

Prefix stacking, syncretism, and the syntactic hierarchy

Bartosz Wiland (University of Poznań)*

1. Introduction

Two observations can be made in the domain of Polish super-lexical prefixes.¹ First, out of many stacking possibilities, only some patterns are attested, while others are impossible, as for instance in the following:²

- (1) po-prze-pisywać, po-na-stawiać, na-prze-pisywać, po-na-brajać, etc.
DIST-REP-write DIST-CUML-set SAT-REP-write DELIM-SAT-prank
(2) *prze-po-pisywać, *na-po-stawiać, *prze-na-pisywać, *na-po-brajać, etc.

Second, syncretic prefixes do not stack, except the syncretic prefix *po-*. That is, repetitive, excessive, and perdurative *prze-* can stack with other prefixes as in (3), but not with one another, as in (4).

- (3) a. po-prze-rabiać b. po-prze-krzykiwać c. na-prze-siadywać
DIST-REP-make DIST-EXC-shout DIST-PERD-sit
‘to remake’ ‘to outshout’ ‘to sit for a long time’
(4) a. *prze-prze-rabiać b. *prze-prze-krzykiwać c. *prze-prze-siadywać

Likewise, cumulative and saturative *na-* can stack with other prefixes but not with one another, as in (5) and (6).

- (5) a. po-na-krajać b. po-na-pijać się c. etc.
DIST-CUML-cut DIST-SAT-drink REFL
‘to cut extensively’ ‘drink to the full’
(6) a. *na-na-krajać b. *na-na-pijać się c. etc.

* Many thanks to the organizers and the audiences at the Workshop on Slavic Prefixes and Prepositions at FDSL 8.5 in Brno in November 2010, the Syn&Sin Meeting at Adam Mickiewicz University in Poznań in December 2010, and FASL 20 at MIT in May 2011. I am also indebted to the reviewer for comments. Needless to say, all errors are my own responsibility. This work has been supported by the Foundation for the Polish Science.

1 A subset of the patterns to be discussed holds also in Russian, Czech, Bulgarian, and also Croatian, which has a smaller inventory of super-lexical prefixes.

2 I will use the following list of abbreviations: INCP - inceptive, TERM - terminative, COMPL - completive, PERD - perdurative, DELIM - delimitative, ATT - attenuative, DIST - distributive, CUML - cumulative, SAT - saturative, REP - repetitive, EXC - excessive.

In contrast, the syncretic distributive and delimitative *po-* can be stacked on one another (especially on top of a lexical prefix), as for instance in (7).

- | | | |
|------------------------------|-------------------------|--------------------------|
| (7) a. <i>po-po-w-kladać</i> | b. <i>po-po-w-nosić</i> | c. <i>po-po-w-klejać</i> |
| DIST-DELIM-in-put | DIST-DELIM-in-bring | DIST-DELIM-in-paste |
| ‘put something in’ | ‘bring something in’ | ‘paste something in’ |

In what follows, I will make a case for the following points and attempt to demonstrate that they are in fact closely related.

Namely, it will be argued that prefix stacking in Slavic is mirror-violating and hence it teaches us about the hierarchy of functional projections in syntax. In particular, the attested instances of stacked prefixes observe the functional sequence in syntax, while the unattested patterns violate it.

Next, the syncretism of Slavic super-lexical prefixes will be argued to make a case for the overspecification approach to lexical insertion. As such, the syncretism in the domain of Slavic prefixes does not result from underspecification, an often adopted view about syncretic forms in frameworks like Distributed Morphology and others (e.g., Bobaljik (2002), Embick and Noyer (2007)) but rather involves lexical entries that are specified for a superset of features which head their own projections in the syntactic representation.

Finally, the exceptional stacking of syncretic *po-*, which we see for instance in (7), will be demonstrated to be an instance of homophony and its distribution to be fully predicted from the syntactic hierarchy and the lexical insertion rules.

2. Prefixes that Dominate the Verb Stem

The standard presumption about the constituent structure of the Slavic verb is that it adheres to the Jakobsonian template as in (8).

- (8) [[[[*prefix* + $\sqrt{\text{root}}$] ThV] Tns] Agr]

This representation, originally proposed for Russian in Jakobson (1948), continues to be adopted for all Slavic.³ According to (8), the tree structure of the verb is left-branching and the root with a prefix constitute the most embedded part of the verb and are both dominated by a sequence of functional affixes: Theme vowel (ThV), Tense, and the fusional person/number/gender Agreement morpheme.

Despite the fact that the representation in (8) has been widely adopted, there seems to be some evidence that prefixes are in fact the least embedded sub-

3 For instance, Gussmann (1980), Czaykowska-Higgins (1988), Halle (2008), Nevins and Halle (2009), among many others.

constituents of the verb. Such evidence rests on two fundamental assumptions. Namely, (i) the dependency relation between the nodes in syntax is determined by c-command and (ii) following Williams (2008), morphological mirror effects are in principle size-relative in the sense that they only hold in domains of a certain size and for this reason non-mirroring orders between morphemes are in fact expected.

What indicates that the so-called super-lexical or vP-external prefixes⁴ are merged in positions dominating the verb stem in the vP are environments in which a prefix scopes outside the word.⁵

An example of a prefix c-commanding the vP-internal domain include the change of the grammatical function and case of the post-verbal nominal object, as for instance in (9), where the appearance of, here, a lexical prefix transforms an Instrument into an Accusative Theme object.

- (9) a. Jan rzucił kredą w okno.
 Jan threw chalk-INST in window.
 Jan threw chalk at the window.
 b. Jan wy-rzucił kredę przez okno.
 Jan out-threw chalk-ACC through window.
 Jan threw chalk through the window.

Likewise, the addition of a typically super-lexical prefix to the verb stem can demand the selection of a particular kind of object. This is for instance the case with distributive *po-* or cumulative *na-*, which demand that the object of the verb they merge with be plural or mass, as in (10).

- (10) a. Jan rozkładał leżak/leżaki. b. Jan po-rozkładał *leżak/leżaki.
 Jan unfoldd deckchair-SG/PL Jan DIST-unfolded deckchair-SG/*PL
 ‘Jan unfolded the deckchairs.’

Even more illustrative is the case in which the appearance of a certain super-lexical prefix restrict the selection of the ThV, i.e. the stem-internal morpheme of the verb. This is, for instance, indicated in (11), where the delimitative *po-*

4 In the sense of Ramchand (2004) or Svenonius (2004b).

5 Such a scenario, though often recognized for all Slavic, contrasts with certain cross-linguistic instances of prefixation, including English re-prefixation like below, where re does not scope over the time adverbial:

(i) John re-washed the dishes on Tuesday.

Presupposition: Dish washing took place before the asserted event, but not necessarily on Tuesday.

This leads Williams (2007) to conclude that prefixes are directly merged with verb stems in the Lexicon to the effect that they are unable to scope outside the verb.

can co-occur with process all ThV's (in (11a-d)) as well as the inchoative *-non-* ThV (in (11e)) but not with the semelfactive *-non-* ThV (in (11f)).

- (11) a. *pal-i-ć* ~ **po-pal-i-ć** 'smoke'
 b. *czyt-a-ć* ~ **po-czyt-a-ć** 'read'
 c. *zn-a(j)-ć* ~ **po-zn-a(j)-ć** 'know'
 d. *droż-E(j)-ć* ~ **po-droż-E(j)-ć** 'become expensive'
 e. *mi-nq-ć* ~ **po-mi-nq-ć** 'omit'
 f. *kop-nq-ć* ~ ***po-kop-nq-ć** 'kick'

The above facts are unexpected if the merge position of the prefix is low (as in (8)) and, instead, follow from the architecture in which a prefix c-commands both the verb stem and its internal arguments. In what follows, it will be demonstrated that a high merge position of super-lexical prefixes makes correct predictions about the order in which they can be stacked.⁶

3. Stacked prefixes: Attested and unattested patterns

It has been widely recognized that Slavic verbal prefixes can be classified into super-lexical or vP-external and lexical or vP-internal prefixes⁷ and that super-lexical prefixes can stack on top of lexical ones or some other super-lexicals. At the same time, lexical prefixes never stack on top of other lexical or super-lexical prefixes (cf. Ramchand (2004), Svenonius (2004b), DiSciullo and Slabakova (2005), among many others).

3.1 Remark on the Polish inceptive *za-*

Contrary to what has been claimed about inceptives in Russian (cf. Ramchand (2004), Romanova (2004)), it has been sometimes observed that despite its aspectual nature, the inceptive *za-* in Polish is in fact a low lexical, vP-internal, prefix.⁸ This is, for instance, exhibited by the fact that it can merge with secondary imperfectives, as in (12).⁹

6 Though see Žaucer (2011) for a proposal that super-lexical prefixes originate VP-internally.

7 See Babko-Malaya (2003), Ramchand (2004), Svenonius (2004a), (2004b) and subsequent work on Slavic prefixes.

8 See for instance Svenonius (2004a), who credits Jabłońska (p.c.) with this observation. Also, Žaucer (2005) argues for the lexical/vP-internal nature of Slovenian *za-*.

9 Note that one of the reasons to distinguish between super-lexical and lexical prefixes has been the asymmetry in their forming secondary imperfectives, cf. Romanova (2004), Ramchand (2004), though certain asymmetries between Slavic languages are observed in this domain.

- (12) a. *za-wiązać* ~ *za-wiąz-yw-ać* ‘to bind’
 INCP-bind INCP-bind-SEC.IMP
 b. *za-kazać* ~ *za-kaz-yw-ać* ‘to forbid’
 INCP-order INCP-order-SEC.IMP
 c. *za-grać* ~ *za-gr-yw-ać* ‘to play’
 INCP-play INCP-play-SEC.IMP

The hypothesis that the Polish *za-* is in fact a vP-internal prefix correctly predicts that it is able to stack below super-lexical prefixes, as for instance in (13):

- (13) *po-za-wiązywać, na-za-kazywać, po-za-grywać*

Moreover, just like other lexical prefixes, it does not stack with other lexical prefixes, for instance:

- (14) a. **przy-za-wiązywać, *za-przy-wiązywać, *za-pod-wiązywać,*
 **pod-za-wiązywać*
 b. **przy-za-kazywać, *za-przy-kazywać, *wy-za-kazywać,*
 **za-wy-kazywać*
 c. **przy-za-grywać, *za-przy-grywać, *wy-za-grywać,*
 **za-do-grywać*

Thus, the *po-* > *za-* ordering in Polish is a case of a super-lexical prefix stacking on top of a lexical prefix, that is, a standard case scenario.

3.2 Distributive > delimitative

In predicting the possible and impossible stacking configurations, let us first note that distributive *po-* can be stacked on top of delimitative *po-* (that is something we already saw in (7)):

- (15) a. *po-po-z-lepiać* b. *po-po-w-tykać*
 DIST-DELIM-with-glue DIST-DELIM-in-tuck
 ‘to glue something together’ ‘to tuck something in’
 c. *po-po-w-nosić* d. *po-po-w-klejać*
 DIST-DELIM-in-bring DIST-DELIM-in-paste
 ‘to bring something in’ ‘to paste something in’

3.3 Distributive > attenuative

In turn, the distributive *po-* can be optionally stacked on top of attenuative *pod-*,

as in the following.

- (16) a. po-pod-duszać mięso w garnku b. po-pod-bierać czyjeś rzeczy
 DIST-ATT-stew meat in pot DIST-ATT-steal somebody things
 ‘to stew the meat in a pot’ ‘to steal somebody’s items’
 c. po-pod-jadać między posiłkami
 DIST-ATT-eat between meals
 ‘to snack between meals’

At the same time, the reverse ordering as in (17) indicates that the attenuative cannot optionally stack on top of the distributive:

- (17) *pod-po-duszać, *pod-po-bierać, *pod-po-jadać

3.4 Distributive > saturative, distributive > cumulative

On the other hand, distributive *po-* can be stacked on top of saturative as well as cumulative *na-*, as in (18) and (19) respectively, but the reverse orderings are clearly ill-formed, as in (20) and (21).

- (18) a. po-na-w-dychaj się (morskiego powietrza)
 DIST-SAT-in-breathe REFL marine air
 ‘inhale some marine air’
 b. po-na-jadaj się (świeżych owoców)
 DIST-SAT-eat REFL fresh fruits
 ‘eat some fresh fruits’
 c. po-na-w-lewaj (paliwa do pełna do każdego auta)
 DIST-SAT-in-pour fuel to full to each car
 ‘pour in the fuel to each car’
- (19) a. po-na-strajać skrzypce b. po-na-ścinać gałęzi
 DIST-CUML-tune violin DIST-CUML-cut branches
 ‘to tune the violin’ ‘to cut the branches of a tree’
 c. po-na-rąbywać drewna na opał
 DIST-CUML-hew logs on fuel
 ‘to hew firewood logs’

- (20) a. *na-po-w-dychaj się b. *na-po-jadaj się c. *na-po-w-lewać

- (21) a. *na-po-strajać b. *na-po-ścinać c. *na-po-rąbywać

3.5 Distributive > excessive, distributive > repetitive, distributive > perdurative

With respect to the ordering between distributive, excessive, repetitive, and

perdurative prefixes, we observe that a distributive prefix *po-* is able to stack on any instance of syncretic *prze-*, that is on top of the excessive, as in (22), on top of repetitive, as in (23), as well as on top of perdurative, as in (24), below.

- (22) a. *po-prze-krzykiwać* kogoś b. *po-prze-ścigiwać* kogoś
 DIST-EXC-shout somebody DIST-EXC-speed somebody
 ‘to shout louder than somebody’ ‘to overtake (e.g. a car)’
- c. *po-prze-bijać* czyjeś oferty
 DIST-EXC-hit somebody’s offers
 ‘to make better offers than somebody else’
- (23) a. *po-prze-pisywać* listy b. *po-prze-rabiać* coś
 DIST-REP-write letters DIST-REP-do something
 ‘to re-write letters’ ‘to re-do something’
- (24) a. *po-prze-siadywać* w knajpach całe dni
 DIST-PERD-sit in pubs all days
 ‘to spend all days in pubs’
- b. *po-prze-sypiać* wszystkie wykłady z morfologii
 DIST-PERD-sleep all lectures from morphology
 ‘to sleep on all morphology lectures’

The reverse *prze-* > *po-* ordering, that is the ordering in which any reading of *prze-*, be it excessive, repetitive, or perdurative, precedes the distributive *po-* is always ill-formed, as in (25):

- (25) **prze-po-krzykiwać*, **prze-po-ścigiwać*, **prze-po-bijać*,
 **prze-po-pisywać*, **prze-po-rabiać*, **prze-po-siadywać*, **prze-po-sypiać*

Likewise, delimitative *po-* can stack on top of *prze-*, as in (26) or (27):

- (26) a. *Prze-rytuj* sobie obrazki do zeszytu.
 REP-draw self pictures to copybook
 ‘Re-draw some pictures into a copybook.’
- b. *Po-prze-rysuwuj* sobie (trochę) obrazków do zeszytu.
 DELIM-REP-draw self little pictures to copybook
 ‘Re-draw some pictures into a copybook (a little bit).’
- (27) a. *Prze-pisz* nuty na nową pięciolinie.
 REP-write tunes on new stave
 ‘Rewrite the tunes onto a new stave.’
- b. *Po-prze-pisuj* trochę nut na nowa pięciolinie.
 DELIM-REP-write few tunes on new stave
 ‘Rewrite a few tunes onto a new stave (a little bit).’

3.6 Deliminative > cumulative

Apart from the fact that distributive *po-* can be stacked on top of saturative as well as cumulative *na-*, also deliminative *po-* can be stacked on top of cumulative *na-*, as in (28)(though, no instance of deliminative *po-* stacking on top of saturative *na-* is possible).¹⁰ The reverse order is ill-formed as in (29):

- (28) a. *po-na-rąbuj trochę drewna*
 DELIM-CUML-hew a little timber
 ‘hew some firewood logs’
 b. *po-na-bieraj trochę wody*
 DELIM-CUML-take a little water
 ‘collect a little water’
 (29) **na-po-rąbuj, *na-po-bieraj, etc.*

3.7 Saturative or cumulative > excessive or repetitive or perdurative

So far it has been observed that both distributive and deliminative *po-* are able to stack on top of instances of *na-* or *prze-*. What remains to be determined is the ordering between the instances of *na-* and *prze-*. As shown in (30) and (31), we can find instances of both saturative and cumulative *na-* stacking on top of certain instances of *prze-*, while the reverse ordering is always impossible:

- (30) a. *nie na-prze-jadaj się za bardzo* b. *na-prze-siadywać się w knajpach*
 not SAT-EXC-eat self too much SAT-PERD-sit self in pubs
 ‘do not over-eat too much’ ‘sit a lot in pubs’
 (31) a. *na-prze-krzykiwać się (aż do bólu gardła)*
 CUML-EXC-shout self up to pain throat
 ‘out shout others excessively (to the point of getting a sore throat)’
 b. *na-prze-pisywać się nut na pięciolinie*
 CUML-REP-write self tunes on staves
 ‘rewrite the tunes onto the staves (in bulk)’
 c. *na-prze-klejać się znaczków do klaserów*
 CUML-REP-paste self post stamps to stamp albums
 ‘re-paste post stamps into stamp albums (in bulk)’
 (32) **prze-na-jadać się, *prze-na-siadywać się, *prze-na krzykiwać się,*
 **prze-na-pisywać się, *prze-na-klejać się, etc.*

3.8 Low completive and terminative

¹⁰ This fact seems to be due to a semantic conflict between delimitation and saturation appearing together, that is two concepts contributing exclusive import.

In Polish, the completive *do-*, as in *do-kańczać* ‘to finish’, can only be stacked below any instance of *po-*,¹¹ or saturative as well as cumulative *na-*, as in examples (33)-(35), respectively:

- | | |
|--|--------------------------|
| (33) a. <i>po-do-kańczać robotę</i>
DIST/DELIM-COMPL-finish work
‘to finish one’s work’ | b. <i>*do-po-kańczać</i> |
| (34) a. <i>na-do-krajać (więcej) chleba</i>
SAT-COMPL-cut more bread
‘to slice more pieces of bread’ | b. <i>*do-na-krajać</i> |
| (35) a. <i>na-do-kładaj sobie jeszcze</i>
CUMPL-COMPL-put self more
‘get yourself some more (e.g. food)’ | b. <i>*do-na-kładaj</i> |

As we see from the (b) examples, the reverse orders are ill-formed.

A similar situation is observed with terminative *-od*, which can also be merged only after *po-* and *na-*, as in (36)-(38):

- | | |
|--|------------------------------------|
| (36) a. <i>po-od-mawiaj modlitwy</i>
DIST-TERM-speak prayers
‘say your prayers’ | b. <i>*od-po-mawiaj/*od-po-mów</i> |
| (37) a. <i>na-od-śpiewywać się pieśni</i>
CUMPL-TERM-sing self songs
‘to sing (commendable) songs’ | b. <i>*od-na-śpiewywać się</i> |
| (38) a. <i>na-od-rabiać się zadań domowych</i>
CUMPL/SAT-TERM-do self task home
‘to do homework assignments’ | b. <i>*od-na-rabiać się</i> |

3.9 Unattested relative positions

Despite the many attested well-formed stacking patterns (of the form $A > B$) and the reverse orders between them that turn out to be ill-formed (of the form $*B > A$), some sequences of prefixes are unattested at all, to the effect that their position with respect to some other prefixes cannot be determined on the basis of direct evidence (the case of $*A > B, *B > A$).

The reason for the lack of certain patterns seems to be due to a semantic mismatch between the relevant prefixes. This is perhaps best represented by the

11 *Po-* in *po-do-kańczać* appears to be ambiguous between distributive and delimitative and is, hence, marked as such in (33). Ambiguities of this type are in fact expected in the case of (at least certain) syncretic prefixes in some verbs. This fact will actually follow from the analysis of syncretic prefixes in section 4.

inability to stack a completive and terminative prefix at the same time in either order, as in (39c) or (39d).¹²

- (39) a. do-śpiewać zwrotkę (do końca) b. od-śpiewać zwrotkę
 COMPL-sing verse (till end) TERM-sing verse
 ‘to sing a verse of a song to its end’ ‘to sing a verse’
 c. *od-do-śpiewać zwrotkę d. *do-od-śpiewać zwrotkę
 TERM-COMPL-sing verse COMPL-TERM-sing verse

Nevertheless, the position of unattested orders between attenuative *pod-* and delimitative *po-* can be deduced from the relative orders of the attested patterns. Thus, consider the fact that distributive *po-* can be stacked on top of any other super-lexical prefix (and no other prefix can be stacked on top of distributive *po-*) including delimitative *po-* (as in (15)). We have also seen that the only prefix that can stack on top of attenuative *pod-* is distributive, but not delimitative, *po-*. I will, thus, cautiously assume that this situation is due to the fact that the attenuative *pod-* is merged above delimitative *po-* and will shortly argue how this position of *pod-* is compatible with the exceptional stacking of two syncretic *po-*'s.

3.10 Hierarchy

The attested well-formed orders of stacked aspectual prefixes reflect the hierarchy of relative positions of which the distributive is the highest and the completive and the terminative are the two lowest, though the respective ordering between the latter two remains indeterminate due to the fact that they cannot stack on one another and there exists no such a prefix which can stack in between them. I will provisionally indicate completive on top of terminative, without any consequences to what follows. The entire hierarchy of super-lexical prefixes is provided in (40):

$$(40) \quad \text{DIST} \succ \text{ATT} \succ \text{DELIM} \succ \left\{ \begin{array}{c} \text{SAT} \\ \text{CUML} \end{array} \right\} \succ \left\{ \begin{array}{c} \text{EXC} \\ \text{REP} \\ \text{PERD} \end{array} \right\} \succ \text{COMPL} \succ \text{TERM}$$

Observe that the sets of prefixes in the braces, that is in identical position in the hierarchy, are syncretic and, as indicated at the beginning of this paper, syncretic prefixes cannot be stacked, except the syncretic *po-*.

¹² These patterns, as well as the patterns discussed in sections 3.2–3.7, were double-checked using Korpus IPI PAN, an online corpus of the Polish language with 250.000.000 annotated segments, available at <http://korpus.pl/>; last access: October 25, 2010.

4. On syncretic forms

Unlike what we observe with syncretic saturative and cumulative *na-* and excessive, repetitive, and perdurative *prze-*, the well-formed stacking of syncretic distributive and delimitative *po-* is predicted from the hierarchy in (40), since these two forms are not adjacent to one another. This has been already shown in (7) or (15), and is repeated below for convenience.

(41) *po-po-z-lepiać, po-po-w-tykać, po-po-w-nosić, po-po-w-klejać, etc.*

Unlike *po-*, prefixes from the braces in (40) do not stack. A traditional analysis of the syncretism based on the underspecification of semantic features seems to be problematic in this case, since at least certain syncretic aspectual prefixes denote quite distinct semantic concepts. Consider the following.

4.1 Syncretic prefixes can denote different meanings

While the meaning of cumulative and saturative *na-* is indeed somewhat similar,¹³ it is not the case with syncretic excessive, repetitive and perdurative *prze-* and, even more robustly, not the case with syncretic delimitative and distributive *po-*. First, consider the syncretic *na-*.

4.1.1 Syncretic *na-*

As demonstrated in (42), while the cumulative prefix *na-* is generally collectivizing, saturative *na-* serves as a measure functor which introduces an abundance reading, as illustrated in (43).

- (42) a. *na-rąbać drewna* b. *na-brać wody* c. *na-zbierać grzybów*
 CUML-hew logs CUML-take water CUML-collect mushrooms
 ‘hew firewood logs’ ‘collect water’ ‘pick up mushrooms’
- (43) a. *na-jedz się do syta* b. *na-pal się papierosów*
 SAT-eat-IMP REFL to fullness SAT-smoke REFL cigarettes
 ‘eat (to the full)’ ‘smoke cigarettes (to the full)’
- c. *na-ćwicz się na siłowni*
 SAT-exercise at a gym (to the full)

In general terms, the saturation of *na-* can indeed be supposed to constitute a subtype of cumulativity in the sense that it also adds the meaning of ‘a lot of’ to the VP, though in a considerably more constrained way. For this reason, the different readings of *na-* have sometimes been subsumed under a common and

13 See, for instance, Isačenko (1960) or Filip and Carlson (2001).

more generally collectivizing label, as for instance in Filip & Carlson (2001). However, the situation with syncretic *prze-* and *po-* is by far different.

4.1.2 Syncretic *prze-*

The Polish super-lexical *prze-* can be excessive, perdurative, or repetitive. The excessive *prze-* denotes expansion beyond limit or a point of comparison:

- (44) a. *prze-krzyczeć* kogoś b. *prze-bić* czyjaś ofertę
 EXC-shout somebody EXC-hit somebody's offer
 ‘shout louder than somebody else’ ‘make a better offer’

In turn, perdurative *prze-* denotes the crossing of a boundary of time with eventive verbs, as illustrated for instance in (45).

- (45) a. *prze-siedzieć* (na krześle) b. *prze-leżeć* (na łóżku)
 PERD-sit on chair PERD-lie on bed
 ‘sit on a chair beyond some time’ ‘lie in bed beyond some time’

Note also that it is incorrect to claim that there exists only a singleton and hence nonsyncretic *prze-* in Polish since only perdurative but not excessive *prze-* is compatible with temporal adverbials, as illustrated for instance in (46) and (47).

- (46) *Jan *prze-krzyczał* Marię *dwa miesiące*.
 Jan EXC-shout Mary-ACC two months
 intended: ‘*Jan outshouted Mary two months.’
- (47) a. Jan *prze-siedział* (na ławce rezerwowych) *dwa miesiące*.
 Jan PERD-sit (on substitutes bench) two months
 ‘Jan was sitting on the substitutes bench for two months.’
- b. Jan *prze-leżał* (na łóżku) cały dzień.
 Jan PERD-lie on bed whole day
 ‘Jan was lying in bed the whole day.’

In contrast to both perdurative and excessive *prze-*, which denote a certain expansion of boundary, repetitive *prze-* is similar to English *re-* in the sense that it brings the recurrence of the state expressed by the vP, as shown in (48).¹⁴

- (48) a. *prze-pisać* list b. *prze-drukować* książkę c. *prze-robić* coś
 REP-write letter REP-print book REP-do something
 ‘re-write a letter’ ‘re-print a book’ ‘re-do something’

14 See Marantz (2006) for argumentation why English *re-* does not mean the same as *again*.

4.1.3 Syncretic *po-*

The problem with the semantic underspecification analysis of Polish syncretic prefixes is particularly well visible on the example of *po-*. This is so since delimitative *po-* is a measure functor which introduces a small quantity reading, as in (49), while the distributive *po-* introduces an individuation of subevents by solitary participants, locations, or periods of time, as in (50).

- (49) a. *po-pij sobie*
 DELIM-drink self
 ‘drink a little’
 b. *po-opowiadaj nam o czymś*
 DELIM-tell us about something
 ‘tell us (a little story) about something’
 c. *po-rysuj sobie*
 DELIM-draw self
 ‘do a little bit of drawing’
 d. *po-rób coś*
 DELIM-do something
 ‘do something (a little bit)’
- (50) a. *po-zamykaj okna*
 DIST-close windows
 ‘close the windows (each in turn)’
 b. *pozbieraj rozrzucone papiery*
 DIST-collect scattered papers
 ‘pick up those scattered papers’
 c. *po-ustawiaj żołnierzyki w szereg*
 DIST-set toy soldiers in row
 ‘arrange toy-soldiers in the line up’
 d. *po-chowaj zabawki*
 DIST-hide toys
 ‘hide your toys’

In fact, the prefix that is semantically much more homogenous with delimitative *po-* is a non-syncretic attenuative *pod-*. *Pod-*, like delimitative *po-*, is a measure functor which often introduces an insufficient quantity reading, as for in (51).¹⁵

- (51) a. *pod-duszać ofiarę*
 ATT-strangle victim
 ‘strangle a victim (but not enough to strangle the victim fatally)’
 b. *pod-duszać mięso w garnku*
 ATT-stew meat in pot
 ‘stew meat in a pot (but not enough to let it soften completely)’

All in all, the syncretic prefixes in Polish are not really underspecifications of a singleton semantic concept. Instead, the impossibility of stacking syncretic prefixes that are adjacent on the hierarchy in (40) makes a case for the

15 This is also manifested by the fact that *pod-*verbs are compatible with objects modified by *trochę* ‘a little bit’ but are odd with *dużo* ‘a lot’, or *wiele* ‘many’, as for instance in (i) below, unless a very specific context is defined.

(i) *Pod-kradnij mu {trochę / ??dużo} piwa.*
 ATT-steal-IMP him a little bit/ a lot beer
 ‘Steal him some beer.’

overspecification approach to syncretism, advanced recently in Caha's (2009) work on case syncretism.

4.2 Syncretism as overspecification in nanosyntax

An overspecification account of syncretism follows from the nanosyntax approach (Starke (2006), (2009), Ramchand (2008)), whereby each feature heads its own projection in syntax and the Spell-out of syntactic structures may target non-terminal nodes. Since the Spell-out is not limited to terminals, the lexical entry of a singleton morpheme may span across more than one syntactic projection. In particular, the two principles which govern the lexical insertion in such a system are *the Superset Principle* and *Match*.

(52) *The Superset Principle* (Starke 2006)

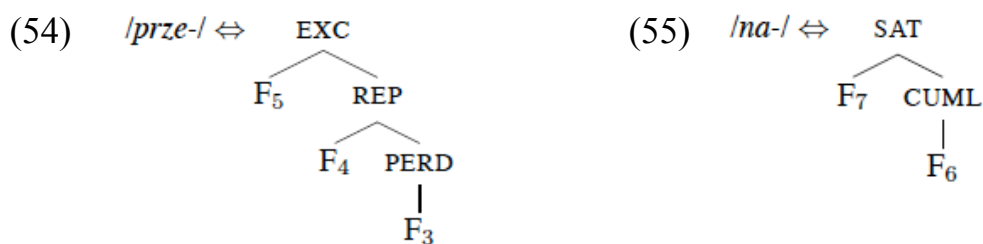
A phonological exponent is inserted into a node if its lexical entry has a (sub-)constituent which matches that node.

(53) *Match* (Caha 2009: 67)

A lexical constituent matches a node in the syntactic representation if it is identical to that node, ignoring traces and Spelled out constituents.

4.3 Lexical entries for Polish syncretic prefixes

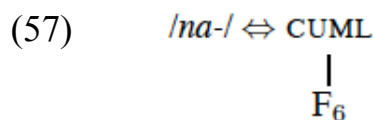
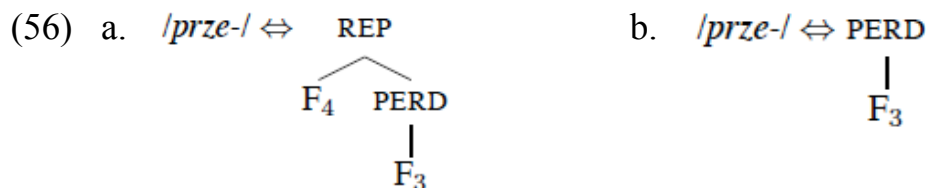
Given the sequence in (40), the lexical entries for *prze-* and *na-* are as follows:



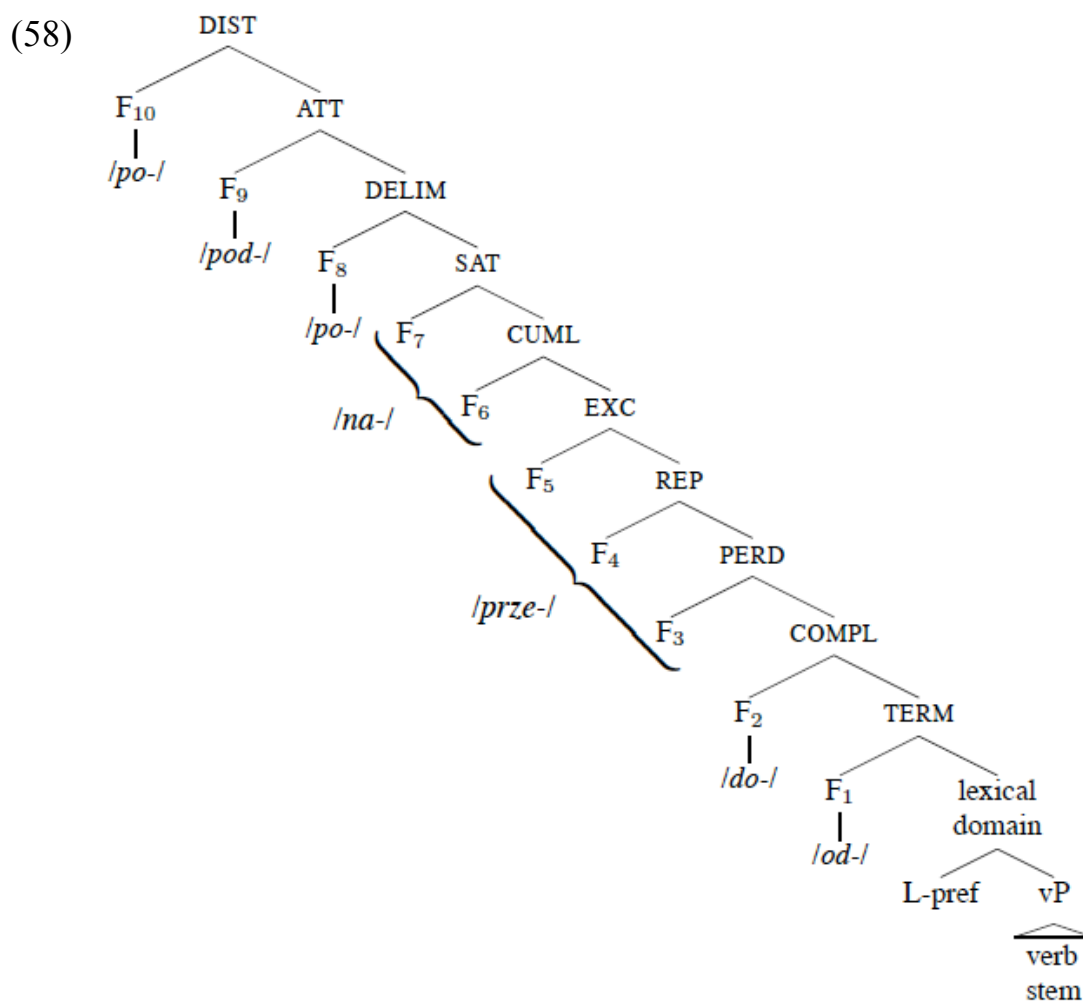
The lexical entry for */prze-/* spans across the projections of atomic features F_3 – F_5 . The non-branching terminal nodes F_3 , F_6 denote that their complement nodes spell out as different lexical entries due to *Match*. For this reason, *na-* does not Spell-out the entire sequence of projections between F_3 – F_7 , nor does *prze-* Spell-out the projections dominated by the sister node to F_3 .

When certain F(eature)s are not merged in the sequence, by the *Superset Principle*, *prze-* and *na-* can also lexicalize the representations as in (56) and (57), which results in the different readings of syncretic prefixes.¹⁶

16 In the context of 'squeezed' representations in (56) and (57), the notion of a subconstituent that is central to the understanding of (52) must be qualified. In the narrow



Overall, the hierarchy together with lexical specifications looks as follows:



sense, a subconstituent minimally includes the bottom layer of structure of a given tree representation. However, as pointed out to me by Tarald Taraldsen (p.c.), lexical insertion in a system advanced in this work essentially targets stretches of adjacent projections (as opposed to projections that do not form for such a stretch). In this sense, each projection in a stretch that is identified by a lexical item (a morpheme) constitutes its proper subset. Such a scenario for lexical insertion is advanced in Abels and Muriungi (2008).

5. Conclusion

Given the sequence of syntactic projections as in (58) and the subset-superset relation regulating the lexical insertion into non-terminal nodes, it is possible to explain why only certain instances of multiple prefixation are attested and why syncretic superlexical prefixes in adjacent positions in such a sequence cannot be stacked.

References

- Babko-Malaya, Olga. 2003. Perfectivity and prefixation in Russian. *Journal of Slavic Linguistics*. 11, 5–36.
- Bobaljik, Jonathan. 2002. Syncretism without paradigms: Remarks on Williams 1981, 1994. *Yearbook of Morphology 2001*, 53–85.
- Caha, Pavel. 2009. The nanosyntax of case. Doctoral Dissertation, CASTL, University of Tromsø.
- Czaykowska-Higgins, Ewa. 1988. Investigations into Polish morphology and phonology. Doctoral Dissertation, MIT.
- DiSciullo, Anna Maria & Roumyana Slabakova. 2005. Quantification and aspect. In A. van Hout, H. de Swart & H. Verkuyl, *Perspectives on aspect*. Dordrecht: Springer. 61–80.
- Embick, David, and Rolf Noyer. 2007. Distributed Morphology and the syntax– morphology interface. In Gillian Ramchand & Charles Reiss, *The Oxford handbook of linguistic interfaces*. Oxford: Oxford University Press. 289–324.
- Filip, Hana. 2000. The quantization puzzle. In C. Tenny & J. Pustejovsky, *Events as grammatical objects*. Stanford, CA: CSLI. 39–96.
- Filip, Hana, and Gregory Carlson. 2001. Distributivity strengthens reciprocity, collectivity weakens it. *Linguistics and Philosophy*. 24, 417–466.
- Gussmann, Edmund. 1980. *Studies in abstract phonology*. Cambridge, MA: MIT Press.
- Halle, Morris. 2008. The core phonology of Modern Russian. Notes for talk at MIT, April 28, 2008.
- Isačenko, Alexander. 1960. *Grammatičeskij stroj russkogo jazyka. Morfologija*. Bratislava: Vydavateľstvo Slovenskej Akadémie Vied.
- Jakobson, Roman. 1948. Russian conjugation. *Word*. 4, 155–167.
- Marantz, Alec. 2006. Restitutive *re-* and the first phase syntax/semantics of the VP. Ms, NYU.
- Nevins, Andrew, and Morris Halle. 2009. Rule application in phonology. In Eric Raimy & Charles Cairns, *Contemporary views on architecture and representations in phonology*. Cambridge, MA: MIT Press. 255–282.
- Ramchand, Gillian. 2004. Time and the event: the semantics of Russian prefixes. *Nordlyd*. 32, 323–361.
- Ramchand, Gillian. 2008. *Verb meaning and the lexicon; A first phase syntax*. Cambridge, UK: Cambridge University Press.
- Romanova, Eugenia. 2004. Superlexical vs. lexical prefixes. *Nordlyd*. 32, 255–278.
- Starke, Michal. 2006. The nanosyntax of participles. Lectures at the 13th EGG summer school, Olomouc.
- Starke, Michal. 2009. Nanosyntax: a short primer to a new approach to language. *Nordlyd*. 36, 1–6.

- Svenonius, Peter. 2004a. Slavic prefixes and morphology: an introduction to the Nordlyd volume. *Nordlyd*. 32, 177–204.
- Svenonius, Peter. 2004b. Slavic prefixes inside and outside VP. *Nordlyd*. 32, 205–253.
- Williams, Edwin. 2007. Dumping lexicalism. In Gillian Ramchand & Charles Reiss, *The Oxford handbook of linguistic interfaces*. Oxford: Oxford University Press. 353–382.
- Williams, Edwin. 2008. Merge and mirrors. Ms., Princeton University.
- Žaucer, Rok. 2005. Slovenian inceptive prefix *za-*: a VP internal P. In C. Gurski, *Proceedings of the 2005 annual conference of the Canadian Linguistic Association*. Department of French, University of Western Ontario. 1–12.
- Žaucer, Rok. 2011. A case for result-modifying prefixes. Paper presented at FASL 20, MIT, 13-15 May.