

Prefixes as Prepositions and Multiple Cases

Claim:

- Prefixes and prepositions are identical elements.
- A homophonous preposition and verbal prefix are two copies of one P element.
- P elements bear a valued Tense-feature.
- Only moved Ps can change case and aspectual properties of the 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.
- DPs (NPs) can get more cases.

1. Prepositions and Verbal Prefixes Are Identical Elements

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-, s-, v-, vy-, za-
(2) prepositions: do, iz, na, nad, ot, po, pod, pri, pro, s, v, za
to out.of on above away across along under by through from in out behind

Czech:

- (3) prefixes: do-, z-, na-, nad-, od-, pře-, po-, pod-, při-, pro-, s-, v-, vy-, za-
(4) prepositions: do, z, na, nad, od, přes, po, pod, při, pro, s, v, za
to out.of on above away across along under by through from in out behind

- 2) Prepositions can (just like prefixes) be bound morphemes:

- (5) a. z-dálky but also: b. z dálky (CZ)
from-distance from distance
'from far away' 'from far away'
c. na-č (= na co) d. od-kdy e. v-zadu
(on what) from-when in-back
'wherefore' 'from when' 'at the back'

- (6) a. za-ň (= za něj) behind him 'behind him' b. na-ň (= na něj) on him 'onto him' (CZ)

3) Lexicosemantic properties of prefixes and prepositions are very similar:

- (7) a. v-bežat' in-run 'to get into a container by running' b. v komnate in room-loc 'to be in a container (room)' (R)
- (8) a. za-jít behind-go 'to get behind x by going' b. za domem behind house-instr 'to be behind the house' (CZ)

4) Prefixes can be combined with a homophonous preposition:

- (9) On nanese na čerdak mnogo sena.¹ he CUM-carried on attic-acc a lot of hay 'He brought a lot of hay onto the attic.' (R)
- (10) ..., už sem došla do věku, kdy... already aux came to age when '... I already reached the age of...' (PMK129)

5) Prepositions can be copied in colloquial Russian:

- (11) Vošel on v dom v tot v zakoldovannyj. entered he into house into that into haunted 'He entered that haunted house.' (Yadroff & Franks 2001, 73, (17a))

6) The PP that does not fit the prefix cannot intervene between the homophonous prefix and preposition; see also Arsenijević (2006, 205-206).

- (12) a. Popugaj v-letel v komnatu. parrot in-flew in room-acc 'The parrot flew into the room.' (R)
- b. Popugaj v-letel na stol. parrot in-flew on table-acc 'The parrot flew onto the table.'
- c. Popugaj v-letel v komnatu na stol. parrot in-flew in room-acc on table-acc
- d. *Popugaj v-letel na stol v komnatu. parrot in-flew on table-acc in room-acc

7) Semantic parallelism between prefixes and prepositions:

• Localization

Ps as prefixes:

They make verbs perfective (7a), (8a), and localize reference time wrt. event time.

Ps as prepositions:

Prepositions are two-place predicates. The first argument is located wrt. the second argument (7b), (8b).

- Definiteness

Ps as prefixes:

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

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

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. (R)
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. (R)
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 knjigam s beloju polki. (R)
he believed books-dat from white shelf
'He had a trust in books from the white shelf.'
b. * S kakoj polki on veril knjigam t?
from which shelf he believed books-dat

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

2. Lexical Ps and Superlexical Ps

- SPs can be merged in the same position as LPs
- Reasons for the low merger of SPs:
 - 1) SPs also license arguments and case:

¹ For Russian data I thank Inga Žirkova and Evgenya Zhivotova.

(17) a. *kričat' ego b. pere-kričat' ego (R)
 shout him-acc EXC-shout him-acc
 'to shout more loudly than him'

(18) a. zpívat (si) b. po-zpívat *(si) (CZ)
 sing self-dat DEL-sing self-dat
 'to sing (to oneself)' 'to sing for a while (to oneself)'

2) SPs can change case:

(19) a. nesti cvety b. na-nesti cvetov (R)
 carry flowers-acc CUM-carry flowers-gen
 'to carry flowers' 'to carry a lot of flowers'

3) SPs also participate in idioms:

(20) po-byvat' v č'ej-libo škure (R)
 DEL-be in someone's skin
 'to be in the same unpleasant position as someone else'

(21) při-hrát si polívčičku (CZ)
 ATT-warm up self-dat soup-acc
 'to have an axe to grind'

4) SPs can form secondary imperfectives and the (un)grammaticality of SI is only to some extent determined by the type of the prefix.

Delimitative *po-* with *byt'*, *kričat'*, *chlestat'* form SI (22) but delimitative *po-* with *iskat'* (look for), *temnet'* (darken) or *bluždat'* (wander) do not.

(22) a. po-byvat' b. po-krikivat' c. po-chlestyvat' (R)
 DEL-be DEL-shout DEL-whip

5) Interpretation of a prefix (LP or SP) is dependent on the presence of DO (23) and/or properties of other elements (24).

Thus, the merger of the prefix (low or high) would have to be sensitive to these properties.

(23) a. On do-pisal. b. nužno do-pisat' stroku (R)
 he COMPL-wrote necessary to-write line-acc
 'He finished writing.' 'It is necessary to add the/a line'
 'It is necessary to finish the/a line'

(24) a. pere-čitat' knigu b. pere-kričat' ego (R)
 across-read book-acc EXC-shout him-acc
 'to read the book' 'to shout more loudly than him'
 'to reread the book'

c. pere-čitat' knigi d. pere-šagnut' porog (R)
 DISTR-read books-acc across-step doorstep-acc
 'to read the books' 'to cross the doorstep'

6) The SP interpretation is also present in composed adverbs:

(25) po-zadu (CZ)
DEL-back
'a little behind'

7) SPs can also be combined with a homophonous preposition (9).

8) They also make the verb perfective (9).

9) SPs are a subset of LPs:

Russian:

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

(27) SP prefixes: do-, iz-, na-, ot-, pere-, po-, pod-, pri-, pro-, za-

Czech:

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

(29) SP prefixes: do-, na-, od-, pře-, po-, při-, pro-, za-

3. P-Elements, Tense-Features and Multiple Cases

- Tense-feature is responsible for the parallel behavior of (P)refixes and (P)repositions.
- Pesetsky & Torrego (2006): prepositions bear a valued T-f.
- Since prefixes and prepositions are identical element (Ps), both bear a val T-f (value definite, bounded or quantized).
- Only T-f of moved Ps can change case and aspectual properties of the sentence.

3.1. P elements and prepositional case

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.
- Therefore Ps will bear unval ϕ -fs.
- There are languages with P Agreement: Irish, Welsh, Hungarian.

In Hungarian, inflecting postpositions agree with the pronoun:

(30) (én) mögött-em
(I) behind-1sg
'behind me' (Ashbury, Gehrke and Hegedűs 2006, 5)

- 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:

- | | | | | | | |
|---------|--|----|---|----|--|------|
| (31) a. | v komnatu
in room-acc
'into the room' | b. | v komnate
in room-loc
'in the room' | c. | iz komnaty
out.of room-gen
'out of the room' | (R) |
| (32) a. | na střechu
on roof-acc
'onto the roof' | b. | na střeše
on roof-loc
'on the roof' | c. | ze střechy
out.of roof-gen
'from the roof' | (CZ) |

- Compare e.g. Germanic languages (German dat: locative meaning, acc: directional meaning).
Or more complex case systems of Finnish and Hungarian with interior/exterior case distinction.

3.2. Asp(ectual) head

3.2.1. Asp and perfectivity: unval T-f

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

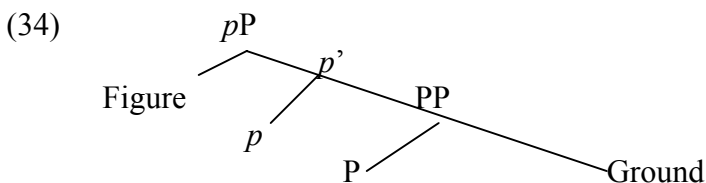
Prefixes are Ps and Ps have val T-f.

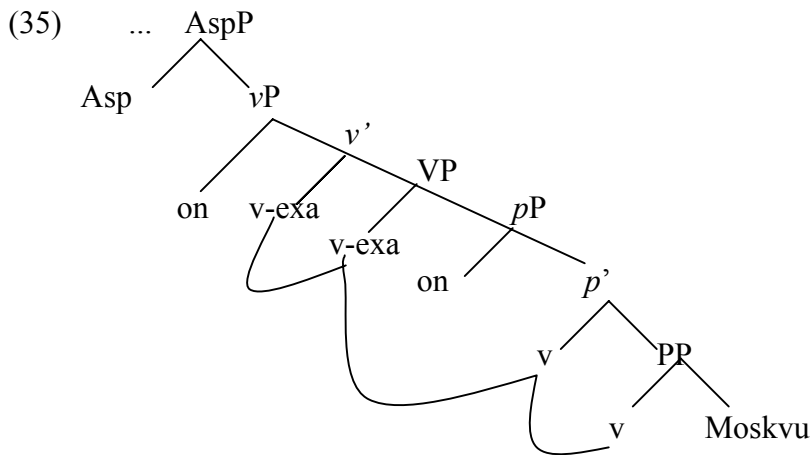
3.2.1.1. Derivation of perfectivity

- | | | |
|-----------------------|---------------|-----|
| (33) On v-exal | v Moskvu | (R) |
| he in-drove | in Moscow-acc | |
| 'He drove to Moscow.' | | |

- Prepositions are two-place predicates; PPs are decomposed.

Svenonius (2004): PPs may be decomposed into *pP* and PP, as *vPs*. *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 v P and the incorporated P element v values T-f on Asp as perfective.
Given (13) and the lexical properties of v , the definite reference time corresponds to the result transition (*On reached Moscow*).

- Prefix may differ from the preposition (36):

(36) On pri-exal v Moskvu. (R)
 he by-drove in Moscow-acc
 'He came to Moscow.'

- 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.

3.2.1.2. Derivation of imperfectivity

- Prefixes but not prepositions value T-f on Asp as perfective, see (33) and (37).

(37) On exal v Moskvu. (R)
 he drove in Moscow-acc
 'He was driving to Moscow.'

- Correlation between movement of P and perfectivity.

1) AspP is present in every sentence (every verb must be perfective or imperfective).

Not valued by v because statives have no causer (v P) but accusative objects are possible:

(41) *liubit' Mashu* (R)
love Masha-acc
'to love Masha'

2) There is a relation between prefixes and Asp, and case of the plural (mass) direct object may be affected by the added prefix (19).

3) In Polish, genitive on the internal argument in negated (existential-)locative sentences is restricted to the perfective verbs (Błaszczak 2007).

4) In Russian, partitive genitive on the object is triggered by the perfective aspect.

5) In Germanic languages, internal arguments affect aspectual properties of the whole event.

6) In certain languages, there is a correlation between aspect and the form of the objective case (accusative-partitive alternation in Finnish, Kiparsky 1998).

7) In aspect split languages, a particular case is restricted to certain aspect (e.g. in Hindi, ergative is restricted to the perfective aspect).

• Given PIC (42), Figure must move to the edge of the v P phase to be accessible for Asp.

(42) 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 (40).

• Existence of Agree between Asp and Figure is supported by ϕ -fs on *přidělanou*:

(43) *Čte v posteli a přitom tam dodneška nemá přidělanou tu lampičku.*
reads in bed and nevertheless there till today neg-has by-made-fem.sg.acc the lamp-fem.sg.acc
'He reads in bed but he has not fixed the lamp there until today.' (SYN2005#28148899)

• *přidělanou* is not just a modifier of *lampičku* in (43); see (44).

(44) #*Čte v posteli a přitom tam dodneška nemá tu přidělanou lampičku.*
reads in bed and nevertheless there till today neg-has theby-made-fem.sg.acc lamp-fem.sg.acc
'He reads in bed but he does not have the fixed lamp there until today.'
(modified SYN2005#28148899)

3.2.2.1. There are 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 are in fact 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 (45a).

T-f on DP valued by perfective T-f on Asp (which is valued by P(refix)) in (45b).

- (45) 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-nom to-wrote letter-acc
'About what did Pavel write the letter?'

- The same contrast for mass nouns:

- (46) 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?'

- Boundedness (definiteness) also with adverbs:

- (47) a. kdy b. do-kdy (CZ)
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 (45b), (46b)

3.2.3. Multiple cases

- If AspP in every sentence, then structural Acc is too.
- All (case-)probes must be valued; therefore DPs get more cases.

In (48), T-f on *on* is valued by Asp and then by T:

- (48) On v-exal v Moskvu (R)
he-nom in-drove in Moscow-acc
'He drove to Moscow.'

- There are languages with multiple overt cases: Korean, Lardil, Kayardild (Evans 1995, Merchant 2006, Richards 2007).

- Multiple cases in Japanese. Japanese allows optional ECM across a finite clause boundary:

(49) John-ga [_{CP} Mary-ga/wo kodomo-da to] omo-ta.
 John-nom Mary-nom/acc child-cpl-pres C think-pst
 ‘John thought that Mary was a child.’ (Hiraiwa 2001, 71)

- In passives, T-f on the moved Figure is also valued by Asp and then by T.

(50) Voda byla do-lita do hrnku. (CZ)
 water-nom was to-poured to cup-gen
 ‘The water was poured into the cup.’

- In restructuring passive (51), T-f on *vodka* is valued by Asp₁, Asp₂ and T₂.

(51) Vodka_i se doporučovala pít t₁ před obědem.
 Vodka-nom self recommended to drink before lunch
 ‘Vodka was recommended to be drunk before lunch.’

- Only one structural case is possible ← DPs have only one T-f.

- DPs are spelled out with the structurally highest tense value; the preceding values are revalued.

- Structural case can be overwritten by inherent case if Hornstein’s (1999) raising analysis of control constructions is right; see *Marii* in (52).

Merchant (2006): nominative on the subject DP is revalued by a preposition in Greek comparatives.

(52) Pavel doporučil Marii být po ruce.
 Pavel-nom recommended Marie-dat to be at hand
 ‘Pavel recommended to Marie to be at hand.’

- Only structural cases can be overwritten; non-structural cases cannot (53)-(55).

- Non-structural cases are preserved under A-movement (Woolford 2006).

- Inherent case: dative

(53) a. * Pavel byl dán knihu. (CZ)
 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.’

- Instrumental

Richards (2007): only structural cases can be affected by genitive of negation (acc vs. instr).

- (54) a. Anna pišet pis'mo ručkoj. (R)
 Anna writes letter-acc pen-instr
 'Anna is writing a letter with a pen.'
 b. Anna ne pišet pis'ma ručkoj.
 Anna not writes letter-gen pen-instr
 'Anna isn't writing a letter with a pen.'

- Prepositional case

- (55) a. * Do hrnek byl dolit. (CZ)
 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.'

- How to analyze the distinction between structural and non-structural cases?
- *p*Ps are phases.
- Complement of *p* is trapped (spelled out) in *p*P phase, therefore T-f on DP cannot be later revalued.

4. Conclusion

- Verbal prefixes (LPs and SPs) and prepositions are identical elements: Ps.
- They bear a valued T-f.
- All cases are unvalued T-f on N.
- DPs (NPs) can get more cases but only structural cases can be revalued.
- 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.

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