

Prefix Stacking, Syncretism and the Syntactic Hierarchy*

Bartosz Wiland

May 20, 2011

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, DIST-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
DIST-REP-make
'to remake'
- b. po-prze-krzykiwać
DIST-EXC-shout
'to outshout'
- c. na-prze-siadywać
DIST-PERD-sit
'to sit for a long time'

*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. Needless to say, all errors are my own responsibility. This work has been supported by the Foundation for Polish Science (FNP).

¹A 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.

²I 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.

- (4) a. *prze-prze-rabiać
 b. *prze-prze-krzykiwać
 c. *prze-prze-siadywać
 d. etc.

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

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

- (7) a. po-po-w-kładać
 DIST-DELIM-in-put
 ‘to put something in’
 b. po-po-w-nosić
 DIST-DELIM-in-bring
 ‘to bring something in’
 c. po-po-w-klejać
 DIST-DELIM-in-paste
 ‘to 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 follows the Jakobsonian template as in (8).

$$(8) \quad [[[[\textit{prefix} + \sqrt{\textit{root}}] \textit{ThV}] \textit{Tns}] \textit{Agr}]$$

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 subconstituents 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 super-lexical 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 a prefix transforms an Instrument into an Accusative Theme object.

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

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

⁵Such 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.

- (9) a. Jan rzucił kredą (w) okno.
 Jan threw chalk_{instr} in window
 ‘Jan threw the chalk at the window.’
 b. Jan **wy**-rzucił kredę przez okno.
 Jan out-threw chalk_{acc} through window
 ‘Jan threw the chalk through the window.’

Likewise, the addition of a 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 be plural or mass, as in (10):

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

Even more illustrative is the case in which the appearance of a certain 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*- can co-occur with process all ThV’s (in (a)-(d)) as well as the inchoative *-non*- ThV (in (e)) but not with a semelfactive *-non*- ThV (in (f)).

- (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 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.

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 prefixes,⁶ 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

⁶See Filip (2000) and Babko-Malaya (2003), and subsequent work on Slavic prefixes.

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.⁷ This is, for instance, exhibited by the fact that it can merge with secondary imperfectives, as in (12).⁸

- (12) a. *za-wiązać* ~ *za-wiąz-yw-ać*
 INCP-bind INCP-bind-SEC.IMP
 ‘to bind’
 b. *za-kazać* ~ *za-kaz-yw-ać*
 INCP-order INCP-order-SEC.IMP
 ‘to forbid’
 c. *za-grać* ~ *za-gr-yw-ać*
 INCP-play INCP-play-SEC.IMP
 ‘to play’
 d. *za-kochać się* ~ *za-koch-iw-ać się*
 INCP-love self INCP-love-SEC.IMP self
 ‘to fall in love’
 e. etc.

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

- (13) *po- > za-*
 a. *po-za-wiązywać*
 b. *na-za-kazywać*
 c. *po-za-grywać*
 d. *po-za-kochiwać się*
 e. etc.

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

⁷See for instance Svenonius (2004a), who credits Jabłońska (p.c.) with this observation. Also, Zaucer (2005) argues for the lexical/vP-internal nature of Slovenian *za-*.

⁸Note 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 different Slavic languages are observed in this domain.

- (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, etc.
 c. *przy-za-grywać, *za-przy-grywać, *wy-za-grywać, *za-do-grywać, etc.
 d. *pod-za-kochiwać, *za-pod-kochiwać, *od-za-kochiwać, *za-od-kochiwać

Thus, the *po-* \succ *za-* ordering in Polish is a case of a super-lexical prefix stacking on top of a lexical prefix, i.e. a standard case scenario.

3.2 Distributive \succ 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
 DIST-DELIM-with-glyue
 ‘to glue something together’
 b. po-po-w-tykać
 DIST-DELIM-in-tuck
 ‘to tuck something in’
 c. po-po-w-nosić
 DIST-DELIM-in-bring
 ‘to bring something in’
 d. po-po-w-klejać
 DIST-DELIM-in-paste
 ‘to paste something in’

3.3 Distributive \succ attenuative

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

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

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

- (17) a. *pod-po-duszać
 b. *pod-po-bierać
 c. *pod-po-jadać
 d. etc.

3.4 Distributive \succ saturative, distributive \succ cumulative

While distributive *po-* can be merged on top of saturative as well as cumulative *na-*, as in (18) and (19) respectively, 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 self marine air
 ‘inhale some marine air’
 b. po-na-jadaj się (świeżych owoców)
 DIST-SAT-eat self fresh fruits
 ‘eat some fresh fruits’
 c. po-na-pychaj (kieszenie kasztanami)
 DIST-SAT-push pockets-ACC chestnuts-DAT
 ‘stuff your pockets with chestnuts’
- (19) a. po-na-strajać skrzypce
 DIST-CUML-tune violin-ACC
 ‘to tune the violin’
 b. po-na-ścinać gałęzi
 DIST-CUML-cut branches-ACC
 ‘to cut the branches of a tree’
 c. po-na-rąbywać drewna na opał
 DIST-CUML-hew logs-ACC
 ‘to hew firewood logs’
- (20) a. *na-po-w-dychaj się (morskiego powietrza)
 b. *na-po-jadaj się (świeżych owoców)
 c. *na-po-pychaj (kieszenie kasztanami)
- (21) a. *na-po-strajać skrzypce
 b. *na-po-ścinać gałęzi
 c. *na-po-rąbywać drewna na opał

3.5 Distributive \succ excessive, distributive \succ repetitive, distributive \succ 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
DIST-EXC-shout somebody-ACC
'to shout louder than somebody else'
- b. po-prze-ścigiwać kogoś
DIST-EXC-speed somebody
'to overtake (e.g. a car)'
- c. po-prze-bijać czyjeś oferty
DIST-EXC-hit somebody's offers-ACC
'to make better offers than somebody else'
- (23) a. po-prze-pisywać listy
DIST-REP-write letters-textscass
'to re-write letters'
- b. po-prze-rabiać coś
DIST-REP-do something-ACC
'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

From the ordering between distributive and delimitative *po-*, it follows that also the latter should in principle be able to stack on top of at least certain instances of *prze-*. This prediction is indeed correct, which we see for instance in well-formed pairs with the excessive *prze-*, as in (26) or (27):

- (26) a. Prze-rysuj sobie obrazki do zeszytu.
REP-draw self pictures to copybook
'Re-draw some pictures into a copybook.'
- b. Po-prze-rysowuj 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 nową pięciolinie.
 DELIM-REP-write few tunes on new stave
 ‘Rewrite a few tunes onto a new stave (a little bit).’

3.6 Saturative or cumulative \succ excessive or repetitive or perdurative

So far it has been observed that both distributive and delimitative *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 (28) and (29), 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, as in (30).

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

3.7 Low completive and terminative

In Polish, the completive *do-*, as in *do-kończyć* ‘to finish’, can only be stacked below any instance of *po-*,⁹ or saturative as well as cumulative *na-*, as in examples

⁹*Po-* in *po-do-kończyć* appears to be ambiguous between distributive and delimitative and is, hence, marked as such in (31). Ambiguities of this type are in fact expected in the case

(31)-(33), respectively:

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

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 (34)-(36):

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

3.8 Deduced relative positions

Despite the many attested well-formed stacking patterns (of the form $A \succ B$) and the reverse orders between them that turn out to be ill-formed (of the form $*B \succ A$), 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 $*A \succ B, *B \succ A$).

of (at least certain) syncretic prefixes in some verbs. This fact will actually follow from the analysis of syncretic prefixes in section 4.

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 inability to stack a completive and terminative prefix at the same time in either order, as in (37-c) or (37-d):

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

Nevertheless, the position of certain unattested orders can be deduced from the relative orders of the attested patterns.¹⁰

Thus, in (38), from the attested well formed orders with distributive and delimitative *po-* we can deduce the relative ordering between attenuative and delimitative, which is itself unattested:

- (38) attested: DIST>DELIM, DIST>ATT, *DELIM>ATT
 deduced: ATT>DELIM

In turn, from the well-formed orders between distributive, saturative, and cumulative, the relative positions of delimitative and attenuative as preceding saturative and cumulative can be deduced, as in (39).

- (39) attested: DIST>SAT, DIST>CUML
 deduced: DELIM>SAT/CUML, ATT>SAT/CUML

Likewise, from the attested orderings with saturative as well as cumulative *na-*, the relative order between these two prefixes and low completive and terminative can be deduced, as in (40).

- (40) attested: DIST>COMPL/TERM, DELIM>COMPL, SAT/CUML>TERM
 deduced: SAT/CUML>COMPL

3.9 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

¹⁰These 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.

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 (41):

(41) *Hierarchy of Polish super-lexical prefixes*

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

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-*.

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 (41), since these two forms are not adjacent to one another. This has been already shown in (15), which is repeated below for convenience.

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

Unlike *po-*, prefixes from the braces in (41) 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 *na-* and saturative *na-* is indeed somewhat similar,¹¹ it is not the case with syncretic excessive, repetitive and perdurative *prze-*, and especially not the case with syncretic delimitative and distributive *po-*.

First, consider the syncretic *na-*.

4.1.1 Syncretic *na-*

As demonstrated in (43), while the cumulative prefix *na-* is generally collectivizing, saturative *na-* serves as a measure functor which introduces an abundance reading, as illustrated in (44).

- (43) cumulative *na-*
- a. *na-rąbać drewna*
CUML-hew logs-ACC
'to hew firewood logs'
 - b. *na-brać wody*
CUML-take water
'to collect water'
 - c. *na-zbierać grzybów*
CUML-collect mushrooms
'to pick up mushrooms'
 - d. etc.
- (44) saturative *na-*
- a. *na-jedz się do syta*
SAT-eat-IMP self to fullness
'to eat (to the full)'
 - b. *na-palić się papierosów*
SAT self cigarettes-ACC
'to smoke cigarettes (to the full)'
 - c. *na-ćwiczyć się na siłowni*
SAT-exercise self on gym-ACC
'to exercise at a gym (to the full)'
 - d. etc.

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

¹¹See, for instance, Isačenko (1960), Filip and Carlson (2001).

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, as in (45).

- (45) excessive *prze-*
- a. *prze-krzyczeć* kogoś
EXC-shout somebody-ACC
'to shout louder than somebody else'
 - b. *prze-bić* czyjaś ofertę
EXC-hit somebody's offer-ACC
'to make a better offer than somebody else'

In turn, perdurative *prze-* denotes the crossing of a boundary of time with eventive verbs, as illustrated for instance in (46).

- (46) perdurative *prze-*
- a. *prze-siedzieć* (na krześle)
PERD-sit on chair-ACC
'to sit on a chair beyond some point in time'
 - b. *prze-leżeć* (na łóżku)
PERD-lie on bed-ACC
'to lie in bed over some period of time'

Note also that it is incorrect to claim that there exists only a singleton, and hence non-syncretic, *prze-* in Polish since only perdurative but not excessive *prze-* is compatible with temporal adverbials, as illustrated for instance in (47) and (48).

- (47) *Jan *prze-krzyczał* Marię *dwa miesiące*
Jan EXC-shout Mary-ACC two months
intended: *Jan outshouted Mary two months.
- (48) 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-ACC all day
'Jan was lying in bed all 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 (49).¹²

¹²See Marantz (2006) for argumentation why English *re-* does not mean the same as *again*.

- (49) repetitive *prze-*
- a. *prze-pisać list*
REP-write letter-acc
'to re-write a letter'
 - b. *prze-drukować książkę*
REP-print book-ACC
'to re-print a book'
 - c. *prze-robić coś*
REP-do something-ACC
'to re-do something'

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 (50), while DIST *po-* introduces an individuation of subevents by solitary participants, locations, or periods of time, as in (51).

- (50) delimitative *po-*
- a. *po-pij sobie*
DELIM-drink self-DAT
'drink a little/have a sip'
 - b. *po-opowiadaj nam o czymś*
DELIM-tell us about something
'tell us (a story) about something'
 - c. *po-rytuj sobie*
DELIM-draw self-DAT
'draw something' (e.g. a mother instructing a child to occupy itself with drawing)
 - d. *po-rób coś*
DELIM-do-IMP something-ACC
'do something (a little bit)'
- (51) distributive *po-*
- a. *po-zamykaj okna*
DIST-close windows-ACC
'close the windows, each in turn' (cf. *'close them a little bit')
 - b. *po-zbieraj rozrzucone papiery*
DIST-collect scattered papers-ACC
'pick up the scattered papers'(cf. *'pick up some of them')
 - c. *po-ustawiaj żołnierzyki w szeregi*
DIST-set toy soldiers in rows

‘arrange the toy soldiers in the line-up’ (cf. *‘arrange them a little bit’)

- d. po-chowaj zabawki
DIST-hide toys-ACC
‘hide your toys’ (cf. *‘hide some of the toys’)

In fact, the prefix that is semantically much more homogenous to 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 instance in (52).¹³

(52) attenuative *pod-*

- a. pod-duszać ofiarę
ATT-strangle victim-ACC
‘to strangle a victim (but not enough to strangle the victim completely)’
- b. pod-duszać mięso w garnku
ATT-stew meat-ACC in pot
‘to stew/simmer the meat in a pot (but not enough to let it soften completely)’
- c. pod-kradać czyjeś piwo
ATT-steal somebody-GEN beer-ACC
‘to steal somebody’s beer (but not to the effect that all beer becomes stolen)’
- d. pod-jadać między posiłkami
ATT-eat between meals-ACC
‘to snack between meals’

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 (41) makes a case for the over-specification approach to syncretism, advanced recently in Caha’s (2009) work on case syncretism.

¹³This 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.’

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.

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

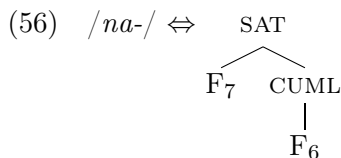
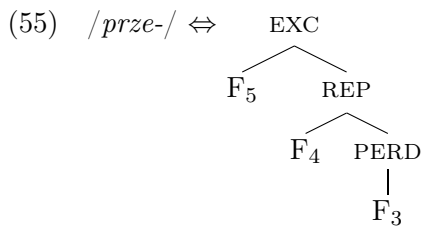
A phonological exponent is inserted into a node if its lexical entry has a (sub-)constituent which matches that node.

(54) *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

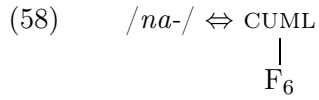
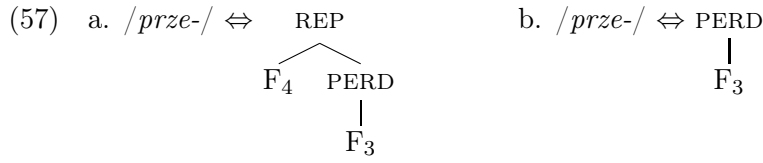
Given the sequence in (41), the lexical entries for *prze-* and *na-* are as follows:



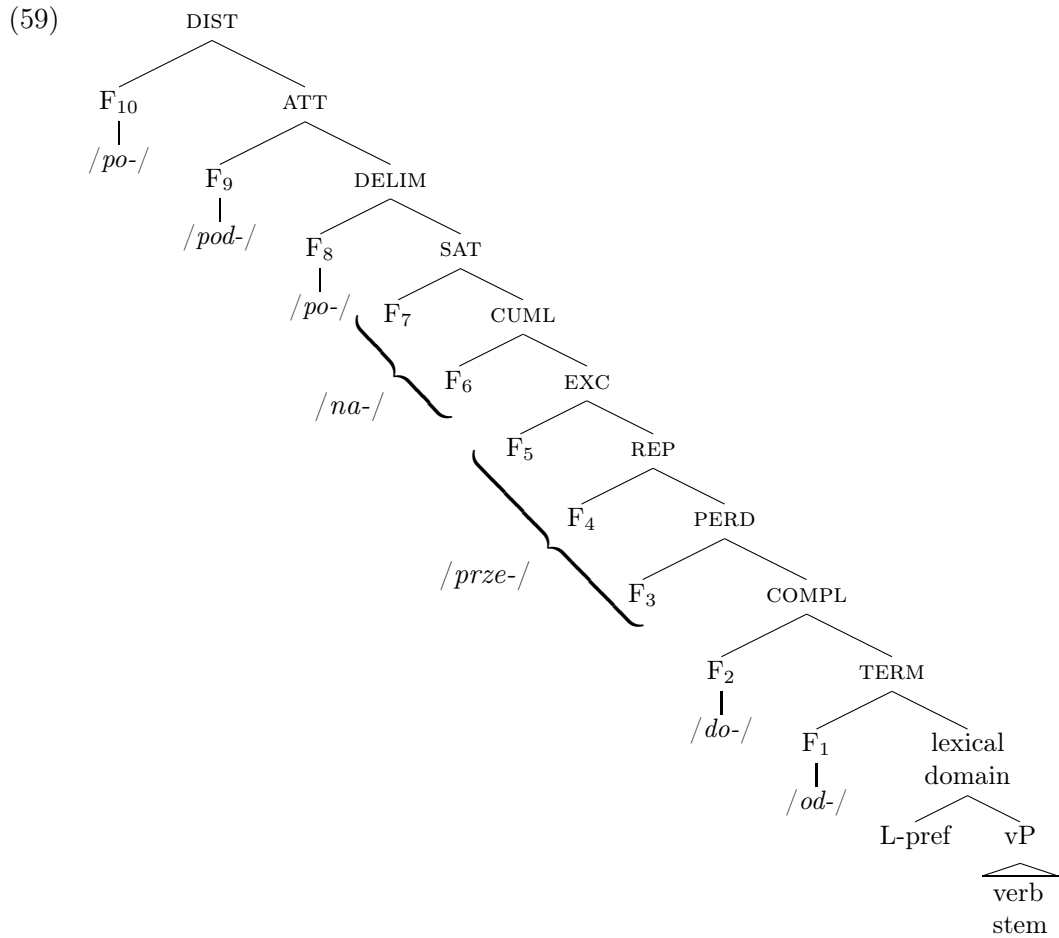
The lexical entry for */prze-/* spans across the projections of atomic features F_3 – F_5 . The non-branching terminal nodes F_3 , F_6 denote that their complement nodes spell out as different lexical entries due to Match. For this reason, *na-* does not Spell-out the entire sequence of projections between 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 (57) and (58), which results in the different readings of syncretic prefixes.¹⁴

¹⁴In the context of ‘squeezed’ representations in (57) and (58), the notion of a subconstituent that is central to the understanding of (53) must be qualified. In the narrow sense, a subconstituent minimally includes the bottom layer of structure of a given tree representation.



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



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 (59) 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 super-lexical prefixes in adjacent positions in such a sequence cannot be stacked.

References

- Abels, Klaus, and Peter Muriungi. 2008. The focus marker in Kî̃tharaka: Syntax and semantics. *Lingua* 118:687–731.
- 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, and Roumyana Slabakova. 2005. Quantification and aspect. In *Perspectives on aspect*, ed. A. van Hout, H. de Swart, and H. Verkuyl, 61–80. Dordrecht: Springer.
- Embick, David, and Rolf Noyer. 2007. Distributed Morphology and the syntax–morphology interface. In *The Oxford handbook of linguistic interfaces*, ed. Gillian Ramchand and Charles Reiss, 289–324. Oxford: Oxford University Press.
- Filip, Hana. 2000. The quantization puzzle. In *Events as grammatical objects*, ed. C. Tenny and J. Pustejovsky, 39–96. Stanford, CA: CSLI.
- 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: Vydavatelstvo 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 *Contemporary views on architecture and representations in phonology*, ed. Eric Raimy and Charles Cairns, 255–282. Cambridge, MA: MIT Press.
- 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 *The Oxford handbook of linguistic interfaces*, ed. Gillian Ramchand and Charles Reiss, 353–382. Oxford: Oxford University Press.
- Williams, Edwin. 2008. Merge and mirrors. Ms., Princeton University. [<http://ling.auf.net/lingBuzz/000747>].
- Zaucer, Rok. 2005. Slovenian inceptive prefix za-: a VP internal P. In *Proceedings of the 2005 annual conference of the Canadian Linguistic Association*, ed. Claire Gurski, 1–12. Department of French, University of Western Ontario.