Prefixes and T-Features

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Claim:

- Prefixes and prepositions are identical elements.
- A homophonous preposition and verbal prefix are two copies of one P element.
- Prefixes and prepositions bear a valued Tense-feature. Semantic effects of T-f depend on the syntactic position of P elements in a sentence.
- T-f of P elements links nominal reference to temporal reference.
- T-f of P elements is responsible for islandhood.
- All cases (not only structural) are unvalued T-f on N.

1. Prefix = preposition

1.1. Reasons

1) Prefixes and prepositions have the same source in Indo-European languages. See 14 randomly chosen prefixes in (1), (3); almost all prefixes have a prepositional counterpart (2), (4); see also Matushansky (2002) and Ashbury, Gehrke and Hegedűs (2006).

Russian:

- (1) prefixes: do-, iz-, na-, nad-, ot-, pere-, po-, pod-, pri-, pro-, v-, vv-, za-(2) prepositions: do, iz, nad. ot. po, pod, pri, pro, to out.of on above away across along under through from in out behind by Czech: (3) prefixes: do-, z-, na-, nad-, od-, pře-, po-, pod-, při-, pro-, S-, v-, vy-, zanad, od, přes, (4) prepositions: do, z, po, pod, při, pro, na, to out.of on above away across along under through from in out behind
- 2) Prepositions can (just like prefixes) be bound morphemes:
- a. z-dálky but also: dálky (5) b. z (CZ)from-distance from distance 'from far away' 'from far away' (= na co)d. od-kdv e. v-zadu c. na-č on what) from-when in-back 'wherefore' 'from when' 'at the back'
- (6) a. za-ň (= za něj) b. na-ň (= na něj) on him 'behind him' 'onto him'

3) Le	exic	osemantic properties of prefixes and prepos	itio	ns a	re very similar:		
(7)	a.	v-bežat' in-run 'to get into a container by running'	b.	in	komnate room-loc be in a container (room)'	(R)	
(8)	a.	za-jít behind-go 'to get behind x by going'	b.		domem hind house-instr be behind the house'	(CZ)	
4) Pr	efix	es can be combined with a homophonous p	repo	ositi	on:		
(9)	he	n nanes na čerdak mnogo sena. CUM-carried on attic-acc a lot of hay le brought a lot of hay onto the attic.'				(R)	
(10)	be	-jít za dům hind-go behind house-acc o go behind the house'				(CZ)	
5) Pr	epo	sitions can be copied in colloquial Russian:					
(11)	en	osel on v dom v tot v zal tered he into house into that into ha de entered that haunted house.'			nnyj. (Yadroff & Franks 2001, 73	, (17a))	
		P that does not fit the prefix cannot interver on; see also Arsenijević (2006, 205-206).	ne b	etwo	een the homophonous prefix a	and	
(12) 8	1 .	Popugaj v-letel v komnatu. parrot in-flew in room-acc 'The parrot flew into the room.'				(R)	
1).	Popugaj v-letel na stol. parrot in-flew on table-acc					
(Э.	'The parrot flew onto the table.' Popugaj v-letel v komnatu na stol. parrot in-flew in room-acc on table	-ac	c			
(d. '	* Popugaj v-letel na stol v kom parrot in-flew on table-acc in room	natı	u.			
7) Se • Loca		ntic parallelism between prefixes and prepo	sitio	ons:			
		s prefixes:					
		They make verbs perfective (7a), (8a), and (In Reichenbachian system, reference time				me.	
]	Ps a	s prepositions: Prepositions are two-place predicates. The argument (7b), (8b).			,	cond	
• Definiteness							

Ps as prefixes:

Perfectivity as definiteness. Perfective verbs have a definite reference time, see Ramchand (2004, 22):

(13) $[[Asp]] = \lambda P \lambda t[$ there is a single unique moment t_{def} in the event that is salient] $\exists e:[P(e) \& t = t_{def} \in \tau(e)])$

Ps as prepositions:

They make arguments definite. There is a link between non-structural cases and definiteness (presuppositionality), see Starke (2001). PPs and arguments with a non-structural case are islands for extraction:

- (14) a. Popugaj v-letel v komnatu.

 parrot-nom in-flew in room-acc

 'The parrot flew into the room.'
 - b. *Čto popugaj v-letel v t? what parrot-nom in-flew in
- (15) a. Popugaj v-letel v komnatu so stolom.
 parrot-nom in-flew in room-acc with table
 'The parrot flew into the room with the table.'
 - b. * S čem popugaj v-letel v komnatu t? with what parrot-nom in-flew in room-acc
- (16) a. On veril knigam s beloj polki.

 he believed books-dat from white shelf

 'He had a trust in books from the white shelf.'
 - b. * S kakoj polki on veril knigam t? from which shelf he believed books-dat

Yadroff & Franks (2001): English to the women is fissioned (FP definite, goal, case) Russian ženšinam.

2. Analysis: Tense-features

- What is responsible for the parallel behavior of prefixes and prepositions?
- Pesetsky & Torrego (2006): prepositions bear a valued Tense-feaure.
- Since prefixes and prepositions are identical element (Ps), both bear a val T-f (value definite, bounded or quantized).
- T-f of Ps links nominal reference to temporal reference.
- T-f of Ps is responsible for islandhood.

2.1. Ps: val T-f and unval φ-fs DPs: unval T-f and val φ-fs

- Selection of a DP by P as Agreement.
- Probes are unvalued fs in minimalism (e.g. Chomsky 2000) and Ns bear val φ-fs, hence Ps bear unval φ-fs (There are languages with P Agreement: Irish, Welsh).
- Pesetsky and Torrego's proposal (2004, 2006): Structural case is unvalued (uninterpretable) T-f on N (D) and is valued by T and T₀ (Asp).

is extended: All cases (not only structural) are unvalued T-fs on N.

- Agree then values unval T-f on DP (\rightarrow case) and unval ϕ -fs on P (\rightarrow agreement morphology).
- Case (valued T-f) on DPs is indeed a reflection of the localization relation. Directional meaning: acc, locative meaning: loc, source: gen:
- (17) a. v komnatu b. v komnate c. iz komnaty in room-acc in room-loc out.of room-gen 'into the room' 'out of the room'

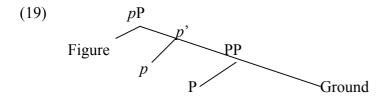
2.2. Asp head

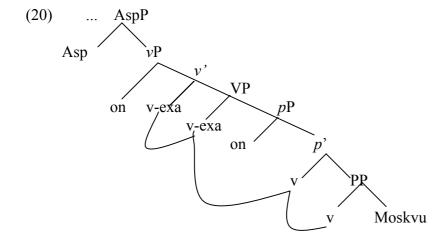
2.2.1. Asp: unval T-f

- Prefixes make verbs perfective (only a few exceptions).
- Idea: T-f on Asp is unval and selects (probes) an element with val T-f. Prefixes are Ps and Ps have val T-f.

2.2.1.1. Derivation

• Since prepositions are two-place predicates, PPs are decomposed. Svenonius (2004): PPs may be decomposed into *p*P and PP, as *v*Ps. *p* introduces the Figure argument and P the Ground argument:





- 1. Merger of v (val T-f and unval φ -fs) with *Moskva* (unval T-f and val φ -fs)
- 2. Agree: φ -fs of v valued and T-f of *Moskva* valued (\rightarrow acc)
- 3. Merger of p and Movement of v to p
- 4. Merger of *on*, *on* (Figure) is located wrt. *Moskvu* (Ground)

- 5. Merger of V and incorporation of v: v-exa
- 6. *v-exa* incorporated into *v*
- 7. Movement of *on* to Spec,*v*P
- 8. Asp (unval T-f) selects vP and the incorporated P element v values T-f on Asp as perfective. Given (10) and the lexical properties of v, the definite reference time corresponds to the result transition (On reached Moscow).
- Prefixes but not prepositions value T-f on Asp as perfective, see (18) and (21).
- Correlation between movement of P and perfectivity.

The P element v does not move out of pP in (21) and T-f on Asp is valued as imperfective by the val T-f on the verb.

Indefinite reference time. Imperfective paradox. Predicates (vP and pP) combine via event identification.

(21) On exal v Moskvu.

he drove in Moscow-acc

'He was driving to Moscow.'

- Prefix may differ from the preposition (22).
- There are two different P elements.

Pri- is merged as *p* and incorporated into the verb and values T-f on Asp as perfective. This gives the resultative definite reference time.

(22) On pri-exal v Moskvu.

he by-drove in Moscow-acc

'He came to Moscow.'

2.2.2. Asp: unval φ -fs

- P values the unval T-f of Ground (\rightarrow case).
- Figure cannot get a case in pP because it is not c-commanded by a P element.
- It gets structural accusative:
- (23) On do-lil vodu do sklenice.

 he to-poured water-acc to glass-gen

 'He topped up the glass with water.'
- Structural accusative (unval T-f on DPs) is valued by Asp because:
- 1) AspP is present in every sentence (every verb must be perfective or imperfective).
- 2) And not valued by v because statives have no causer (vP) but accusative objects are possible:
- (24) milovat Janu (CZ) love Jana-acc 'to love Jana'
- 3) There is a relation between prefixes and Asp, and case of the direct object may be affected by the added prefix:
- (25) a. nesti cvety b. na-nesti cvetov (R)
 carry flowers-acc
 'to carry flowers'

 'to carry a lot of flowers'

- 4) In Germanic languages, internal arguments can affect aspectual properties of the whole event.
- 5) In certain languages, there is a correlation between aspect and the form of the objective case (accusative-partitive alternation in Finnish).
- Given PIC (26), Figure moves to the edge of the ν P phase to be accessible for Asp.
- (26) Phase Impenetrability Condition (Chomsky 2000, 108) In phase α with head H, the domain of H is not accessible to operations outside α ; only H and its edge are accessible to such operations.
- Agree: unval φ-fs on Asp probe and are valued by Figure and T-f on Asp (valued by P(refix) incorporated into the verb) values T-f on Figure as structural accusative (23).
- Existence of Agree between Asp and Figure is supported by φ-fs on *přidělanou*:
- (27) Pavel má tu poličku přidělanou. (CZ)
 Pavel-nom has the shelf-fem.sg.acc by-made-fem.sg.acc
 'Pavel has fixed the shelf.'
- *přidělanou* is not just a modifier of *poličku* in (27); see (28):
- (28) Pavel má tu přidělanou poličku. (CZ)
 Pavel-nom has the by-made-fem.sg.acc shelf-fem.sg.acc
 'Pavel owns the fixed shelf.'
- If AspP in every sentence, then structural Acc is too.
- Thus, a DP can get more cases (as in the case of theta roles); overt in Korean (see also Richards 2007).

DP is spelled out with the last tense value (structurally, the highest case). In (29), T-f on *on* is valued by Asp and then by T:

- (29) On v-exal v Moskvu
 he-nom in-drove in Moscow-acc
 'He drove to Moscow.'
- In passives, T-f on Figure is also valued by Asp and then by T.
- (30) Voda byla do-lita do hrnku.

 water-nom was to-poured to cup-gen

 'The water was poured into the cup.'
- Only structural cases can be overwritten. Ground is trapped (spelled out) in pP phase:
- (31) a. * Do hrnek byl dolit.
 to cup-nom was-3.sg.m to-poured-3-sg.m
 b. Do hrnku bylo dolito.
 to cup-gen was-3.sg.n to-poured-3.sg.n
 'Something was poured into the cup.'

- (32) a. * Pavel byl dán knihu. Pavel-nom was-3.sg.m given book-acc
 - b. Jirka dal Pavlovi knihu. Jirka-nom gave Pavel-dat book-acc 'Jirka gave Pavel a/the book.'

2.2.3. Two T-fs and two structural accusatives

- Two types of T-f on Asp:
 - 1. perfective: valued by Ps (and pf. verbs)
 - 2. imperfective: valued by impf. Verbs
- Both can value T-f on DPs as structural accusative.
- The accusatives could in fact be different.
- They are different. (Non-)islandhood of accDPs is dependent on the value of T-f. T-f on DP valued by imperfective T-f on Asp (which is valued by verb) in (33a). T-f on DP valued by perfective T-f on Asp (which is valued by P(refix)) in (33b).
- (33) a. O čem Pavel psal dopis t? (CZ) about what Pavel-nom wrote letter-acc 'About what was Pavel writing a/the letter?'
 b. ?? O čem Pavel dopsal dopis t?
 - about what Pavel dopsal dopis t?

 about what Pavel-nom to-wrote letter-acc

 'About what did Pavel write the letter?'
- The same contrast for mass nouns:
- (34) a. Z jaké oblasti pil Pavel víno t? (CZ) From which area drank Pavel-nom wine-acc 'From which area was Pavel drinking wine?'
 - b. ?? Z jaké oblasti vypil Pavel víno t? From which area out-drank Pavel-nom wine-acc 'From which area did Pavel drink up the wine?'
- See Krifka (1992): Aspect marking affects the reference type of nouns in Slavic.
- Boundedness (definiteness) also with adverbs:
- (35) a. kdy b. do-kdy when to-when 'when' 'till when'
- Islandhood due to val T-f on P:
 - 1. direct: PPs in (14)-(16)
 - 2. indirect: mediated by Asp in (33b), (34b)

2.3. Superlexical and lexical Ps

- SPs can be merged in the same position as LPs
- Reasons for the low merger of SPs:

(36) a. *kričat' ego shout him-acc	b. pere-kričat' egoEXC-shout him-acc'to shout more loudly than him'	(R)
(37) a. zpívat (si) sing self-dat 'to sing (to oneself)'	b. po-zpívat *(si) DEL-sing self-dat 'to sing for a while (to oneself)'	(CZ)
2) They can change case (25)3) They participate in idioms		
(38) po-byvat' v č'ej-libo DEL-be in someone's 'to be in the same unplea	škure s skin asant position as someone else'	(R)
(39) při-hřát si ATT-warm up self-dat 'to have an axe to grind'	1	(CZ)
determined by the type of the	imperfectives and the (un)grammaticality operfix. form SI but delimitative <i>po</i> - with <i>iskat</i> ' (le	·
(40) po-byvat' DEL-be 'to stay for a while, visit	,	(R)
, .	LP or SP) is dependent on properties of otherix (low or high) would have to be sensiti	
(41) a. pere-čitat' knigu across-read book-ac' to read the book' 'to reread the book'	b. pere-kričat' ego ec EXC-shout him-acc 'to shout more loudly than hi	(R) m'
c. pere-čitat' knigi DISTR-read books-a 'to read the books'	d. pere-šagnut' porog acc across-step doorstep-acc 'to cross the doorstep'	
6) The SP interpretation is al	so present in composed adverbs:	
(42) po-zadu DEL-back 'a little behind'		(CZ)
7) SPs can also be combined8) They also make the verb p9) SPs are a subset of LPs:	with a homophonous preposition (9). perfective (9).	

1) They license arguments and case:

Russian:

(43) LP prefixes: do-, iz-, na-, nad-, ot-, pere-, po-, pod-, pri-, pro-, s-, v-, vy-, za-(44) SP prefixes: do-, iz-, na-, ot-, pere-, po-, pod-, pri-, pro-, za-

Czech:

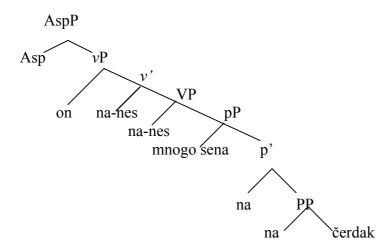
(45) LP prefixes: do-, z-, na-, nad-, od-, pře-, po-, pod-, při-, pro-, s-, v-, vy-, za-(46) SP prefixes: do-, na-, od-, pře-, po-, při-, pro-, za-

• Derivation

Cumulative *na*- merges as P, then moves to p and incorporates into the verb and values T-f on Asp, hence the definite reference time with resulting localization.

(47) On nanes na čerdak mnogo sena. he CUM-carry on attic-acc a lot of hay 'He brought a lot of hay onto the attic.'

(48)



3. Conclusion

Prefixes (LPs and SPs) and prepositions are identical elements.

They bear a valued T-f.

All cases are unvalued T-f on N.

Only structural cases can be overwritten.

T-f of P elements is responsible for the definite nominal reference and the definite temporal reference.

T-f of P elements is responsible for islandhood.

References

Arsenijević, B. (2006), Inner aspect and telicity. PhD. dissertation. Leiden University.

Ashbury, A., B. Gehrke and V. Hegedűs (2006), One size fits all: prefixes, particles, cases and adpositions as members of the category P. Handout from WECOL in Fresno.

Chomsky, N. (2000), Minimalist Inquiries: The Framework. In: Martin, R., Michaels, D., Uriagereka, J. (eds.), Step by Step: Essays on minimalist syntax in honor of Howard Lasnik. Cambridge, Mass.: MIT Press, 89-156.

- Krifka, M. (1992), Thematic Relations as Links between Nominal Reference and Temporal Constitution. In : Sag, I.A. & Szabolcsi, A. (eds.), Lexical Matters. Stanford University, 30-53.
- Matushansky, O. (2002), On formal identity of Russian prefixes and prepositions. In: A. Csirmaz, Z. Li, A. Nevins, O. Vaysman and M. Wagner, (eds.), Phonological Answers (and their corresponding questions). MITWPL 42, Working Papers in Linguistics, Cambridge MA, pp. 217-253.
- Pesetsky, D. & Torrego, E. (2004), Tense, Case, and the Nature of Syntactic Categories. In: J.Guéron & J., Lecarme (eds.), The syntax of Time. Cambridge, Mass.: MIT Press, 495-539.
- Pesetsky, D. & Torrego, E. (2006), Probes, Goals and Syntactic Categories. In: Otsu, Y. (ed.), Proceedings of the Seventh annual Tokyo Conference on Psycholinguistics.
- http://web.mit.edu/linguistics/people/faculty/pesetsky/Probes Goals Pesetsky Torrego.pdf
- Ramchand, G. (2004), Time and the event: The semantics of Russian prefixes. Nordlyd 32.2, special issue on Slavic prefixes, ed. P. Svenonius, 323-361.
- Richards, N. (2007), Lardil "Case Stacking" and the Structural/Inherent Case Distinction. lingBuzz/000405. Starke, M. (2001), Move Dissolves into Merge. Ph.D. dissertation, University of Geneva.
- Svenonius, P. (2004), Adpositions, Particles, and the Arguments they Introduce. lingBuzz/000042
- Yadroff, M. & S. Franks (2001), The origin of prepositions. In: G. Zybatow, U. Junghanns, G. Mehlhorn, and L. Szucsich (eds.), Current Issues in Formal Slavic linguistics. Frankfurt am Main: Peter Lang, 69–79.