Northern Khanty Preverbs

Background:

- Preverbs are adverbial elements, mostly with directional and/or aspectual semantics
- Their definitional property is that they occur before a verb (Arkadiev 2015)
- Preverbs form a close semantic unit with the verb (Booij & Van Kemenade 2003)
- Interact with argument structure (McIntyre 2003) and Aktionsart (Corre 2008)
- Preverbs are different in various languages both morpho-syntactically and semantically (Arkadiev 2015)
    - cf. immobile prefixes in Slavic (Svenonius 2004)
    - cf. separable Germanic particles (Wurmbrand 2000)

In Uralic:

- Most Uralic languages have separable preverbs and only a few have verbal prefixes (Kiefer & Honti 2003)
- Ugric preverbs have been studied from typological and/or areal perspective (Kiefer 1997, Virtanen 2014, Zakirova & Muraviev 2019, inter alia)
- There is a wide range of theoretical accounts of Hungarian preverbs (É. Kiss 2005, 2006, Suranyi 2009, Farkas & Kardos 2021, inter alia)

My work aims to provide a theoretical account of preverbs in Northern Khanty using generative syntax and formal semantics.

Preverbs in Northern Khanty a heterogenous class that consists not only of directional particles but also from result particles and predicational elements (Solovar 2014)

Different types of preverbs:

(1) Directional particles:
pet'aj-en **nuχ** λoλ-əs
Pet'a-POSS.2SG **up** stand-PST[3SG]
'Petya stood up'

(2) Idiomatic particles: a subclass of directional particles
was'aj-en amp-eλ (**nuχ**) jir-λ
Was'a-POSS.2SG dog-POSS.3SGq **up** tie-NPST[3SG]
'Wasya is tying the dog'

(3) Result particles:
pawərt-en **šop-a** sewer-s-a
log-POSS.2SG **part-DAT** chop-PST-PASS
'The log is chopped into pieces'

(4) Predicational elements

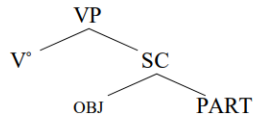
was'a-jen	iśn-eλ	**pɛlka**	pʉš-s-əλλe
Was'a-POSS.2SG	window-POSS.3SG	**wide**	open-PST-3SG>SG

'Wasya opened the window (wide)'

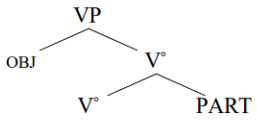
Existing accounts of preverbs vary:

(Wurmbrand 2000): compositional vs. idiomatic semantic distinction between particles in German correspond to two different structures

Small clause structure



Complex head structure

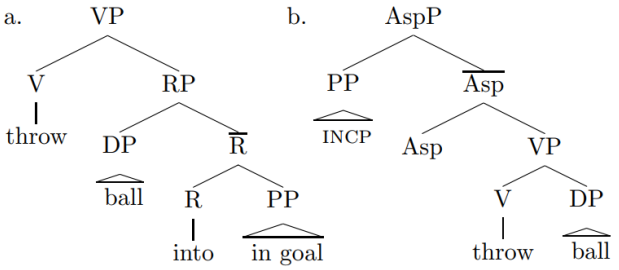


Consequences:

- SC are arguments of V
- SC form a constituent with DO
- SC can move freely
- After V and Part merge into a complex head, they are visible to syntax only as one unit

(Svenonius 2004): distinction between lexical (a) and superlexical (b) prefixes corresponds to two different structures

(2)



Highlights:

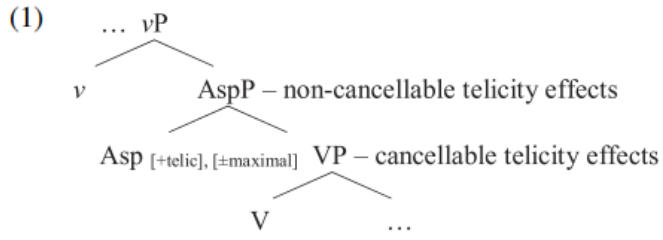
- R(esult) head is assumed for lexical prefixes (telicity)
- Superlexical prefixes are adverbial and move freely

(Suranyi 2009):

Two-step derivation for Hungarian particles (phrasal status):

1. Base-generation at VP
2. Raising to a verb phrase medial position between VP and vP
3. Further movement to a vP-external surface position (specTP)

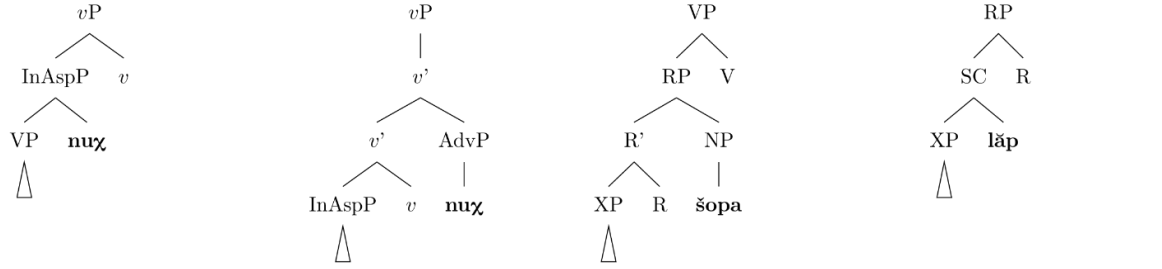
(Farkas & Kardos 2021): assuming of inner Asp head between vP and VP for particles



Further reading: (Vikner 2005, É. Kiss 2005)

My idea at the point: types of preverbs shown in (1)-(4) correspond to different structures

Figure I. Aspectual & vacuous nuχ **Figure II.** Directional particles **Figure III.** NP-preverbs **Figure IV.** Predicational elements



Linear order tests are unavailable

The differences arise as a result of preverbs belonging to different categories:

- Directional particles: Adv (Fig. II)
- Idiomatic particles: (InnerAsp? That's the only idea I have and it is problematic) (Fig I)
- Result modifiers: N (Fig III)
- Predicational elements: SC (Fig IV)

Wait a minute! The preverbs in figures are merged at different heights

That's done mainly for the purpose of unification of frameworks. I assumed RP and merge at its spec/comp mainly for semantic reasons. I hope we can do without it.

Any tests concerning merge height?

Types of preverbs:

A. Directional Particles: *nuχ* 'up'#, *iλ* 'down', *nik* 'towards a shore', *wʉti* 'from a shore', *jɛλ* 'straight', *kim* 'out', *juχi* 'home'

(5) pet'aj-en **nuχ** λoλ-əs
Pet'a-POSS.2SG **up** stand-PST[3SG]
'Petya stood up'

nuχ has directional and non-directional uses, which differ from syntactic point of view

Directional particles are phrasal:

(6) Topicalization

nuχ	ma	šoš-man	tɵp	măn-λ-əm
up	1SG	walk-CVB	only	go-NPST-1SG

'When it comes to going up, I can only walk' {I can't run}

(7) Fragmentation

Q: χuλta măn-λ-an?
where go-npst-2sg
'Where are you going?' [around the mountain]

A: **nuχ**
up
'Going up'

Cannot be used in predicative position

(8) *ol'a-jen **nik**
Ol'a-poss.2sg **towards.the.shore**
exp. 'Ol'a is at the shore / heading towards the shore'

Directional particles derive *-λi* adverbs with a similar distribution:

(9)

nuχλi/nuχ	ma	šoš-man	tɵp	măn-λ-əm
upwards/up	1SG	walk-CVB	only	go-NPST-1SG

'When it comes to going up, I can only walk' {I can't run}

The only syntactic difference between *nuχλi* 'upwards' and *nuχ* 'up' is postposition compatibility:

(10) nuχλi pελa
upwards side
'Upwards'

(11) *nuχ pελa
up side
exp. 'Up'

Another example:

(12)

răp	χuwat	nuχλi / nuχλi pελ-a/ *nuχ
mountain	around	upwards / upwards side-dat / up

{Where are you going?} ‘Up around the mountain’

Both directional preverbs and adverbs cannot be iterated:

(13) *was'a-jen **wɬti** **nuχ** măn-əλ

Wasya-poss.2sg to.the.shore up go-npst[3sg]

exp. ‘Was’a is heading up the shore’ (from the river)

(14) *was'a-jen **wɬtλi** **nuχλi** măn-əλ

Wasya-poss.2sg shorewards upwards go-npst[3sg]

exp. ‘Was’a is heading up the shore’ (from the river)

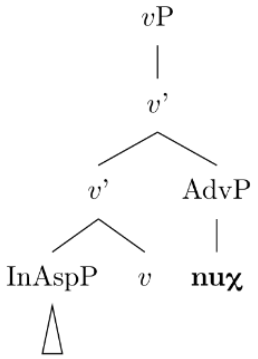
The semantics of particles does not exclude their iteration

Possible explanations:

1. Cartography: directional particles are merged in one slot
2. Type-driven: the semantic type of directional particles excludes recursive merge
3. Distinctness (Richards 2010): we cannot linearize a structure with similar items

Since the distribution of preverbs is identical to adverbs, I propose adverbial structure for them:

Figure II. Directional particles



The only possibility to consider is that *-λi* are not adverbs. But what else?

nuχ ‘up’ has a number of idiomatic uses:

1) non-directional telicity marker with scalar verbs
2) so-called ‘vacuous’, free-to-omit use with non-scalar and non-directional verbs.
   a) compatibility of nuχ ‘up’ in a vacuous use with a verb is lexical information, non-predicted by its syntactic or semantic properties

These uses differ from directional uses syntactically

Use of the preverb	Verb semantics
Directional particle	Verbs of motion
Telicity marker	Scalar verbs (restricted)
Vacuous/Pleonastic	Some class of verbs

(15) Non-obligatory telicity marker

a. Telic perfective

jɛrnas-ɛm nuχ sor-s wɛra sora

dress-poss.1sg up dry-PST[3SG] very fast

'The dress dried very quickly'

b. Atelic perfective

jɛrnas-ɛm χoλen śos mar (*nuχ) sor-s

dress-POSS.1SG 3 hour within up dry-PST[3SG]

'The dress dried for 3 hours' [and is still wet]

c. Atelic imperfective

λʉw χuλna śi (*nuχ) sor-λ

3sg still empth up dry-NPST[3SG]

[The sweater hasn't dries] 'It's still drying'

(16) So-called 'Vacuous' or Pleonastic use*

was'aj-en amp-eλ (nuχ) jir-λ

Was'a-poss.2sg dog-poss.3g up tie-NPST[3SG]

'Wasya is tying the dog'

* there is evidence that it becomes aspectual in non-finite contexts

Idiomatic particles cannot be topicalized or used in fragment answers:

(17) Topicalization

*__nuχ__ amp-eλ jir-s-əλλe

__up__ dog-POSS.3SG tie-PST-3SG>SG

exp. 'He tied the dog [successfuly]' {but he let go deer}

(18) Fragmentation

Q: suχ-λ-an nuχ sor-s-ət?

cloth-PL-POSS.2SG up dry-PST-3PL

'Have the clothes dried?'

A: ***nuχ**
up
exp. 'Fully dried'

But idiomatic particles can be separated from verbal complex by discourse particles and manner adverbs

(19) Separable: particles
%λ~~ʉ~~w nuχ **pa** amt-əs
3SG up **EMPH** be.glad-PST[3SG]
'She rejoiced, too' (Teveleva 2021)

(20) Separable: manner adverb
%purməs-λ-an nuχ **jămа** sor-s-ət antə?
cloth-PL-POSS.2SG up **well** dry-PST-3PL NEG.EX
'Have the clothes dried well, haven't they?

Particle	Separability
pa 'also'	Separable (slightly worse with transitives and cannot intervene for GVD и IEM)
śi EMPH	Separable (worse with transitive)
təp 'only'	Separable (better than others)
ki (conditional)	Separable
k~~ʉ~~š 'though' transitive	Separable
k~~ʉ~~š 'хотя' intransitive	Worse

(21) Separable: question particle
wənšəmut-λ-am nuχ **pɛλi** sor-λ-ti?
Berry-PL-POSS.1SG up **Q** dry-CAUS-NFIN.NPST
'Shouldn't I dry the berries?'

(22) Separable: possibly
jɛrnas-en jɛrt wənt-a nuχ **aλpa** sor-λ
dress-poss2sg rain before-dat up **perhaps** dry-npst[3sg]
'Perhaps the dress will dry before the rain' [REI]

(23) Separable: optative
Nuχ **aλ** λuλa-λ!
Up **opt** melt-npst[3sg]
[I hold the ice in the fridge] 'So it wouldn't melt'

(24) Separable: almost
Śul nuχ **χaśśi** təχnəm-əs
Button up **almost** tear-pst[3sg]
'The button almost tore up'

(25) Inseparable: NP

*was'a-jen	wʉti	**sanχəm-a**	măn-λ
Was'a-poss.2sg	from.the.shore	**shore-dat**	go-npst[3sg]

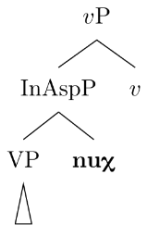
exp. 'Was'a is going to the shore up the hill'

The outcome of this data is that idiomatic nuχ cannot be analyzed as a complex head.

Why do these particles intervene between V and nuχ?

Idea: for prosodic reasons

Figure I. Aspectual & vacuous nuχ



(Suranyi 2009, Travis 2010, Farkas & Kardos 2021)

The problems with assuming InAspP:

- The arguments put forward by Travis (2010) are mostly morphological
- Vacuous uses of *nuχ* in finite contexts are not related to telicity (but in one non-finite context they are)

How to show that InAsp is present in Khanty?

> We need to show that its semantic input is equivalent to telicizing head. For that reason, we need a semantic theory of telicity.

The standard account of telicity uses MAX(e) (Filip 2006, Martinez Vera 2021). Put informally, the degree of change occurring within the course of event has to reach maximum, lexical (telos) or contextually-given.

- Degree maximalization (bounded scale + identifiable quantity of the theme)
- **Event maximalization** (bounded scale)

With scalar verbs, MAX(e) is clearly at work, since *nuχ* marks telicity.

<u>To check:</u> is the theme always quanted? (definite if plural or singular)

However, why doesn't it work with other verbs?

❖ If it is degree maximalization, the problem might be in absence of degree argument in these ones: *nuχ* adds a scale which is vacuous for a broad class of verbs and is associated with a lexical scale with scalar verbs

- More-generally, this leads to an idea that nuχ is a type-shifter
- Other possible reasons to type-shift?

❖ Another solution: something in the structure blocks its application

Why degrees?

(Kozlova 2024) shows that degree modification of VP becomes accessible in presence of **directional** nuχ

(65) λiw alǝŋ χөńǝλ want-ti păt-a rɛp-a (***wɛra/ *šɛŋk**)
3PL morning dawn see-NFIN.NPST for-DAT mountain-DAT very very
χөŋχ-s-ǝt
ascend-PST-3PL
'They went (int. very high) up the mountain to see the sunrise.'

(66) λiw alǝŋ χөńǝλ want-ti păt-a rɛp-a
3PL morning dawn see-NFIN.NPST for-DAT mountain-DAT
%wɛra / šɛŋk / %mɛt nuχ χөŋχ-s-ǝt
very very most PVB.UP ascend-PST-3PL
'They went very high up / on the top of the mountain to see the sunrise.'

(Kozlova 2024: 23)

(further versions: degree modifiers with aspectual and pleonastic *nuχ*)

(25, 25) jɛλλi-šǝk / jɛλ-šǝk pa jɛša măn-a
далеко-att /перед-att и немного идти-imp.2sg
'Немного дальше/еще вперед пройди'
ср. с наречием šǝk аттенуативный

(25,5) pet'a-jen ewǝλt nuχ-šǝk nawǝrm-a
Петя-poss.2sg от высоко-attr прыгнуть-imp
'Прыгни выше Пети'

(26) pet'a-jen jăŋ mɛtraj-ǝn nuχλi/nuχ măn-λ
Pet'a-poss.2sg 10 meter-loc upwards/up go-npst[3sg]
'Pet'a is going three meters up'

По данным (Черемисинова 2021), šǝk при отрицании глагола имеет значение небольшого временного промежутка до наступления предела. И с šǝk nuχ не сочетается, при том, что вариант без šǝk с нухом сочетается

(26,5) ma jɛrnas-ɛm χuλna (*nuχ) ănt-šǝk (*nuχ) sor-s

1sg платье-poss1sg still up neg-att up сохнуть-pst[3sg]
‘Платье еще немного не досохло’

(26,75) ma jɛrnas-ɛm χuλna nuχ ănt sor-s
1sg платье-poss1sg still up сохнуть-pst[3sg]
‘Платье еще не досохло’

I assume that nuχ is one entity (for example, it introduces contraction with *iλ* even in non-compositional meaning):

(27) *aj-λ-an χuλ juχ-λ-aλ iλ nuχ sewer-s-eλ
Small-pl-poss.2sg all tree-pl-poss.3sg down up cut-pst-3pl>sg
Exp. ‘The boys have cut down the trees’
Ok with iλ, * with nuχ less degraded

Therefore, any nuχ introduces a scale

Is *nuχ* really one entity?

I really do believe so.

Idea: nuχ introduces a set of ordered points that may be interpreted either as vector (Zwarts & Winter 2000), which corresponds to directional uses, or as a scale (Kagan 2013), which corresponds to telic uses. I don’t know yet what’s going on with vacuous uses

Thoughts of idiosyncrasies

The striking contrast between Khanty and German is that while compositionally transparent particle exhibits freedom of movement idiomatic stays in-situ

Why doesn’t it move?

- Syntactic point: There is a construction syntactic idea that there is an idiosyncratic domain (first phase, Embick & Marantz 2008, Ramchand 2008)
  - Under this approach, to compose idiosyncratically with VP, particle must stay in-situ

- Semantic point: particles might pseudo-incorporate in Northern Khanty (Dayal 2015, Sağ 2019)
  - With all the particles that we have there are a lot of idiosyncrasies so they are stored as lexical items in the lexicon
  - Existing theories discuss only noun pseudo-incorporation
  - Under this line of thought, prefixes incorporate in Slavic (pronounced as a single prosodic unit)

- ❖ Interface point: to be interpreted compositionally, particles need to stay within one phase with verb (either v or T)
  - ➢ Has parallels to Polina Kasyanova's phonological account of Chukchi incorporation (Kasyanova 2023)

Aspectual puzzle:

In one non-finite context (no more than AspP), 'vacuous' prevebs turn out to optionally mark telicity: *-man* converbs can be used to introduce eventuality simultanious to the event in the matrix clause (10) and resultant state (11):

(28) Atelic: telicity marker is impossible

oleg-en	tuš-λ-aλ	(*__nuχ__)	λur-man	vanna-əλ	
Oleg-POSS.2SG	mustache-PL-POSS.3SG	**up**	shave-CVB	bathroom-POSS.3SG	
χuw	tăj-s-əλλe				
long	hold-PST-3SG>SG				

'Oleg took a long time being in the bathroom while shaving'

(29) Telic: the preverb is optional

amp	(__nuχ__)	jir-man	wə-λ	
dog	**up**	tie-CVB	COP-NPST[3SG]	

'The dog is tied'

When it comes to other non-finite contexts (here: purpose clauses), the striking contrast disappears

(30) Purpose clause

wəntr-en	amp-eλ	(nuχ)	jir-ti	kim ɛt-s	
Andrey-poss.2sg	dog-poss.3sg	up	tie-nfin.npst	out	go.out-PST[3SG]

'Andrey went out to tie the dog'

Another type of preverbs:

B. Result particles: rawa 'to pieces', šɯka 'to pieces', šəpa 'to parts', jira 'away'

These are in general akin to directional particles, according to syntactic tests. For instance, they can be topicalized (32) and are ungrammatical in predicative position (33).

(31)

pawərt	šop-a	ewət-man
log	part-dat	cut-cvb

'The log is cut into parts'

(32)

*an-en	raw-a
cup-POSS.2SG	pieces-DAT

exp. 'The cup is broken to pieces'

(33) juχ **šop-a** pawərt piλit-man, aj **šuk-a**
wood **part-DAT** log saw-CVB small **bit-DAT**
kuržka-jen šukat-man
cup-POSS.2SG break-CVB
'The log is sawn to pieces and the cup is broken into pieces'

(34) fragmentation
vova-jen muj wʉren sewer-s juχ puta-λ-əλ?
Vova-poss.2sg q state cut-pst tree log-pl-3pl
?aj šop-a
small part-dat
'To what state did Vova cut the tree log? To small parts'

I argue that result particles are small nominals (Pereltsvaig 2006), since they accept only low nominal modification:

(35) numeral

pawərt-en (wɛt) šɵp-a sewer-s-a
log-POSS.2SG (5) part-DAT chop-PST-PASS
' 'The log is chopped into five pieces'

(36) adjective

was'aj-en an-λ-aλ (aj) raw-a
Was'a-POSS.2SG cup-POSS.3SG small bit-DAT
šukə-s-əλλe
break-PST-3SG>SG
'Was'a broke the cup into small bits'

(37) another nominal dependent

puχ aŋkeλ-ən wɵš jir-a par-s-a
son mother-loc city edge-dat say-pst-pass[3sg]
'Mother sent her son to the edge of the village'

(38) No existential quantifier
??tolya-jen aj pasăŋ muλsər šʉka wutλ-əs-λe
Tolya-poss.2sg small chair some bit-dat chop-pst-3sg>sg
exp. 'Tolya broke the chair to some pieces'

(39) No demonstrative
*šaj an-ət tăm šuk-a šukət-sə-λe
tea cup-pl this bit-dat break-pst-3sg>ng
exp. 'He broke the tea cups to this bits'

(40) No plural
*l'ova-jen an-λ aj šʉkə-t-a šʉkət-s-əλλe

Lyova-poss.2sg cup-poss.3sg small bit-pl-dat break-pst-3sg>sg
exp. 'Lyova broke the cup into small bits'

(41) No universal quantifier
*tol'a-jen pawərt-λ χuλ šop-a ewət-s-əλλe
Tol'a-poss.2sg log-poss.3sg all part-dat cut-pst-3sg>sg
Exp. 'Tolya chopped log to all pieces'

(42) No universal quantifier
*was'a-jen šaj an pa λănik an kăšəŋ šʉk-a
Was'a-poss.2sg tea cup and ??? cup every bit-dat
šʉkəλ-s
break-pst
'Was'a broke the tea cup and the tea cup to every bit'

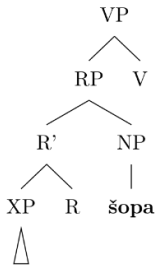
(43) High DP Dependent
*l'ova-jen an-λ ar šʉk-a šʉkət-s-əλλe
L'ova-poss.2sg cup-poss.3sg many bit-dat break-pst-3sg>sg
exp. 'L'ova broke cup to many piece'

(44) No anaphora
vovajen anλ aj šʉka šukatsəλλe
?λiw tapripajən.

More to ask:

- agreeing and non-agreeing possessors
- *ut*: what it can substitute and which modifiers it can have
- nominals in *–(j)a jis*

Figure III. NP-preverbs



C. Predicational elements: pɛlka 'wide', lăp 'tightly'

Their distinguishable property is that they can be used predicatively:

(45) iśń-en pɛlka
window-POSS.2SG wide
'The window is open'

(46) ma ow-en **lăp** tăj-əλ-ɛm

1SG door-POSS.2SG **tightly** hold-NPST-1SG>SG
'I hold the door tightly shut'

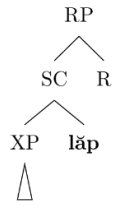
(47) **pɛlka** **lăp**
wide **tightly**
3SG window-POSS.3SG open-PST-3SG>SG and
ow-eλ tөχər-s-əλλe
door-POSS.3SG close-PST-3SG>SG
'He opened the door wide and closed the door tightly'

(48) was'a-jen iśn-eλ pɛlka nuχ pᵾš-s-əλλe
Was'a-poss.2sg window-poss.3sg wide up up-pst-3sg>sg
'Was'a opened the window (wide)'

Form a constituent with the direct object:

(49) ?ow-eλ lăp λᵾw tăj-əλ-λe?
door-POSS.3SG tight 3SG hold-NPST-3SG>SG
'Does he hold the door shut?'

Figure IV. Predicational elements

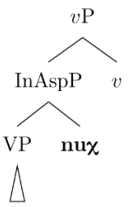


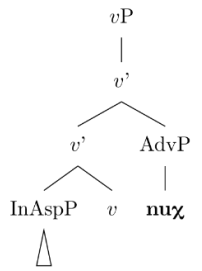
The structure of small clause up to now has been symmetrical, however, it is more common to have an asymmetrical structure with Pi head, which is responsible for phi-features (Citko 2008)

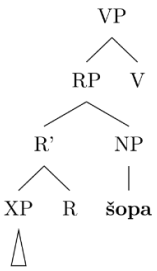
What to check:
- Agreement on the copula

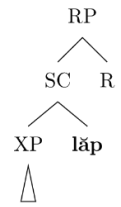
Summing up, the diagnostics lead to four structures:

Figure I. Aspectual & vacuous nuχ **Figure II.** Directional particles **Figure III.** NP-preverbs **Figure IV.** Predicational elements









All the particles linearly follow the object

D. Some other particles: śiw ‘there’, śiχ ‘to death’, χult ‘completely’, ara ‘to different sides’, χunša ‘вверх лицом’, χunta ‘вверх дном’

No fragmenting is possible:

(49,5) Q: muj wuren was'a-jen iśkij-ən pot-s-a?
Q state Wasya-poss.2sg frost-loc freeze-pst-pass[3sg]
‘How is Was’a frozen?’
A: *śiχ.
to.death
exp. ‘To death’

ara is a blank spot. It doesn’t pattern nor with result particles, nor with directional particles, nor with predicational elements. If they form a class with *nuχ*, the theory of InnerAsp is questioned: InAsp is argued to be responsible for telicity and not for event-internal pluractionality (the lowest denotation possible)

(in further versions there will be more examples of *ara*)

χunša & *χunta* are newly discovered preverbs. They look similar to directional particles and can be accounted for as adverbs.

χunša

(50) ma **χunša** u-λ-əm
1sg **на.спине** спать-npst-1sg
‘Я сплю на спине’

(51) %**χunša** ma u-λ-əm
на.спине 1sg спать-npst-1sg
‘Я сплю на спине’

(52) *ma **χunša**
1sg на.спине
Exp. ‘Я сплю на спине’

χunta:

(53) χop-en [//] śiti śi χunta u-λ
boat-poss.2sg [//] dem emph на.животе lie-npst[3sg]
‘The boat [has turned over in water] and keeps lying turned over’

(54) χunta χop-ew măn-s
на.животе boat-poss.1pl go-pst[3sg]
‘The boat turned over’

(55) *χop-ew χunta
Boat-poss.1pl на.животе
Exp. ‘Лодка лежит перевернутая’

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