The Reanalysis of Lithuanian Reflexive *-si-*:
A DM Approach

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1. Introduction

The Lithuanian reflexive *-si-* appears as a suffix in unprefixed verbs (1a) and as a prefix in prefixed verbs (1b). *-si-* has been argued to show second position effects (Nevis & Joseph, 1993; Embick & Noyer, 2001). In prefixed verbs with one prefix (1b), verbs with negation (2a) or what has been defined as two prefixes, *su-* and *pa-*, (2b) *-si-* seems to be adjacent to the leftmost prefix.

(1)   a. slėp-iau-**si**
         hide-PST.1.SG-RFL
         'I was hiding myself.'

      b. pa-**si**-slėp-iau
         PRF-RFL-hide-PST.1.SG
         'I have hidden myself.'

(2)   a. ne-**si**-lenk-iau
         NOT-RFL-bow-PST.1.SG
         'I did not bow by myself.'

      b. su-**si**-pa-žin-au
         PRF-RFL-PS-know-PST.1.SG
         'I have become acquainted with.'

This paper argues that in prefixed verbs *-si-* is not a second position clitic. New data from prefix stacking demonstrate that after linearization *-si-* in prefixed verbs is always attached to the root. We distinguish the aspectual, so-called lexical, prefixes *pa-* in (1b) and *su-* in (2b) from the pseudo-prefix *pa-* (2b)[1], the former has a transparent perfective meaning, the latter is a part of a complex root and has a non-transparent meaning. Lexical prefixes originate inside a *v*P (Svenonius, 2004), while *-si-* is a valency reducing morpheme which starts off in VoiceP above a *v*P (Schäfer, 2008; Wood, 2015). We argue that the preverbal and postverbal placement of a clitic[2] requires two different initial linear positions and an assumption that Local Dislocation (LD) can manipulate the output of syntax at PF. However, LD manipulates only certain kinds of sub-words i.e., only aspectual prefixes, not pseudo-prefixes showing that LD at the sub-word level is restricted.

2. Previous Analysis

Embick & Noyer (2001) use the placement of *-si-* to illustrate the interaction of LD at the sub-word level. According to this analysis, the sub-word *-si-*, a part of a morphological word (M-word), is linearized as the leftmost element in the M-word. To capture the mismatch between the syntactic output and the linear representation, the clitic undergoes LD with an adjacent sub-word, a prefix, as illustrated in (3). This correctly predicts cases with negation (2a) and aspectual prefixes (2b).

(3)   a. *Input*:[-**si**- [Prefix+Prefix+V+T]]   b. *Output*: [Prefix+-**si**-+Prefix+V+T]

In the case of (1a) where the reflexive occurs at the end of the verb the verbalized root V and the inflection T complex is considered to be a one single unit impenetrable to LD. To derive a correct linear representation, *-si-* undergoes LD with V+T complex as in (4).

(4) a. *Input*: [**-si-** [V+T]]   b. *Output*: [[V+T] **-si-**]

Consider now different possible combinations that Embick & Noyer's (2001) analysis predicts. In cases where both negation and lexical prefix are present *-si-* is predicted to occur between them as in (5a). If more than two prefixes are attached to a verb, *-si-* should be right adjoined to the left peripheral sub-word as in (5b). However, in the next section we demonstrate that *-si-* is always adjacent to V, even in the case of (5), and the predictions made by this analysis are empirically incorrect.

(5) a. Neg-**-si-**-Prefix-V-T   b. Prefix-**-si-**-Neg-Prefix-V-T

3. Arguments for a New Analysis
3.1. Prefix Stacking

Prefix stacking shows that *-si-* does not always occur as a second position clitic. (6) gives a template of the order of Lithuanian prefixes. *te-* and *be-* are so-called super-lexical prefixes (Svenonius, 2004; Romanova, 2005; Babko-Malaya, 1999): these prefixes have a fixed non-idiosyncratic meaning and do not change the argument structure of a verb. *te-* has a permissive reading while *be-* has a progressive meaning presenting Outer Aspect (Travis, 2010). The negation prefix occurs between *te-* and *be-*. In instances with one super-lexical prefix as in (7), *-si-* is always realized next to the leftmost sub-word as predicted by the analysis in (3). Once more than one super-lexical prefix is added, *-si-* appears standing next to the root as exemplified in (8), which contradicts with the predictions in (5).

(6) [TP te- [NegP ne- [AspP be- [vP Lexical Prefix [Root-v]

(7) a. be-**si**-slepia
        BE-RFL-hide-PRS.3.SG
        'He/she is still hiding by himself/herself.'

    b. ne-**si**-slepia
        NOT-RFL-hide-PRS.3.SG
        'He/she is not hiding by himself/herself.'

    c. te-**si**-slepia
        TE-RFL-hide-PRS.3.SG
        'Let him/her hide himself/herself by himself/herself.'

(8) a. ne-be-**si**-slepia
        NOT-BE-RFL-hide-PRS.3.SG
        'He/she is not hiding by himself/herself.'

    b. te-ne-be-**si**-slepia
        TE-NOT-BE-RFL-hide-PRS.3.SG
        'Do not let him/her hide himself/herself.'

Aspectual perfective prefixes[3], also known as lexical prefixes, stand for Inner Aspect (Travis 2010), originate inside a vP and are preceded by super-lexical prefixes (Svenonius, 2004; Šereikaitė, 2016). Lexical prefixes not only encode perfectivity, but also perform a number of other functions like

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[3] Lithuanian has eight different lexical prefixes: *ap-*, *į-*, *iš*, *nu-*, *pa-*, *per-*, *pri-*, *su-* (Ambrazas et al., 1997). These prefixes and prepositions seem to be almost identical in their forms. However, Šereikaitė (2016) argues that lexical prefixes differ from prepositions in a number of ways and cannot be treated as copies of prepositions on the contrary to what as has been proposed for Slavic lexical prefixes in (Biskup, 2012)).

transitivize intrasitive verbs or add a spacial sense to a verb. If both negation and lexical prefix are present, *-si-* sticks to V as in (9a). The same pattern is realized in instances with both super-lexical and lexical prefixes (9b) showing that *-si-* does not exhibit second position effects as was considered before.

(9) a. ne-pa-**si**-slėp-iau
         NOT-PRF-RFL-hide.PST.1.SG
         'I have not hidden myself.'

     b. ne-be-pa-**si**-slėpiau
         NOT-BE-PRF-RFL-hide.PST.1.SG
         'I was not able to hide myself'

3.2. Lexical vs. Pseudo-Prefix

One of the main arguments for *-si-* as a second position clitic is its occurrence between two prefixes in examples like (2b) repeated here in (10a). However, the prefix *pa-* in (10a) is not a regular lexical prefix, but a pseudo-prefix which has a non-transparent meaning and forms a complex root with a bound root. In contrast, *pa-* in (10b) is an instance of a typical lexical prefix since it has a transparent perfective meaning and does not obligatorily require a bound root.

(10) a. su-**si**-pa-žin-au   b. pa-**si**-slėp-iau
          PRF-RFL-PS-know-PST.1.SG   PRF-RFL-hide-PST.1.SG
          'I have become acquainted with.'   'I have hidden myself.'

Pseudo-prefixes in a past tense have a continuous reading (11a), while lexical prefixes do not allow this reading (11b) and instead express perfectivity.

(11) a. Pa-žinau-**si**   su   nepažįstamu pasauliu.
          PS-know-PST.1.SG.RFL   with unknown   world
          'I was getting to know the unknown world by myself.'

      b. Pa-slėpiau   laišką.
          PRF-hide.PST.1.SG letter
          (i) 'I have hidden the letter.' (ii) *'I was hiding the letter.'

Pseudo-prefixes behave like parts of roots. They obligatorily occur with bound roots (12a). Aspectual prefixes are optional and can be separated from their host (12b).

(12) a. *(pa)-žin-ti   b. (pa)-slėp-ti
          PS-know-INF   PRF-hide-INF
          'to get to know smb/smth'   'to (have) hide(en)'

-si- cannot intervene between the pseudo-prefix and the root (13a)[4], which is not the case with aspectual prefixes (13b).

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[4] Thanks to Peter Arkadiev (pc) for pointing out that in some texts pa-si-žinti is actually possible. While my consultants find this ungrammatical, it might be that the placement of -si- in this case is a dialectal variation. Also note that there exists another group of verbs which together with regular lexical prefixes can in fact form a non-transparent meaning as in (1). However, these prefixes, despite the idiosyncratic meaning, do behave like regular lexical prefixes and must be left for further research.

(1) a. pa-dėti   b. iš-duoti
         PRF-put   PRF-give
         (i) 'to put down', (ii) 'to help'   'to betray'

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

b. pa-**si**-slėp-iau-(*si*)
PRF-RFL-hide-PST.1.SG
'I have hidden myself.'

Pseudo-prefixes combine with aspectual prefixes (14a), while aspectual prefixes do not (14b).

(14) a. su-**si**-pa-žin-au
PRF-RFL-PS-know-PST.1.SG
'I have become acquainted with.'

b. *su-pa-**si**-slėp-iau
PRF-PRF-RFL-hide-PST.1.SG
'I have hidden myself.'

To capture the idiosyncratic meaning encoded by pseudo-prefixes, we follow Arad (2003) and assume that the root is assigned interpretation once it is combined with a functional head. Hence, a pseudo-prefix and a root are merged first, and that is when the idiomatic meaning is assigned. This complex then merges with a functional head, in this case a verbalizer v as in (15).

(15)

```
                        v
              ┌─────────┴──────┐
          ┌───┴───┐            v
    Pseudo-prefix  Root
```

4. Aspectual Prefixes

In order to know where -*si*- is located in syntax, it is necessary to locate lexical prefixes first. Aspectual lexical prefixes stand for Inner Aspect and are often analyzed as phrasal complements XP to a VP (Svenonius, 2004; Dimitrova-Vulchanova, 1999; Babko-Malaya, 1999). In addition to a perfective meaning, they introduce a new argument (cf.16a-16b), make an optional argument obligatory (cf.17a-17b) and have spacial (cf.18a-18b(i)) or idiomatic readings (cf.18a-18c(ii)) which are typical functions of lexical prefixes crosslinguistically (Svenonius 2004).

(16) a. verkiau   *visas ašaras
cry-PST.1.SG all   tears.ACC
Intended 'I cried out all tiers.'

b. iš-verkiau   *(visas   tears.ACC)
PRF-cry-PST.1.SG (all   tears.ACC)
'I cried out all tiers.'

(17) a. plaukiau   (iš   įlankos)
swim.PST.1.SG (from bay)
'I was swiming out of the bay.'

b. iš-plaukiau   *(iš   įlankos)
PRF-swim-PST.1.SG (from bay)
'I have swum out of the bay.'

(18) a. tekėti - 'to flow '

b. iš-tėti - (i) 'to flow out', (ii) 'to get
married'

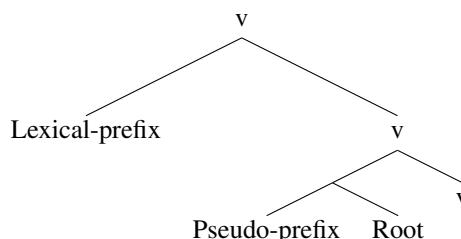Treating prefixes as heads of complements is an attractive analysis because it can explain transitivization. However, these prefixes, unlike German separable particles (Zeller, 2001), lack phrasal properties: they cannot be topicalized, coordinated, undergo focus scrambling or be modified (see Šereikaitė (2016) for concrete examples). Additionally, not every prefix introduces a new argument. Some unaccusative verbs take a perfective prefix and their argument structure does not change as in (19). These prefixes also seem to function more like parts of words since they can undergo a productive word formation as illustrated in (20).

(19) Ji   mirė/nu-mirė.
He.NOM die/PRF-die.PST.3
'He died'

(20) a. iš-nešti - 'to bring   b. iš-neštas - 'brought   c. iš-nešimas - 'bring-
          out'   out.PRT.M.SG'   ing out'

Although aspectual prefixes are VP-internal elements, they are clearly non-phrasal. Hence, these types of prefixes can be treated as morphological objects which form a complex predicate with a verbalized root via direct merge as demonstrated in (21). This type of analysis would make better predictions: it explains their inseparatiblity, word formation and non-phrasal behavior.

(21)

```
                        v
                       / \
                      /   \
           Lexical-prefix   v
                           / \
                          /   \
                         /     v
                Pseudo-prefix  Root
```

5. The syntax of -si-

So far we have identified the location of pseudo-prefix and lexical prefix apart from *-si-* itself. Note that the reflexive is never realized on a T element and instead always attaches to a lexical verb as evidenced by cases with a compound tense (22).

(22) a. Jie nėra   pa-**si**-rengę   keliauti.
          They NOT-be.PRS.3 PRF-RFL-prepare travel
          'They are not ready yet to travel.'

      b. Jie yra   ne-pa-**si**-rengę   keliauti.
          They be.PRS.3 NOT-PRF-RFL-prepare travel
          'They are not ready yet to travel.'

While *-si-* never raises to T element, it seems to originate above a vP most likely in VoiceP because it behaves like a valency-reducing clitic. Like Icelandic *-st-* and German *sich*, *-si-* causes the loss of one of the arguments as for example in anticausatives[5]. Anticausatives as in (23b) lack an implicit external argument, but like passives (23c) have a nominative theme argument. Following Schäfer (2008) and Wood (2015), we take that anticausatives have an empty expletive Voice head with *-si-* as a specifier which is not interpreted thematically (24). Since SpecVoiceP in anticausatives, as in passives (25), is not occupied by a syntactically full-fledged external argument, no accusative case can be assigned to a theme argument and instead it receives a nominative case from T.
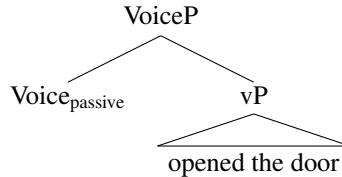
(23) a. Petras   ati-darė   duris.   *Causative*
          Petras.NOM PRF-open.PST.3 door.ACC
          'Petras opened the door.'

      b. Durys   at-**si**-darė   (*Jono). *Anticausative*
          Door.NOM PRF-RFL-open.PST.3 Jonas.GEN
          'The door opened (*by Jonas).'

      c. Durys   buvo ati-darytos   Jono.   *Passive*
          Door.NOM.F.SG be.PST PRF-open.PRT.F.SG Jonas.GEN
          'The door was opened by Jonas.'

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[5] For more on different functions of *-si-* see (Geniušienė, 1987)

(24)

VoiceP

-si-　　Voice'

Voice$_{expletive}$　　vP

opened the door

(25)

VoiceP

Voice$_{passive}$　　vP

opened the door
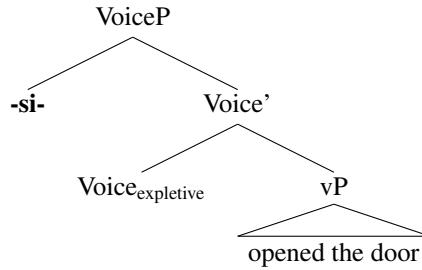
6. Towards an Analysis

We develop a two-step analysis with two initial linear positions. If the host has no prefix, *-si-* is linearized as a suffix after T. If the host has a prefix, *-si-* is linearized as a prefix. Hence, in prefixed verbs like (26a) *-si-* is linearized as a prefix (26b) and, to derive a correct surface form, it undergoes LD with another sub-word, the lexical prefix *su-* (26c). LD selects only for lexical prefixes and never for pseudo-prefixes which are parts of the roots.

(26)　a.　su-**si**-pažinti - 'to become acquainted with someone'
　　　b.　 *-si-* [Lexical-Prefix +Pseudo-Prefix+V+T]
　　　　　After Linearization
　　　c.　[Lexical-Prefix + *-si-*+Pseudo-Prefix+V+T]
　　　　　After LD

In unprefixed verbs like (27a), *-si-* cannot undergo LD with [V+T] complex (27b) as in (27c) because a number of other types of suffixes like verbalizers *-ė-* (28a) or causative suffixes *-in-* (28b) intervene between V and T making it a complex morphological word rather than a single sub-word. Given Embick & Noyer (2001) theory, we would predict that LD operating at a sub-word level would place *-si-* between a root and a causative suffix or a verbalizer which derives wrong output (cf.28b-29). If the assumption about two inital positions for *-si-* is correct, then in the case where no prefix is realized on a host the reflxive *-si-* should be linearized as a suffix and no LD operation or treatment of V+T as an impenetrable unit is needed.

(27)　a.　slėp-iau-si - 'I was hiding myself.'
　　　b.　*Input:* [*-si-* [V+T]
　　　c.　*Output:* [[V-T] -*-si-*]

(28)　a.　biaur-ė-jo-si
　　　　　disgust-v-PST.3.SG-RFL
　　　　　'He/she was disgusted by smth'
　　　b.　aug-in-a-**si**
　　　　　grow-CAUSE-PST.3.SG-RFL
　　　　　'He/she is growing something by himself/herself'

(29)　a.　*Input:*[*-si-* [Root+CAUSE+T]]
　　　b.　*Output:**[Root+ *-si-* + CAUSE+T]

7. Conclusion

This paper demonstrates that Lithuanian reflexive *-si-* is not a second-position clitic and proposes a new account with two initial linear positions for its preverbal and postverbal placement. The new data presented here give additional evidence for the implementation of LD and show that LD at sub-word level is rather restricted since in certain cases it is sensitive only to certain kinds of sub-words. This study also draws a distinction between super-lexical and lexical prefix and provides extra support for Svenonius' (2004) template of aspectual lexical prefixes proposed for Slavic languages. In addition to super-lexical vs. lexical prefix distinction, we introduce pseudo-prefixes which are parts of complex roots.

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