

# Lexical vs. Nominal Prefixes and Their Meaning Domains\*

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## 1 Introduction

- This study contrasts two homophonous prefixes in Lithuanian, the lexical perfective *pa-* (PRF) (1) vs. the nominal *pa-* (NOMP) (2). The former prefix stands for Inner aspect attested in Slavic languages (Babko-Malaya 1999, Svenonius 2004, inter alia). The latter is a nominal prefix which attaches to (non)bound roots to form nouns like (2a), which then can be verbalized (2b).

(1) **pa-slėp-ti**  
PRF-hide-INF  
'to have hidden'

(2) a. **pa-sak-a**  
NOMP-root-F.SG.NOM  
'a tale'

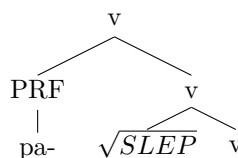
b. **pa-sak-o-ti**  
NOMP-root-v-INF  
'to narrate about'

### Proposal:

- (i) Lexical prefixes in (1) have been analyzed as heads of a VP complement (Dimitrova-Vulchanova 1999, Svenonius 2004). We show that the lexical prefix lacks phrasal properties and propose that it is a morphological element, which is merged with a verbalized root (in line with Basilico 2008).
- (ii) Nominal prefixes in (2) are not perfective, instead they are category-defining heads *n* since they operate on root's meaning space (Marantz 2001, Arad 2005) and assign gender to a noun (Kramer 2015).

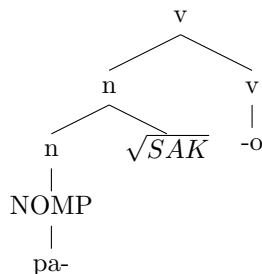
(3) *Perfective verb*

- a. **pa-slėp-ti** - PRF-hide-INF - 'to have hidden'
- b.



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- (4) *Noun-derived verb with nominal prefix*
  - a. pa-sak-o-ti - NOMP-ROOT-v-INF - ‘to narrate about’
  - b.



- Noun-derived verbs with a nominal and lexical prefix stacked on each other providing additional evidence for contextual allosemy (Marantz 2013). A meaning of a root that is excluded when a nominal prefix is merged is not available at the outer phase.
- Lastly, this study contributes to the typology of super-lexical vs. lexical prefixes (Svenonius 2004) by introducing the third layer or prefixes, namely nominal prefixes.
- **Outline:**
  - Section 2 *Super-lexical vs. Lexical Prefixes*
  - Section 3 *Lexical vs. Nominal Prefixes*
  - Section 4 *Allosemy and Meaning Domains*
  - Section 5 *Conclusion*

## 2 Super-lexical vs. Lexical Prefixes

Lexical prefix is a *vP* internal element which is tightly integrated into the verbal structure, whereas *super-lexical* prefixes originate above a *vP* (Babko-Malaya 1999, Di Sciullo & Slabakova 2005, Romanova 2004, 2006).

### 2.1 Meaning and Prefix stacking

- Table 1 gives an updated template (Arkadiev 2012:2) of Lithuanian prefixes that can be attached to a verb.

Super-lexical			Lexical			
Permissive, Restrictive, Affirmative	Negation	Aspectual meaning	Aktionsart	Reflexive	Nominal Prefix	Root
Te-	Ne-	Be-	į, iš-, per-, su-, ap-, pa-, nu-, pri-, etc	-si-	į, iš-, per-, su-, ap-, pa-, nu-, pri-, etc	Root

- *Super-lexical* prefixes have a fixed non-idiosyncratic meaning.

- (5) *Te*-permissive meaning

Tas kuris slepiasi – **te**-si-slepia.  
 That.NOM which.NOM hide.PAS-PRT – **TE**-RFL-hide-PRS.3

‘Let the one who is hiding, hide.’

(6) *Be-* progressive meaning

Net ap-siašarojau **be**-si-slėpdama  
 Even PRF-shed-tears.PST.1 **BE**-RFL-hide.PRT

‘I even shed a few tears while hiding.’

- *Lexical prefixes* often shift the meaning of a verb.

(7)	a. slėp-ti hide-INF ‘to hide’	b. pa-slėpti PRF-hide ‘to have hidden’	c. nu-slėpti PRF-hide ‘to conceal’
(8)	a. bėg-ti run-INF ‘to run’	b. pa-bėgti PRF-run ‘to run away’	c. nu-bėgti PRF-write ‘to run down/for’

- *Lexical prefixes* originate lower than super-lexical prefixes.

(9)	a. <b>pa</b> -si-slėp-iau PRF-RFL-hide.PST.1.SG ‘I have hidden myself.’
	b. ne-be- <b>pa</b> -si-slėpiaiu NEG-BE-PRF-RFL-hide.PST.1.SG ‘I was not able to hide myself’
	c. *ne- <b>pa</b> -be-si-slėpiaiu NEG-PRF-BE-RFL-hide.PST.1.SG
	d. * <b>pa</b> -ne-be-si-slėpiaiu PRF-NEG-BE-RFL-hide.PST.1.SG

## 2.2 Compound Tense and Inseparability

- Evidence from compound tense shows that lexical prefix always attaches to a lexical verb (10a) and its separability from the verb is not possible (10b-10c).

(10)	a. Jis nėra <b>pa</b> -si-slėpės. He.NOM NOT-be.PRS.3 PRF-RFL-hide.PRT.SG ‘He hasn’t hidden himself yet.’
	b. *Jis nėra dar slėpėsis <b>pa</b> He.NOM NOT-be.PRS.3 yet hide.PRT.SG-RFL PRF ‘He has not hidden himself yet.’
	c. *Jis <b>pa</b> -yra dar ne-si-slėpės He.NOM PRF-be.PRS.3 yet NOT-RFL-hide.PRT.SG ‘He has not hidden himself yet.’

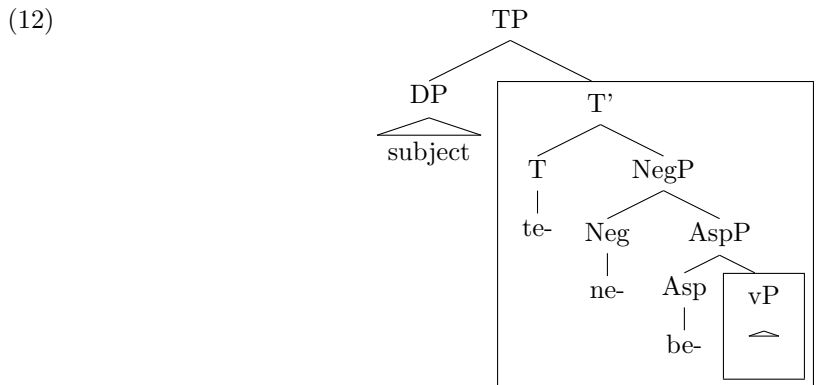
## 2.3 Secondary Imperfectivization

- Lexical prefixes have a perfective meaning which can be undergo secondary imperfectivization by adding an imperfective suffix *-inė-*. In Slavic, an imperfective suffix is argued to originate in AspP above a quantized VP (Istrakova 2005).

- (11) a. Jis pa-slėpė daiktus.  
HE.NOM PRF-hide.PST.3 stuff  
'He has hidden stuff.'
- b. Jis nuolatos pa-slėp-inė-jo daiktus.  
He.NOM always PRF-hide-**IMPR**-PST.3 stuff.  
'He used to always hide stuff.' (repetitively)

### 2.4 Domains

- Super-lexical prefixes are outside a *vP*, while lexical prefixes are inside *vP*.



### 3 Lexical vs. Nominal Prefixes

- Nominal prefixes are homophonous with lexical perfective prefixes (e.g., *pa-*). Despite their identical morphology, both classes exhibit divergent properties.
- Nouns can be derived by merging a bound root (13a) or a non-bound root (14a) with a prefix. These nouns can be verbalized by putting verbalizers like *-o-* or *-au-* as in (13b-14b).

- (13) a. \*(pá)-sak-a  
NOMP-root-F.SG.NOM  
'a tale'
- b. \*(pá)-sak-o-ti  
NOMP-root-v-INF  
'to narrate about'

- (14) a. pa-taĩk-a  
NOMP-peace-F.SG.NOM  
'toady (n)'
- b. pa-taik-áu-ti  
NOMP-peace-v-INF  
'to toady'

- Lexical prefixes most of the time are optional and often have a transparent perfective meaning.

- (15) a. slėp-ti  
hide-INF  
'to hide'
- b. (pa)-slėp-ti  
PRF-hide-INF  
'to (have) hide(den)'

- Nominal prefixes can be stressed in nouns, perfective prefixes most of the time lack stress<sup>1</sup> (see also the same stress patterns with lexical prefixes in Czech (Zitkova 2012, Caha & Zitkova 2016)).

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<sup>1</sup>Note that there is a number of exceptions to this stress pattern e.g., *už-gául-ė* - an insult vs. *už-gaul-ió-ti* - 'to insult'

- (16) a. pá-raš-as  
NOMP-write-M.SG.NOM  
'a signature'
- b. pa-raš-ý-ti  
PRF-write-v-INF  
'to have written'
- (17) a. pá-stat-as  
NOMP-build-M.SG.NOM  
'a building'
- b. pa-stat-ý-ti  
PRF-build-v-INF  
'to have built'
- (18) a. ĵ-tais-as  
NOMP-fix-M.SG.NOM  
'a device'
- b. ĵ-tais-ý-ti  
PRF-fix-v-INF  
'to fix', 'to have fixed'

- Perfective prefixes can only be stacked on a verbal(ized) root (cf.19-20) and nominal prefixes are attached to a nominal root first (20).

- (19) a. dūr-ti  
stab-INF  
'to stab'
- b. pa-dūr-∅-ti  
PRF-stab-v-INF  
'to have stabbed'
- c. pa-dūri-∅-mas  
PRF-stab-v-N  
'stabbing'

- (20) a. dūr-is  
stab-M.SG.NOM  
'a stab'
- b. \*pa-dūr-is  
PRF-stab-M.SG.NOM  
Intended: 'a stab'

- (21) a. pá-sak-a  
NOMP-root-F.SG.NOM  
'a tale'
- b. pá-sak-o-ti  
NOMP-root-v-INF  
(i) 'to narrate about', (ii) \*'to have narrated about'

- The lexical prefix has a perfective meaning in the past tense, while the nominal prefix allows a continuous reading.<sup>2</sup>

- (22) a. Aš pa-sak-o-jau jai apie savo problemas.  
I.NOM NOMP-ROOT-v-PST.1.SG her.DAT about self problems.ACC  
(i) 'I was telling her about my problems.' (ii) \*'I have told her about my problems.'
- b. Aš pa-slėp-iau skėtį.  
I.NOM PRF-hide-PST.1.SG umbrella.ACC  
(i) 'I have hidden an umbrella' (ii) \*'I was hiding an umbrella.'

- In noun-derived verbs with a nominal prefix the reflexive *-si-* appears at the end (23a), while in root-derived verbs with a perfective prefix, *-si-* occurs between a perfective prefix and a root (23b).<sup>3</sup>

<sup>2</sup>Observe that some verbs in fact can be bi-aspectual despite the presence of an aspectual lexical prefix, e.g., par-eina - PRF-go.PRS.3 - 'he/she is coming' or 'he comes back' (Arkadiev 2011).

<sup>3</sup>In verbs with nominal prefixes, *-si-* does not occur as a suffix across the board. Some speakers allow *-si-* between the nominal prefix and the verb. My consultants accept (1a), but judged (1b) as ungrammatical. The corpus search (www.tekstynas.lt) shows that (1b) is possible for some speakers.

- (1) a. pa-žin-au-si  
NOMP-žin-PST.1.SG-RFL  
'I was getting to know smb/smth by myself'
- b. %pa-si-žin-au  
NOMP-RFL-žin-PST.1.SG

- (23) a. pa-(\*si)-sak-o-jau-si  
NOMP-RFL-root-v-PST.1.SG-RFL  
'I was narrating about something by myself.'
- b. pa-si-slėp-iau-(\*si)  
PRF-RFL-hide-PST.1.SG  
'I have hidden myself'

- Nominal prefixes can be combined with aspectual lexical prefixes (24), while pure aspectual lexical prefixes do not reiterate (25).

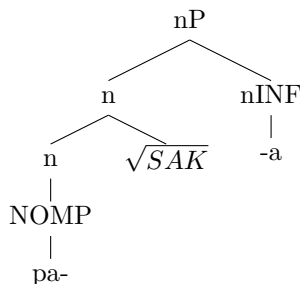
- (24) pa-si-pa-sak-o-ti  
PRF-RFL-NOMP-sak-v-INF  
'to have narrated about something by oneself'

- (25) (\*pa)-pa-si-slėp-ti  
PRF-PRF-RFL-hide-INF  
'to have hidden oneself.'

### 3.1 Analysis of Nominal Prefixes

- **Phase Category-defining heads**, at least *v,n,a* (Marantz 2001, 2007) and C.
- Nominal Prefixes are category defining heads which are directly attached to the root.

- (26) a. pa-sak-a - NOMP-ROOT-F.SG 'a tale'
- b.



- Kramer (2015) argues that a category-defining head *n* has a gender feature that is assigned to a noun. Nominal prefixes like category heads change the noun's gender.

- (27) a. kaln-as  
mountain-M.SG  
'a mountain'
- b. pa-kalnė  
NOMP-mountain-F.SG  
'a foot of a mountain'

- (28) a. stog-as  
roof-M.SG  
'a roof'
- b. pa-stog-ė  
NOMP-roof-F.SG  
'a garret'

- Marantz (2003) and Arad (2005) argue that a root is assigned a meaning once it is merged with a categorizing head. The nominal prefix like a categorizing head serves as a pointer to a meaning space available for that root.

– The meaning of a bound root is assigned when it merges with a prefix.

- (29) a. pá-sak-a - a tale<sup>4</sup>  
b. \*sak-a

- (30) a. pá-gir-ios - a hangover  
b. ??gir-ios

– One type of bound root can be combined with different types of prefixes which pick different meanings for the root.

- (31) a. \*gául-ė  
b. už-gául-ė  
NOMP-gaul-SG.F.NOM  
'insult'
- c. už-gaul-ió-ti  
NOMP-gaul-v-INF  
'to insult'

- (32) a. ap-gául-ė  
NOMP-gaul-SG.F.NOM  
'deception'
- b. ap-gaul-ió-ti  
NOMP-gaul-v-INF  
'to deceive'

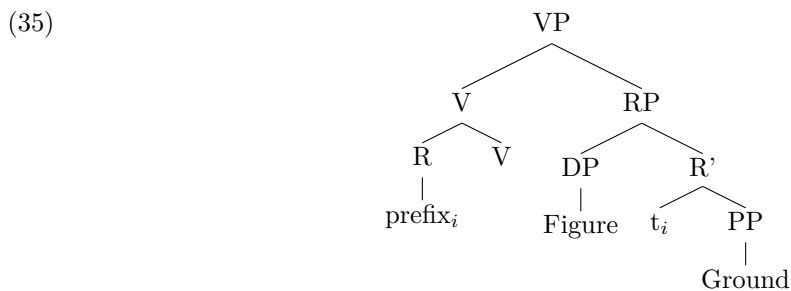
- Lastly, the prefix can also compose an idiosyncratic meaning which in Marantz (2001) is taken as evidence for a head to be directly attached to the root (inner phase).

- (33) a. slaug-a  
nursing-F.SG  
'nursing' (n)
- b. pa-slaug-a  
NOMP-nursing-F.SG  
'a favor'

- (34) a. taika  
peace-F.SNG  
'peace'
- b. pa-taika  
NOMP-peace-F.SNG  
'toady' (n)

### 3.2 Analysis of Lexical Prefixes

- Aspectual lexical prefixes *su-*, *pa-*, *iš-*, *nu-*, etc are vP internal elements and stand for Inner Aspect (Svenonius 2004). They have been argued to be parts of a complement of a VP (Dimitrova-Vulchanova 1999, Babko-Malaya 1999, Svenonius 2004).<sup>5</sup>



<sup>4</sup>One may wonder how do we know whether these prefixes are decomposable to begin with. In other words, why can't we assume that *pa* and *sak* is just one root e.g.,  $\sqrt{PASAK}$ ? I rule out this analysis because even though  $\sqrt{SAK}$  is bound and has no meaning, it still can appear in a number of other words e.g., *sak-in-ys* - a sentence, *sak-y-ti* - to tell, *sak-y-to-jas* - a story teller.

<sup>5</sup>These prefixes are homophonous with preposition. However, see Šereikaitė (2016) showing that prefixes cannot be treated as prepositions.

- Table 2 provides a summary of lexical prefix/particle behaviour across Slavic, Germanic and Baltic.

	Slavic (Russian, Bulgarian)	Germanic (English, German)	Baltic (Lithuanian)
Spacial senses	✓	✓	✓
Idiomatic senses	✓	✓	✓
Adds extra argument	✓	✓	✓
Telicity	✓	some verbs telic	some prefixes always add telicity

- While perfective prefixes have been argued to be parts of the complement of a VP, we argue that they are directly merged with a verbalized root.

### 3.2.1 Comparison with Small clauses

- If lexical prefixes are parts of a VP complement, they should pattern in a similar manner to small clauses.
- Small clauses can be modified, while lexical prefixes attached to a verb cannot.

(36) Jonas nudažė sienas per tamsiai.  
Jonas.NOM paint.PST.3 walls.ACC too dark.  
'Jonas has painted the walls too dark.'

(37) Jis (??tiesiai) ė-nešė daiktus (tiesiai) į kambarį.  
He.NOM (straight) PRF-carried stack (straight) in room.ACC  
'He carried the stack right into the room.'

- Prefixes do not allow coordination, while small clauses do.

(38) Ji nu-spalvino dramblių juodai ir raudonai  
She.NOM PRF-colour.PST.3 elephant black and red  
'She coloured an elephant black and red.'

(39) \*Ji ė- and iš-nunešė obuolius.  
She PRF- and PRF-carry.PST.3 apples.ACC  
'She carried the apples in and out.'

### 3.2.2 Evidence from German particles

Lexical Prefixes, unlike German particles<sup>6</sup>, lack phrasal properties<sup>7</sup>.

- **Topicalization.** German particles can be topicalized, while Lithuanian lexical prefixes cannot.

(40) a. **An** der Haltestelle stiegen hübsche Frauen ein. **Aus** stiegen nur Männer.  
at the bus.stop climbed pretty women in. out climbed only men  
'At the bus stop, pretty women got on. Only men got off' (Zeller 2001:89)  
*German*

<sup>6</sup>The German data used in these tests are accepted for speakers only under special discourse environments

<sup>7</sup>The diagnostics used in this section are taken from Svenonius' paper (2008:533-534) where he argues that Russian lexical prefixes are in fact phrasal.



- b. Į autobusą į-lipo gražios moterys. \*Iš tiktai vyrai  
 In bus.ACC PRF-climbed pretty women.NOM. PRF only men.NOM  
 lipo.  
 climbed

– **Focus Scrambling.** German particles can be scrambled, while Lithuanian prefixes cannot.

- (41) a. Ich weiß, daß, die Sonne **AUF** im Osten und **UNTER** im Westen  
 I know that the sun up in.the East and down in.the West  
 geht.  
 geht.  
 ‘I know that the sun goes up in the East and down in the West.’ (Lüdeling 2001:50)

- b. \*Upė į- vakaruose teka ir iš- rytuose teka.  
 River PRF West flows and PRF East flows.  
*Lithuanian*

– **Gapping.** Prefixes cannot be stranded by gapping, while particles can.

- (42) a. weil Peter ein-steigt und Hans aus-(steigt)  
 because Peter in-climbs and Hans out-climbs  
 ‘because Peter climbs in and Hans (climbs) out’ (Zeller 2001:85)
- b. Jonas į-lipo, o Petras iš-\*(lipo).  
 Jonas.NOM PRF-climbed, and Petras.NOM PRF-(climbed)  
 ‘Jonas got in, and Petras got out.’

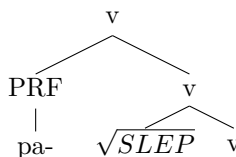
– Not every prefix introduces a new argument. Unaccusative verbs (43) take a perfective prefix while their argument structure does not change.

- (43) Jonas nu-mirė.  
 Jonas.NOM PRF-die.PST.3  
 ‘Jonas died.’

- **Analysis:** Lexical prefix directly merges with a verbalized root which makes better predictions for productive word formation and idiosyncratic meaning which can be encoded if we assume PIC2. (see Basilico (2008) for similar approach and how semantics can be derived for this type of analysis).

(44) *Perfective verb*

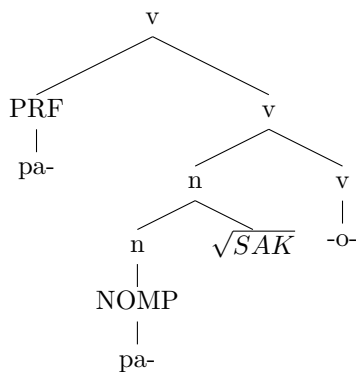
- a. pa-slėp-ti - PRF-hide-INF - ‘to have hidden’
- b.



(45) *Noun-derived verbs*

- a. pa-pa-sak-o-ti  
 PRF-NOMP-root-v-INF  
 ‘to have narrated about’

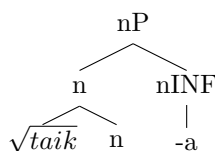
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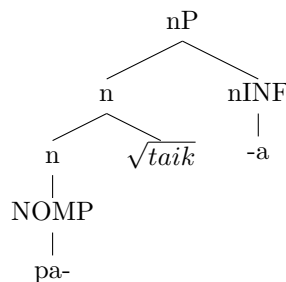
## 4 Allosemy and Meaning Domains

- **Phase locality and meaning** (Marantz 2013; Arad 2003, 2005): A meaning of a root that has been excluded at an inner phase head is unavailable at an outer phase head.

- (46) a. taik-a  
 peace-F.SG.NOM  
 ✓ a peace

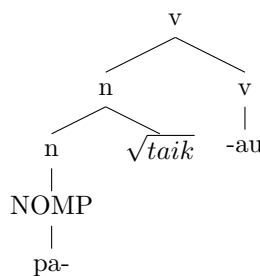


- b. pa-taik-a  
 NOMP-peace-F.SG.NOM  
 \* peace, ✓ 'toady (n)'

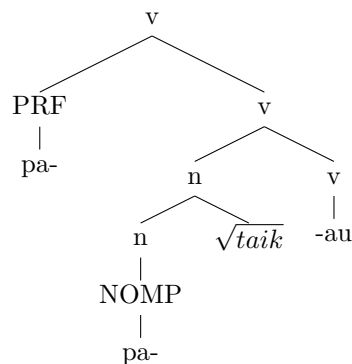


- Once a particular interpretation of the root has been ruled out as in (46b), it cannot be returned at an outer cycle when a verbalizer (47a) and lexical prefix are merged as indicated in (47b).

- (47) a. pa-taik-au-ti  
 NOMP-peace-v-INF  
 \* peace, ✓ 'to toady'



- b. pa-pa-taik-au-ti  
 PRF-NOMP-peace-v-INF  
 \* peace, ✓‘to have toadied’



## 5 Conclusion

- This study illustrates structural variations within the system of particle/prefix verbs: phrasal vs. non-phrasal.
- Treating Lithuanian prefixes as non-phrasal makes better predictions for prefixed verbs: explains inseparability and productive word formation.
- We give additional evidence for the lexical and super-lexical prefix distinction from Baltic supporting the typological template proposed by Svenonius (2004) and introduce the third layer of prefixes, namely nominal prefixes.
- Lexical prefixes can be ambiguous since they overlap in their form with the nominal prefixes. However, we have shown that nominal prefixes are category defining heads unlike the lexical prefixes, which make correct predictions for contextual allosemy.

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