

Constraints on external prefixation in Russian

Background. It has been recently proposed (Babko-Malaya 1999, Ramchand 2004, Svenonius 2004a,b, DiSciullo, Slabakova 2005, Romanova 2004, 2006) that prefixes in Russian and other Slavic languages fall into two groups, **lexical** (internal) and **superlexical** (external). Superlexicals include the cumulative *na-* (*na-brat' gribov* 'collect a quantity of mushrooms'), delimitative *po-* (*po-sidet' v kresle* 'sit in a chair for a while'), inchoative *za-* (*zapet' pesnju* 'start singing a song'), distributive *pere-* (*perestreljat' vsech vragov* 'shoot all the enemies one by one'), repetitive *pere-* (*perečitat' knigu* 'read the book again'), completive *do-* (*dopisat' statju* 'complete writing a paper'), attenuative *pod-* (*podustat'* 'get tired slightly'), and a few others. Superlexicals possess a stable and easily identifiable meaning (Babko-Malaya 1999, Svenonius 2004a, Romanova 2006), affect the argument structure of a verb stem in a predictable way (Svenonius 2004b, Romanova 2006) and, most significantly, occur outside lexical prefixes, cf. *na-za-bivat' gvozdej v stenu* 'hammer a lot of nails into the wall' and **za-na-bivat'*, *po-za-pisyvat' diski* 'record CDs for a while' and **za-po-pisyvat'*, *pere-ot-kryvat' vse dveri* 'open all the doors one by one' and **ot-pere-kryvat'*, etc. It is generally agreed upon that lexicals merge inside and superlexicals outside VP, (1).

Proposal. We argue that superlexical prefixes fall into two distinct classes that differ as to how their distribution is constrained. One of those classes contains prefixes that show a **selectional restriction (SR)** on co-occurrence with a complement XP: the latter cannot be headed by the perfective stem, (2a). SR-prefixes are cumulative *na-*, delimitative *po-*, inchoative *za-*, and distributive *pere-*. Another class of prefixes exhibit a **positional restriction (PR)**: in the hierarchical structure of the verbal domain, the prefix cannot be located outside the projection of the secondary imperfective morpheme *-iva-*, (2b). Examples of PR-prefixes are repetitive *pere-*, completive *do-*, and attenuative *pod-*.

Evidence and discussion. Evidence supporting the above proposal comes from multiple prefixation and secondary imperfectivization facts.

First, SR-prefixes can merge with simplex imperfective stems (*na-varit'* 'cook a quantity of sth.', *po-čitat'* 'read for a while', *za-begat'* 'start running', *pere-streljat'* 'shoot one by one') and secondary imperfective stems, (3). They are systematically ungrammatical if combined with perfective stems, either simplex, (4), or derived by prefixation, cf. (3) and (5). PR-prefixes do not exhibit selectional restrictions and readily combine with simplex imperfective stems in (6), simplex perfective stems in (7), and prefixed perfective stems in (8).

Secondly, in hierarchical terms, PR-prefixes cannot merge with an XP if that XP contains *ivaP*, the projection of the secondary imperfective morpheme *-iva-*. If a PR-prefix co-occurs with *-iva-*, the overall stem is obligatorily imperfective, hence imperfectivization by *-iva-* must happen after prefixation. This is shown in (9a-c) for verbs where the starting point of derivation is a simplex imperfective stem. In (10a-c), prefixed perfective stems undergo the same derivation. Alternative (ungrammatical) derivations where prefixation and secondary imperfectivization occur in the reverse order are demonstrated in (10a'-c'). SR-prefixes are not subject to this restriction: (3a-d) illustrate verbs where SR-prefixes attach outside the secondary imperfective morpheme.

The above generalizations make a number of non-trivial predictions about a possible verb stem in Russian. Due to space limitations we only provide two illustrations. If an SR-prefix attaches on top of a PR-prefix, then, hierarchically, they cannot merge as adjacent head: the secondary imperfective morpheme must merge in between, (11). The same happens if two SR-prefixes co-occur, (12). In contrast, if a PR-prefix attaches on top of a SR-prefix, they must merge as adjacent heads, (13a-b), and the secondary imperfective morpheme occurs outside both of them, (13a'-b'). The same is true if two PR-prefixes co-occur, (14a-c) and (14a'-c').

Conclusion. Constraints on prefixation discussed in this paper seem to confirm linguistic reality of the hierarchical organization of the verb stem in Russian. It is this hierarchical structure that enables productive derivation of multiply prefixed verbs, that obey severe morphosyntactic constraints.

Literature. Babko-Malaya, O. 1999. *Zero Morphology: A Study of Aspect, Argument Structure, and Case*. Ph.D. dissertation. Rutgers University. Di Sciullo, A.M., and R. Slabakova. 2005. Quantification and Aspect. In H. Verkuyl, H. de Swart, and A. van Hout (eds.) *Perspectives on Aspect*. Dordrecht: Springer, 61-80. Ramchand, G. 2004. Time and the event: The semantics of Russian prefixes. *Nordlyd* 32-2. *Special issue on Slavic prefixes*, 323-366. Romanova, E. 2004. Superlexical vs. lexical prefixes. *Nordlyd. Special issue on Slavic prefixes* 32.2. Romanova, E. 2006. *Constructing Perfectivity in Russian*. Ph.D. dissertation. University of Tromsø. Svenonius, P. 2004a. Slavic prefixes inside and outside VP. *Nordlyd* 32-2. *Special issue on Slavic prefixes*, 323-361. Svenonius, Peter. 2004b. Russian prefixes are phrasal. Ms., University of Tromsø. Available at <http://ling.auf.net/lingBuzz/000043>.

Examples

All generalizations are supported by non-elicited examples, but because of space limitations we are only able to cite isolated verbs in this abstract.

- (1) [... superlexical prefix ... [VP ... lexical prefix ...]]
- (2) a. SR-prefixes: *_[FP] SR-prefix [... Stem^[PFV] ...]]
 b. PR-prefix: *_[FP] PR-prefix ... [*ivaP -iva-* ... [Stem]]
- (3) a. **na**-[[ot-kry]^{PFV} -va]^{IPFV}-t' b. **po**-[[ot-kry]^{PFV} -va]^{IPFV}-t'
 'open a quantity of sth.' 'spend some time trying to open sth.'
 c. **za**-[[ot-kry]^{PFV} -va]^{IPFV}-t' d. **pere**-[[ot-kry]^{PFV} -va]^{IPFV}-t'
 'start opening' 'open one by one'
- (4) a. ***na**-[da]^{PFV}-t' (OK **na**-[[da]^{PFV} -va]^{IPFV}-t') b. #**po**-[reši]^{PFV}-t' (OK **po**-[[reš]^{PFV} -a]^{IPFV}-t')
 'give a quantity of sth.' 'solve for a while'
 c. ***za**-[oščuti]^{PFV}-t' (OK **za**-[[oščušč]^{PFV} -a]^{IPFV}-t')
 'start feeling'
 d. #**pere**-[brosi]^{PFV}-t' (OK **pere**-[[bros]^{PFV} -a]^{IPFV}-t')
 'throw one by one'
- (5) a. ***na**-[ot-kry]^{PFV}-t'. b. ***po**-[ot-kry]^{PFV}-t'.
 'open a quantity of sth.' 'spend some time trying to open sth.'
 c. **za**-[ot-kry]^{PFV}-t'. d. #**pere**-[ot-kry]^{PFV}-t'.
 'start opening' 'open one by one'
- (6) a. **do**-[pisa]^{IPFV}-t' b. **pere**-[čita]^{IPFV}-t' c. **pod**-[ras]^{IPFV}-ti
 'complete writing' 'read again' 'grow for a while'
- (7) a. **do**-[da]^{PFV}-t' b. **pere**-[reši]^{PFV}-t' c. **pod**-[obide]^{PFV}-t'
 'complete giving' 'make decision again' 'offend slightly'
- (8) a. **do**-[ob-sudi]^{PFV}-t' b. **pere**-[iz-bra]^{PFV}-t' c. **pod**-[za-rabota]^{PFV}-t'
 'complete discussing' 're-elect' 'make profit slightly'
- (9) a. [[[**do**-[uč]^{IPFV}]^{PFV} -iva]^{IPFV} -t' b. [[[**pere**-[del]^{IPFV}]^{PFV} -yva]^{IPFV} -t'
 'complete learning' 'make again'
 c. [[[**pod**-[tap]^{IPFV}]^{PFV} -iva]^{IPFV} -t'
 'sink slightly'
- (10) a. [[[**do**-[za-bi]^{PFV}]^{PFV} -va]^{IPFV} -t' a'. *[[**do**-[za-bi]^{PFV} -va]^{IPFV}]^{PFV} -t'
 'complete hammering'
 b. [[[**pere**-[za-pis]^{PFV}]^{PFV} -yva]^{IPFV} -t' b'. *[[**pere**-[za-pis]^{PFV} -yva]^{IPFV}]^{PFV} -t'
 'record again'
 c. [[**pod**-[na-kapl]^{PFV}]^{PFV} -iva]^{IPFV} -t' c'. *[[**pod**-[na-kapl]^{PFV} -iva]^{IPFV}]^{PFV} -t'
 'save up slightly'
- (11) a. [**na**-[[**do**-[pis]^{IPFV}]^{PFV} -yva]^{IPFV}]^{PFV} -t'
 'accumulate a quantity of sth. as a result of completing writing it'
 b. [**po**-[[**pere**-[za-pis]^{IPFV}]^{PFV} -yva]^{IPFV}]^{PFV} -t'
 'record again for a while'
 c. [**po**-[[**pod**-[pabat]^{IPFV}]^{PFV} -yva]^{IPFV}]^{PFV} -t'
 'spent some time trying to make a slight profit'
- (12) [**po**-[[**na**-[bir]^{IPFV}]^{PFV} -a]^{IPFV}]^{PFV} -t' 'spent some time accumulating a quantity of sth.'
- (13) a. [**do**-[[**na**-[bra]^{IPFV}]^{PFV}]^{PFV} -t' a'. [[**do**-[[**na**-[bir]^{IPFV}]^{PFV}]^{PFV} -a]^{IPFV} -t'
 'complete collecting a quantity of sth.'
 b. [**pod**-[[**na**-[kopi]^{IPFV}]^{PFV}]^{PFV} -t' b'. [[**pod**-[[**na**-[kapl]^{IPFV}]^{PFV}]^{PFV} -iva]^{IPFV} -t'
 'save a quantity of sth. to some extent'
- (14) a. [**do**-[[**pere**-[dela]^{IPFV}]^{PFV}]^{PFV} -t' a'. [**do**-[[**pere**-[del]^{IPFV}]^{PFV}]^{PFV} -yva]^{IPFV} -t'
 'complete re-doing'
 b. [**pere**-[[**do**-[pisa]^{IPFV}]^{PFV}]^{PFV} -t' b'. [**pere**-[[**do**-[pis]^{IPFV}]^{PFV}]^{PFV} -yva]^{IPFV} -t'
 'complete writing again'
 c. [**pod**-[[**do**-[pisa]^{IPFV}]^{PFV}]^{PFV} -t' c'. [**pod**-[[**do**-[pisa]^{IPFV}]^{PFV}]^{PFV} -yva]^{IPFV} -t'
 'complete writing to some extent'

- (1) a. Examples of LPs: *pod-*, *vy-*, *za-* (a.o.): *pisa-t'* 'write' — *pod-pisat'* 'sign' — *vy-pisat'* 'copy' — *za-pisat'* 'record'
 b. *pisa-t' pis'mo* 'write a/the letter' —
za-pisa-t' pis'mo 'record a/the letter' || ^{OK} *za-pisa-t' disk* 'record a/the CD'
- (2) a. SLPs (according to Romanova 2006):
za- 'inceptive', *na-* '(ac)cumulative', *ot-* 'terminative', *po-* 'delimitative',
pri-, *pod-*, *po-* 'attenuative', *pere-*, *po-* 'distributive'
 b. *za-xodit'* 'start walking around', *na-brat' (gribov)* 'collect a quantity of (mushrooms)',
ot-xodit' 'stop walking', *po-spat'* 'sleep for a while', *pod-prostyjt'* 'catch a slight cold',
pere-lovit' vsech prestupnikov 'catch all the criminals (one after another)'
- (3) a. Vasja **na-za-pis-yva-l** (***za-na-pis-yva-l**) kuč-u disk-ov.
 V. SLP-LP-write-IPFV-PST.M LP-SLP-write-IPFV-PST.M pile-ACC CD-PL.GEN
 'Vasja recorded a lot of CDs.'
 b. Vasja nemnogo **po-za-pis-yva-l** (***za-po-pis-yva-l**) diski (i ušel domoj).
 V. for a while SLP-LP-write-IPFV-PST.M LP-SLP-write-IPFV-PST.M CD-PL.ACC and went home
 'Vasja recorded CDs for a while (and went home).'
- (4) Ramchand 2004: [_{CulmP} [_{Culm} SLP] [_{AspP} ... [_{vP} ... [_{VP} ... [_{RP} [_R LP] [_{SC}]]]]]]
 Romanova 2006: LPs are within R(resultative)P; cumulative *na-* and distributive *pere-* are above VP
- (5) Intermediate prefixes:
 a. completive (CMP) *do-* ≈ 'complete doing sth': *do-pisat'* 'complete writing'
 b. repetitive (RPT) *pere-* ≈ 'do sth again, re-do': *pere-pisat'* 're-write'
- (6) a. [_{ExtP} SLPs ... [_{ItmP*} IPs [_{vP} ... [_{VP} ... [_{RP} ... LPs ...]]]]]]
 b. [_{ExtP} SLPs [_{vP} ... [_{ItmP*} IPs [_{VP} ... [_{RP} ... LPs ...]]]]]]
 where ExtP is a projection of superlexical prefixes, ItmP is a projection of lexical prefixes,
 «X*» reads as 'one or more instances of X'
- (7) a. **pere-za-pisa-t'** || ***za-pere-pisa-t'** 'record again'
 b. **do-vy-pisat'** || ***vy-do-pisat'** 'complete copying'
- (8) a. **po-pere-pis-yva-t'** || ***pere-po-pis-yva-t'** 'spend some time re-writing sth'
 b. **po-do-pis-yva-t'** || ***do-po-pis-yva-t'** 'spend some time completing writing sth'
- (9) Vasja nemnogo **po-pere-za-pis-yva-l** diski (i ušel domoj)
 V. for a while SLP-IP-LP-write-IPFV-PST.M CD-PL.ACC and went home
 'Vasja spent some time re-recording CDs, and went home.'
- (10) a. Vasja [**na-[[za-bi]-va]**]-l gvozd-ej v sten-u.
 V. CUM-LP-hit-IPFV-PST.M nail-GEN.PL in wall-ACC
 'V. hammered_{PFV} a lot of nails into the wall.'
 b. Vasja [[**do-[[za-bi]]-va]**]-l gvozd-i v sten-u.
 V. CMP-LP-hit-IPFV-PST.M nail-ACC.PL in wall-ACC
 '(When I came,) V. was completing hammering_{IPFV} nails into the wall.'
- (11) a. [_{ExtP} **na-** [_{yvaP} -yva [_{vP} Vasja *za-bi* nails into the wall]]]
 b. [_{yvaP} -yva [_{ItmP} **do-** [_{vP} Vasja *za-bi* nails into the wall]]]]
- (12) a. ***na-za-bi-va-nij-e** gvozd-ej b. **do-za-bi-va-nij-e** gvozdej
 CUM-LP-hit-IPFV-NMN-NOM.SG nail-GEN.PL CMP-LP-hit-IPFV-NMN-NOM.SG nail-GEN.PL
 'hammering a lot of nails' 'completing hammering of nails'
- (13) a. ***po-risov-k-a** kartinok b. **pere-risov-k-a** kartinok
 DELIM-draw-NMN-NOM.SG picture.GEN.PL RPT-draw-NMN-NOM.SG picture.GEN.PL
 'drawing pictures for a while' 're-drawing of pictures'
 (cf. ^{OK} *porisoval kartinki* 'drew pictures for a while')
- (14) a. Vasja **do-pere-pisa-l** stat-ju.
 V. CMP-RPT-write-PST.M paper-ACC.SG
 'Vasja completed re-writing a paper.'
 b. Vasja **pere-do-pisa-l** stat-ju.
 V. RPT-CMP-write-PST.M paper-ACC.SG
 'Again, Vasja performed a final stage of writing a paper.'
 c. Vasja **do-do-pisal** knjig-u.
 V. CMP-CMP-write-PST.M book-ACC.SG

{Context: V. had to finish the book yesterday. However, he fell asleep before he finished. Finally, today} 'Vasja completed finishing writing a book.'

- d. Vasja **pere-pere**-pisa-l stat-ju
V. RPT-CMP-write-PST.M paper-ACC.SG

{Context: Having got a lot of suggestions from reviewers, V. rewrote his paper and resubmitted it. New revisions came. After that,} 'Vasja rewrote his paper again.'

- (15) Vasja pere-pisa-l pis'm-o.
V. RPT-write-PST.M letter-ACC.SG
'Vasja re-wrote a/the letter.'

Scenario 1 (repetitive): Vasja had written a letter, but was unhappy with what he wrote and decided to re-write it.

Scenario 2 (restitutive): Petja had written a letter, but Vasja was unhappy with what he wrote and decided to re-write it.

- (16) a. [_{ItmP} **pere-** [_{vP} Vasja [_{VP} pisa- pis'mo]]]
b. [_{vP} Vasja [_{ItmP} **pere-** [_{VP} pisa- pis'mo]]]