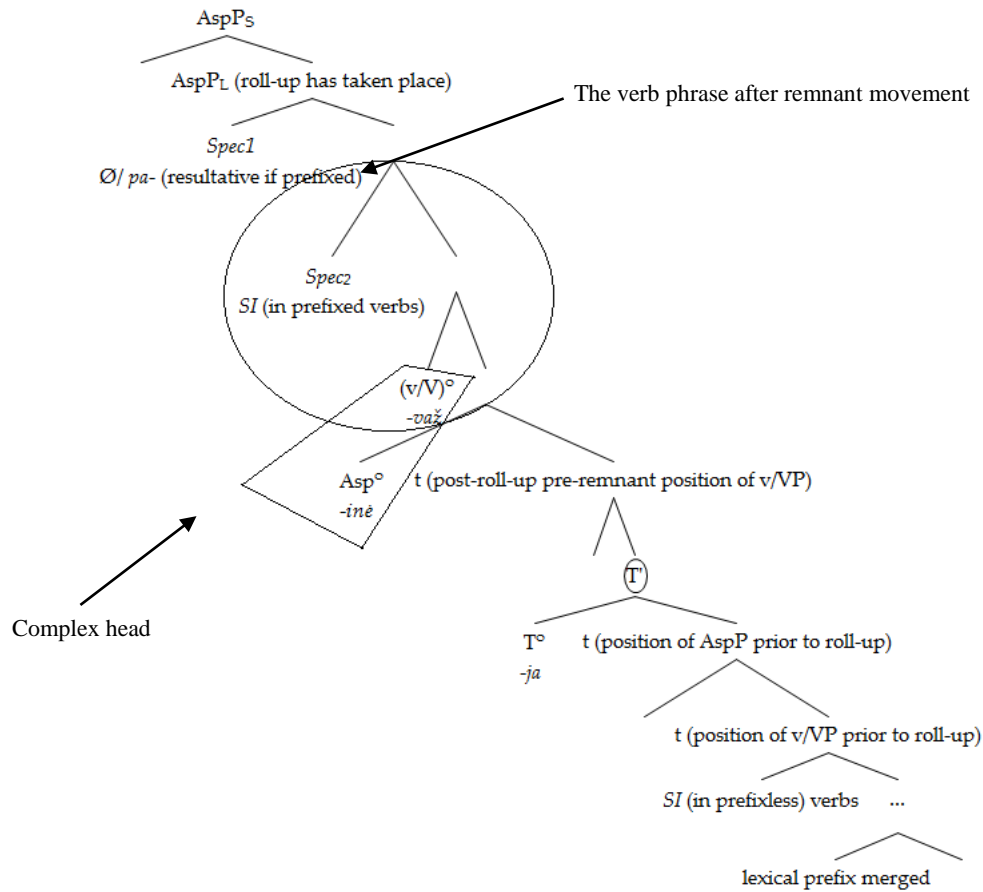
‘frequently goes (by a certain kind
of transport)’

b. *pa-si-važ-ině-ja*

pref-SI-go-FREQ-3.PRS

‘goes by transport occasionally, from
time to time’

(59)



The requirement that *SI* figure within a certain distance to the subject helps explain a number of other factors and we can now refine the definition of the binding domain, which we positioned earlier between the spec-TP and the AspP. Now knowing the mechanism and the intra-verbal dependences, we can further develop this idea.

As has been shown before, in Lithuanian and dialectal Latvian, the marker *SI* figures above the verb and I argue that this position is the second specifier of Asp. The verb, as we remember, always figures within the aspectual domain. On this view it is clear why SLPs have no effect on binding in the presence of an LP: as material attached

to the verb via adjunction, they are “external“ by definition and consequently have no influence on the process of the subject merged within the v/VP getting to its position in spec-TP. In prefixless forms, the verb has moved and is within the aspectual projection, too, but this time the first specifier position taken by the resultative prefix is empty, so the marker *SI* appears below the verb, following tense and agreement morphology, hence in its original position.

Let us now examine a situation when there is an SLP, but no LP, when, as we know, *SI* raises still and appears between the rightmost SLP and the verb root. Under this approach, the SLP as if makes the left boundary of the aspectual domain of LPs visible to the marker *SI*. As a physically manifest copy of the subject antecedent and hence “defected” material, *SI* cannot form the left boundary of the verb. But importantly, the presence of an SLP activates the specifier region of the lower (“lexical”) aspectual domain and then perhaps it is not the SLP itself but rather the fact that it activates the first specifier position of the Asp_LP, let us say, taken by the zero lexical prefix, that forces the marker *SI* to move. Hence the binding domain is formed, once again, between the spec-TP and Asp_LP. In this way, although the SLP is not directly involved in the derivation, it activates the intermediate landing site of the subject in Asp_LP, which is consequently filled by *SI*. This is the process that places standard Lithuanian and dialectal Latvian apart. What does the binding domain comprise exactly? In *all* prefixed forms, regardless of prefixal composition, as we have seen, it is formed between the spec-TP and the Asp_LP, with the marker *SI* taking the second specifier position. In prefixless forms, the

spec- Asp_{LP} position remains unactivated and hence the binding domain is formed between the spec-TP and the remnant verb in the aspectual projection. But apparently the roll-up of Asp and V and the subsequent remnant verbal movement have no effect on the subject since specifier projections, reserved for nominal material only, remain unaffected. Consequently, the subject antecedent does not participate in the process to the effect that binding is naturally stipulated and the marker *SI* resides in its base position – the exact place of where the subject was merged.

Interestingly, the marker *SI* obligatorily raises in prefixed Lithuanian verbs, optionally in prefixed Latvian verbs, and never in prefixed Russian verbs. This row as if suggests that *SI* has retained the strongest bond with its pronominal ancestor in Lithuanian, less so in Latvian, dialectal forms being an older relic (cf. Stolz 2012), and figures *overtly*, as if having lost its properties as a bindee, in Russian.

6.6. *The status of SI*

However, given the indeterminacy of the word (system), the question of the status of *SI* is still to be answered. Essentially, three perspectives are available: *SI* is an affix, a particle (Lith *dalelytė*), a term used in Lithuanian traditional approaches, or a clitic. I have argued against the first view, but what supporting evidence can be offered to favor its status as a clitic? Mobility would seem to be a good reason conducive to, yet not a conclusive view of its clitical nature.

In line with Wackernagel's Law, attributing clitics to the second position, Klavans (1985) establishes three parameters distinguishing a clitic within the cliticization domain based on dominance, precedence, and phonological liaison: 1) whether the clitic appears after the initial, or final element, dominated by the relevant phrase; 2) whether the clitic occurs before, or after its host; 3) whether it is phonologically attached to the preceding element or the following one.

Let us now describe the placement of *SI* relative to the verb in line with Klavans' parameters. *SI* is associated with verb, and hence its cliticization domain is always the verb, v/VP. But relative to the verb, *SI* can appear either after the verb (taken roughly, with tense and agreement morphology on it), or before it; hence the second parameter allows, as Klavans puts it, "dual citizenship" (1985: 104). Notably, *SI* does not have to be phonologically attached to the verb, as in the position following lexical prefixes, and hence can act as a phonological enclitic while being syntactic proclitic to the verb. A common Baltic feature is that *SI* occurring in the stressed position is indicative of the original stress borne by the prefix (Kazlauskas 1968). Following the earlier proposal to regard lexical prefixes as a phase, we get the exactly clitical status of *SI*: faithful to Wackernagel's Law, *SI* appears in the second position (2P), and we will get a very uniform picture, if we postulate that *SI*, the clitic, appears in the second position to the *phase* – usually Asp_{LP}, or v/VP. This is interesting: we see how the notion of the word is getting fuzzy in that, while (lexical) prefixes are perceived as parts of the orthographic word, we already have to make allowance for their alien nature to the verb: they

constitute a phase of their own, hence formally are not obligatory to the verb, as their presence is, first of all, stipulated by meaning considerations. On the other hand, semantics is a strong argument for lexical prefixes to be interpreted as located within the same word rather than constituting a word of their own. This is also what explains why prefixes are “less attached” to the verb than suffixes.

Now *SI* is characterized by the following properties: it is bound by the subject antecedent and it appears as a 2P clitic to a phase. This allows us to define the binding domain of *SI*: it is separated by one phase from its antecedent. Now what about instances when superlexical prefixes come into play? It seems that superlexicals *tebe-*, *nebe-* in Lithuanian have their own phasal status, as their free-standing positions suggest, but more generally, all grammatical/superlexical prefixes are phases of their own in Lithuanian and Latgalian. Apparently, when *SI* relocates under the presence non-clitical SLPs, this can be interpreted as a “last resort” operation. SLP prefixes *should not* bear influence on processes taking place in the TP-v/VP region, and they *do not*, given their high position, as long as they are not the only players involved in the game. Then, since SLPs form one orthographic and phonological word with the verb, they start affecting the morphological structure of the verb “from above”, causing *SI* to relocate to maintain faithfulness to its second position as a clitic, but now to the phonologically zero phase formed by Asp_{LP}. When there are two superlexical clitics in Lithuanian, *SI* seems to only care about the lowest phase-forming prefix. As I have suggested above, it may just need the activation

of the first position to attach to, and there might not be the direct link between the lowest SLP and *SI*, assuming that *SI* takes the second specifier position.

Meanwhile the seemingly affixal nature of *SI* in standard Latvian and Russian is very much clitical, too. Remember an earlier observation that in Latvian and Russian, the relationship between *SI* and the argument seemed to be that of *coreference* rather than binding. We can now apply minimum corrective action: *SI* is a clitic if we state that LPs in these languages do not form a phase of their own and are subsumed under one phase with the v/VP, unlike Lithuanian and Latgalian/dialectal Latvian LPs. Then we get the clitical status of Latvian *-s* and Russian *-sja*. Meanwhile the difference in phasal composition may be taken as an explanation for the differences in aspect strength in the respective languages.

7. A FINAL NOTE: ON THE LEXICALIST DEBATE

We can now consider how Baltic data contribute to the Lexicalist debate. I will first present the lexicalist viewpoint as developed by Williams (2007). As is known, the question is whether processes holding at the word level and those at the phrase level constitute two modular units with the phrasal level starting to operate after all relationships at the word level have been established, hence word processes are internal and not accessible to the phrasal system. The fact that the phrasal anaphor, unlike the lexical anaphor, is separated by a number of other phrases from the antecedent leads Williams to argue for *delayed resolution* holding at the phrasal, but not at the word-level.

A contrasting view is presented in, e.g., Haspelmath (2010) who argues for the indeterminacy of the notion of the word itself, as it is largely influenced by the orthographic tradition (see also Borer 1993, Harley 2010). According to Haspelmath, words and phrases should be seen as forming a single morphosyntactic unit following the same logic and principles. With respect to *SI*, Haspelmath argues against affixal analyses. Constructing a theory of word status, in which mobility is one of the criteria pointing to the fuzziness of the category, Haspelmath suggests that *SI* be viewed as a clitic, similarly to its free-standing counterpart in Polish, which is in line with the analysis of *SI* proposed here.

Returning to the Lexicalist debate, Baltic facts explicitly support the non-Lexicalist perspective. We have seen that *SI* moves before the stem as soon as a prefix is added, whether it be a lexical or a superlexical one. Consequently, SLPs will change their morphemic order and the marker *SI* will be placed immediately preceding the root:

$$60) \text{ SLP} + \text{V-SI} \rightarrow \text{SLP-SI-V}$$

The morphemic layout thus depends on the material which is a) optional, i.e. not required by verbal morphology and therefore b) has clausal properties. The judgment on where *SI* is going to be positioned in the verb is made after the clause-level information has been added, which leads to the conclusion that word level, assuming that the

boundaries of the word are formed by orthography and phonology, is subject to delayed resolution. The Lexicalist perspective does not hold.

8. CONCLUSION

The present article has provided an account for the placement of the marker *SI* in Lithuanian prefixed and prefixless verbs, a long-standing unresolved issue of Lithuanian morphosyntax, and more generally, the placement of *SI* in Baltic and Russian. It has been shown that the marker *SI* acts as a nominal anaphor, obeying Binding Condition A. Given its status, the marker *SI* is merged within the v/VP, depending on the type of the subject argument serving as the antecedent while its position relative to the verb depends on the morphological composition of the verb.

Having first shown the phrasal status of all verbal prefixes in Lithuanian, we divided verbal prefixes into two main groups: lexical and superlexical prefixes. Lexical prefixes derive from prepositions and can contribute both literal and idiosyncratic meanings. They can also change the event structure of the verb as well as affect its argument composition. Meanwhile superlexical prefixes contribute regular temporal or modal meanings and can stack above lexical prefixes. On the basis of these properties, previous research on Germanic particles and Slavic prefixes as well as idiom construction principle outlined in Marantz (1988), the conclusion was made that Lithuanian lexical and superlexical prefixes have different merging positions. Lexical prefixes are first merged below the verb and then move out to the aspectual phrase Asp_{LP} to acquire the

resultative properties. The domain of superlexical prefixes appears as heterogeneous: comprising modal and negative prefixes in Lithuanian and Latvian, as well as a purely aspectual *be-* in Lithuanian; consequently, Baltic superlexical prefixes form a broader category than Slavic (aspectual) superlexical prefixes. The different merging positions of prefixes help account for the fact why the reflexive/reciprocal marker never raises beyond the lexical prefix: as a physically manifest trace of the subject argument, it stays within the material originating within the verbal complex. In addition, the position of the marker *SI* is subject to the principle of the phase: for Lithuanian, the phase is argued to be constituted by Asp_{LP} ; consequently, as soon as it is closed, whether by the lexical prefix in verbs with a single (lexical) prefix; or by the verb itself in prefixless reflexive verbs, or by the marker *SI* in prefixed verbs with a superlexical, but not a lexical prefix, it becomes impenetrable to further operations; therefore, in the case of multiple stacking prefixes, no further replacements of the marker *SI* take place. The status of *SI* has also been specified: it is a second position clitic to a phase in both Baltic and Russian. Finally, the data presented in the article provide evidence against the Lexicalist hypothesis.

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