Lessons from verbs of motion

Petr Biskup
Leipzig University

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Overview

Two types of motion verbs:

paired motion verbs,

motion verbs with momentaneous roots.

Many specific (revealing) properties.

The relation between: Plural interpretation,

argument structure,

themes.

Their morphosyntax and spanning analysis of themes.

Derivational model with superset.

Allomorphy, locality and the *ABA pattern.

Paired motion verbs

Paired motion verbs

East and West Slavic languages:

between 9 (Polish, Slovak) and 20 (Ukrainian) pairs.

Typically: 'run, walk, fly, carry, swim, climb, crawl, drag, drive, chase, roll'.

(1) a. *letet'* [dir] b. *letat'* [non-dir] 'to fly' (R)

(2) a. *iść* [dir] b. *chodzić* [non-dir] 'to go/walk' (P)

South Slavic: only Slovenian some traces, e.g.

(3) a. *nesti* [dir] b. *nositi* [non-dir] 'to carry' (Sl)

(Sussex & Cubberley 2006).

Idiosyncratic properties:

Lexical (directed vs. non-directed, determinate vs. indeterminate)

Aspect: both ipf.

Arg. structure: different verb classes.

Morphophonological: root allomorphy, distinct themes…

Paired motion verbs

Russian: **directed** motion verbs **unaccusative** &
non-directed motion verbs **unergative**;
test with CUM ***na-*** (e.g. Schoorlemmer 1995, Harves 2002, Romanova 2004)
(cf. also Levin & Rappaport Hovav 1995, Ramchand 1997).

Czech: (4) analogous to Romanova (2004, 273),
dir verb (4a) behaves **unaccusatively**,
non-dir verb (4b) – with ***-a*** – **unergatively**,
The non-directed verb **OK with an object** (4c).

(4) a. Tolik lidí tam na-běh-l-o!
so.many people there on-run-l-SG.N
'So many people gathered there!'

b.* Tolik lidí tam na-běh-**a**-l-o!
so.many people there on-run-TH-l-SG.N

c. Tolik lidí tam na-běh-**a**-l-o 5km!
so.many people there on-run-TH-l-SG.N 5km
'So many people ran 5km there!'

Paired motion verbs

The same behavior with ***jet*** vs. ***jezdit*** 'to go':

dir (5a) behaves **unaccusatively**,
non-dir (5b) – with ***-i*** **unergatively**,
The non-directed verb **OK with an object** (5c).

(5) a. Tolik lidí tam na-je-l-o! b.* Tolik lidí tam na-jezd-**i**-l-o! (Cz)
so.many people there on-go-l-SG.N so.many people there on-go-TH-l-SG.N
'So many people gathered there!'

c. Tolik lidí tam na-jezd-**i**-l-o 5km!
so.many people there on-go-TH-l-SG.N 5km
'So many people went 5km there!'

Paired motion verbs

directed *běž-**e**-t* (6a), *nés-t* (7a): **progressive** reading, theme ***-e***, ***-Ø***,

non-directed *běh-**a**-t* (6b), *nos-**i**-t* (7b): **iterative** or generic meaning, theme ***-a*** or ***-i***.

Nichols (2010 and references therein): ***-i*** (+ ***-o-*** grade in root) = Indo-Europ. causative morphology.

Medová (2012): ***-i*** = transitivity (agentivity) & ***-e*** unaccusativity.

(6) a. Jirka běž-**í** do školy.
Jirka run-TH to school
'Jirka is running to school.'

b. Jirka běh-**á** do školy. (Cz)
Jirka run-TH to school
'Jirka runs to school.'

(7) a. Jirka nes-e aktovku.
Jirka carry-TH schoolbag
'Jirka is carrying a schoolbag.'

b. Jirka nos-**í** aktovku. (Cz)
Jirka carry-TH schoolbag
'Jirka carries a schoolbag.'

Often also **root allomorphy** (7a) vs. (7b), R: *nesti* - *nosiť*, Sl: *nesti* - *nositi*

Paired motion verbs

Participial adjectives support: **dir** Vs (= **unacc**.) vs. **non-dir** Vs (= **unerg**.).

2 types in Czech (Slavic) that predicate over the underlying object:
(e.g. Schoorlemmer 1995, Cetnarowska 2000, Kosta & Frasek 2004, Veselovská & Karlík 2004)

1. **Resultative**: suffix -*l* + ending (-*ý*),
   from unaccusative stems.
2. **Past passive**: suffix -*n*/*t* + -*ý*,
   from transitives.

Prefixes transitivize unergatives but not unaccusatives (Biskup 2019).

(ode-)**jít** 'go away' vs. (od-)**chodit** 'complete going'

(8) a. odešlý / * odejitý dopis -*l* → *jít* **unacc.**
went.away letter

b.* odchodilý / odchozený kilometr -*n/t* → transitive → *chod-i-t* **unerg**.
went.away km

Paired motion verbs

The same contrast with:

(na-)**běhnout** ‘swell’ vs. (na-)**běhat** ‘run a lot’

(9) a. naběhlý / *naběžený ret -*l* → *běž-e-t* **unacc.**
swollen lip

b.* naběhalé / naběhané kilometry -*n/t* → transitive → *běh-a-t* = **unerg**.
run.a.lot kms

(od-)**letět** ‘fall off’ vs. (od-)**létat** ‘complete by flying’

(10) a. odlétlý / *odletěný kamínek -*l* → *let-ě-t* **unacc.**
fallen.off stone

b.* odlétalé / odlétané kilometry -*n/t* → transitive → *lét-a-t* = **unerg**.
fly.away kilometers

Transitive motion Vs not interesting here:

both (dir and non-dir) form ***-n/t* participial adjectives**.

Paired motion verbs

Interim summary

-a and ***-i*** bring about **agentivity** (unergative and transitive Vs),

and **iterate** the event.

-e brings about **unaccusativity**,

and **episodic** reading.

“Unpaired” motion verbs

“Unpaired” motion verbs

Based on **momentaneous** roots:

(11)	a.	mach-a-ć	‘to wave’	(P)
	b.	kiv-a-ť	‘to nod’	(R)
	c.	kop-a-ť	‘to kick, dig’	(Sk)
	d.	mig-a-ti	‘to blink’	(BCMS)

Similar to paired motion Vs:

also have -***a*** (11),
and **counterparts** with a different theme: semelfactive -*N*(*U*) (12),
contrast between **iteration** (plurality) (11) & singularity (diminutivity, Štarkl et al. To appear) (12),
iterative interpretation induced **by -*a*** (11),
also **argument structure** effects (14).

(12)	a.	mach-n-ą-ć	‘to wave’	(P)
	b.	kiv-n-u-ť	‘to nod’	(R)
	c.	kop-n-ú-ť	‘to kick, dig’	(Sk)
	d.	mig-n-u-ti	‘to blink’	(BCMS)

“Unpaired” motion verbs

With -*a*: **iterated events** (13a),

With -*ną*: **sg. interpretation** (13b):

(13) a. Pies mach-a-ł ogonem. (P)
dog wave-TH-PTCP tail.INST
‘The dog wagged its tail several times (for some time).’

b. Pies mach-ną-ł ogonem.
dog wave-SEML-PTCP tail.INST
‘The dog wagged its tail once.’

“Unpaired” motion verbs

Argument structure effects with *vypad-a-t* vs. *vypad-nou-t* ‘fall out’:

-a licenses the transitive *-n/t* with unaccusatives (14a),

brings about the **pluractional** (iterative) interpretation: **pl. noun** OK (14a)
sg. bad (14b).

With sg., *-l* participle is OK (14c).

-a blocks *-l* = determines the part. allomorph (14a,b,d).

(14) a. vy-pad-**a**-n-é vlas-y
out-fall-TH-n/t-PL hair-pl
‘hairs that fell out’

b. # vy-pad-**a**-n-ý vlas (Cz)
out-fall-TH-n/t-SG hair.SG

c. vy-pad-l-ý vlas
out-fall-l-SG hair.SG
‘one hair that fell out’

d. * vy-pad-**a**-l-ý/-é vlas.Ø/-y
out-fall-TH-l-SG/PL hair.SG/-PL

“Unpaired” motion verbs

Interim summary

-*a* **iterates** the event vs. -*n*(*u*) **singularizes** (in North Slavic),

-*a* can also pluralize arguments,

-*a* can license transitive -*n/t*.

Pluractionality

Analysis: Pluractionality

What is the iterative -*a*, -*i*?

Pluralizing markers.

2 types of pluractionality: **event-internal and event-external**

(Newman (1980), Cusic (1981), Lasersohn (1995), Chrakovskij (1997), Landman (2006), Wood (2007), Bertinetto & Lenci (2012), Wągiel (2023)),

i.e., repetition ***within*** events (more phases) vs. repetition ***of*** events,

or ***repetitive*** events vs. ***repeated*** events.

→ **-*a*, -*i* = event-internal pluractionality**.

Supported by:

Isačenko (1960): R. Vs as *bod-a-t'* 'to stab' = activities with multiple phases.

Wood (2007): semelfactives commonly occur with event-internal pluractionality.

Analysis: Pluractionality

What is the **event-external pluractionality?**

The iterative meaning of the **secondary ipf. -*YVA*** (**SI split** in $ITER_{ext}$ & Prog (Biskup 2024, to appear)).

(15) On o-pis-yva-l svoju dorogu dva raza. (R)
he about-write-$ITER_{ext}$-PST his journey.ACC twice
'He described his journey twice.'

The **difference** wrt. cardinals:

$Iter_{ext}$: only one reading (15).
$Iter_{int}$: iterated events (phases) form a unit → ambiguity (moment. & paired):

(16) a. Včera Pavel kop-a-l do dveří dvakrát. (Cz)
yesterday Pavel.NOM kick-$ITER_{int}$-PTCP in door twice
1. 'Yesterday, on some occasions, Pavel kicked the door twice.'
2. 'Yesterday, on two occasions, Pavel kicked the door several times.'

b. Včera Pavel nos-i-l vodu dvakrát.
yesterday Pavel.NOM kick-$ITER_{int}$-PTCP water twice
1. 'Yesterday, on some occasions, Pavel carried water twice.'
2. 'Yesterday, on two occasions, Pavel carried water several times.'

Analysis: Pluractionality

Also **supported** by **del. *po-***

In scope of ITER$_{ext}$ (of SI), aspectually and interpretationally:

(17) a. **po**-spá-va-t^{IPF} (Cz)
DEL-sleep-ITER$_{ext}$-INF
'to sleep from time to time'

b. **po**-płak-iwa-ć^{IPF} (P)
DEL-cry-ITER$_{ext}$-INF
'to cry from time to time'

Del *po-* **scopes over** ITER$_{int}$:

(18) a. **po**-mach-a-ć^{PF} ogonem (P)
DEL-wave-ITER$_{int}$-INF tail.INST
'to wag tail for a while'

b. **po**-let-a-t'^{PF} (R)
DEL-fly-ITER$_{int}$-INF
'to fly for a while'

Analysis: Pluractionality

-*a* and -*i* (i.c.t. -*e* and -*n*(*u*)) **spell out an ITER** operator;

forms the **iteration set E** with the **plural** cardinality:

(19) $[[\text{ITER}]] = \lambda P_{QUA} \lambda E \exists e.P(e) \wedge e \in E \wedge \mathbf{|E| > 1} \wedge \forall e'.e' \in E \rightarrow P(e')$

Based on Lasersohn (1995) and Wood (2007) and

other conditions can be present, e.g. **temporal non-adjacency** in (20)
(Lasersohn 1995, Wood 2007, Henderson 2017, Kuhn 2019, Biskup 2024):

(20) $[[\text{ITER}]] = \lambda P_{QUA} \lambda E \exists e.P(e) \wedge e \in E \wedge |E| > 1 \wedge \forall e'.e' \in E \rightarrow P(e') \wedge \neg \mathbf{\tau(e') \supset\subset \tau(e)}$

The meaning can be **parametrized** (Lasersohn 1995);

moment. motion Vs as (21a) distribute over time (20) vs. (21b) has (19):

(21) a. Jirka kop-a-l do dveří.
Jirka kick-ITER_{int}-PTCP to door
'Jirka kicked the door.'

b. Jirka běh-a-l po hřišti.
Jirka run- ITER_{int}-PTCP on playground
'Jirka run here and there in the playground.'

Analysis: Pluractionality

Iter$_{int}$: iterated events (phases) **form a unit** → ambiguity.
Iter$_{ext}$: only one reading:

(22) a. Včera Pavel kop-a-l do dveří dvakrát. (Cz)
yesterday Pavel.NOM kick-ITER$_{int}$-PTCP in door twice
1. 'Yesterday, on some occasions, Pavel kicked the door twice.'
2. 'Yesterday, on two occasions, Pavel kicked the door several times.'

b. On o-pis-yva-l svoju dorogu dva raza. (R)
he about-write-ITER$_{ext}$-PST his journey.ACC twice
'He described his journey twice.'

Iter$_{int}$: meaning like Iter$_{ext}$ with **ATOM** (allows counting pluralities):

(23) $[[\text{ITER}_{int}]] = \lambda P_{QUA} \lambda E \exists e.P(e) \wedge e \in E \wedge |E| > 1 \wedge \mathbf{ATOM}(E) \wedge \forall e'.e' \in E \rightarrow P(e') \wedge \neg \tau(e') \supset\subset \tau(e)$

(22a): 1. $|E| = 2$
2. 2x(E) = two atomic Es

(22b): 1. $|E| = 2$

2 ITERs: similar semantics, distinct s. positions and partially distinct phonology.

Morphosyntax

Morphosyntactic analysis

All themes – -*a*, -*i*, -*e* and -*n*(*u*) – **verbalize**:

(24) a. chod
'walk, movement'
b. chodiť
'to walk, move'
(R)

(25) a. mig
'wink'
b. migati
'to wink'
(BCMS)

(26) a. let
'flight'
b. letět
'to fly'
(Cz)

(27) a. kop
'kick'
b. kopnúť
'to kick'
(Sk)

→ **spell out *v*** (+ -*a*, -*i* also ITER_{int}).

In Cz, Sk, -(*v*)*a* (and unproductive -*e*) as the **secondary imperfective** suffix (28c);

del. *po-* **scopes over (& pf.)** ITER_{int} and **below** ITER_{ext}:

(28) a. plác-a-t^{IPF}
slap-ITER_{int}-INF
'slap repeatedly'
b. po-plác-a-t^{PF}
on-slap-ITER_{int}-INF
'slap repeatedly for a while'
c. po-plác-á-va-t^{IPF}
on-slap-ITER_{int}-ITER_{ext}-INF
'slap repeatedly for a while several times'
(Cz)

Morphosyntactic analysis

***-a* licenses** the transitive *-n/t* with unaccusatives (29a)

(29) a. vy-pad-**a**-n-é vlas-y
out-fall-ITER$_{int}$-n/t-PL hair-pl
'hairs that fell out'

b. vy-pad-l-ý vlas (Cz)
out-fall-l-SG hair.SG
'one hair that fell out'

→ ***-a* spells out Voice**:

agentive in motion Vs, *letat*': [[**Voice$_{agent}$**]] = λPλxλe.P(e) ∧ Agent(e, x)

expletive (e.g. Alexiadou et al. 2015) in (29a), (ident. function): [[**Voice$_{expl}$**]] = λPλe.P(e)

So, *-n/t* sensitive to morphos. transitivity, not to semantic transitivity vs. *-l* = elsewhere (29b).

→ ***-a* = multifunctional, undespecified** or **overspecified** marker and

spells out/**spans more heads** (Ramchand 2008, Julien 2015, Merchant 2015, Caha & Ziková 2016, Haugen & Siddiqi 2016, Wiland 2019).

Non-dir (i.e. unergative) ***létat***:

(30) a. lét-á-š 'you fly repeatedly' (Cz); **2 elements** analysis of the vowel in T.

b. [√lét [*v* [Iter$_{int}$ [Voice$_{agent}$ [Asp$_{ipf}$ [T$_{pres}$ float. mora [Agr$_{2sg}$

Morphosyntactic analysis

in R, spellout of **-*a* smaller**;

the vocalic T element surfaces as -*e* (+ glide *j* because of hiatus):

(31) a. let-**a**-e-š' 'you fly repeatedly' (R)

b. [√let [*v* [$Iter_{int}$ [$Voice_{agent}$ [Asp_{ipf} [T_{pres} [Agr_{2sg}

In **dir** (unacc.) *letět*, -*e* **smaller >** -*a* = without $Iter_{int}$ & Voice:

(32) a. let-**í**-š 'you fly' (Cz)

b. [√let [*v* [Asp_{ipf} [T_{pres} float. mora [Agr_{2sg}

Advantages of spanning:

Fewer **nulls**.

Fewer exponents (**VIs** like -*a*s).

Explains why e.g. -*a* almost **everywhere**.

General idea:

Inf. themes -*a*, -*i*, -*e*, -*n* **spell out *v* up to T** (& interact with the present theme/mora in T).

From some XPs **blocked and shrink** or **reappear** higher,

e.g. in **SI**: po-plác-á-v-a-t 'to slap repeatedly' or

in **habituals**: kop-á-v-a-t 'to tend to kick, dig'.

Morphosyntactic analysis

Habitual markers:

Meaning: habitual (generic), event recurrence or characterizing property; GEN semantics.

In R, P: **identical to SI** suffixes: (33) and (34);

HAB+SI **cannot co-occur**.

R. HABs: only the preterite and non-standard/archaic varieties, disappearing (Isačenko 1960, 1962, Švedova 1980, Zaliznjak & Šmelëv 1997, Padučeva 2015 but see Berger 2009, Tatevosov 2013.)

P. HABs: a small group of verbs (Grzegorczykowa et al. 1984, Łaziński 2020).

South Slavic: not present (Běličová 1998); 1 exception in Bg: *bi-va-m*.

(33) a. pe-t'^{IPF}
sing-INF
'to (be) sing(ing)'

b. pe-va-t'^{IPF}
sing-HAB-INF
'to tend to sing'
(R)

(34) a. pis-a-ć^{IPF}
write-TH-INF
'to (be) write(ing) down'

b. pis-ywa-ć^{IPF}
write-HAB-INF
'to tend to write down'
(P)

Morphosyntactic analysis

HAB markers in Cz, Sk: a **subset of SI** suffixes,

HAB+SI **can co-occur** (35b),

have **different phonol.** effects (36)-(37).

(35) a. po-plác-á-va-t^{IPF}
on-slap-ITER$_{int}$-ITER$_{ext}$-INF
'to slap repeatedly for a while several times'

b. po-plác-á-vá-va-t^{IPF} (Cz)
on-slap-ITER$_{int}$-ITER$_{ext}$-HAB-INF
'to tend to slap repeatedly for a while'

Root ablaut + transitive palatalization in SI: *vy-jst'* 'to go out' vs. lengthening with HAB:

(36) a. vy-chod-i-t'^{PF} → b. vy-chádz-a-t'^{IPF} c. chod-i-t'^{IPF} → d. chod-ie-va-t'^{IPF} (Sk)
out-walk-TH-INF out-walk-SI-INF walk-TH-INF walk-TH-HAB-INF
'to go out' 'to go out' 'to walk' 'to tend to walk'

Shortening with SI + transitive palatalization vs. lengthening with HAB:

(37) a. o-bloud-i-t^{PF} → b. o-bluz-ova-t^{IPF} c. bloud-i-t^{IPF} → d. bloud-í-va-t^{IPF} (Cz)
about-be.lost-TH-INF about-be.lost-SI-INF be.lost-TH-INF be.lost-TH-HAB-INF
'to fool' 'to fool' 'to be lost' 'to tend to go in circles'

Morphosyntactic analysis

-*yva*/-*ova* should be **decomposed**: -*a* = **Theme** head

(Isačenko 1962, Matushansky 2009, 2024, Łazorczyk 2010, Gribanova 2015, Klimek-Jankowska & Błaszczak 2022, 2023, Kwapiszewski 2022 and Quaglia et al. 2022);

-*a* **"pushed" to the right** by other suffixes:

(38)

a.	b.	c.	
pis-a-ť	pis-yv-a-ť	pere-pis-yv-a-ť	(R)
write-TH-INF	write-HAB-TH-INF	over-write-SI-TH-INF	
'to (be) write(ing)'	'to tend to write'	'to (be) copy(ing)'	

Also **with -*OVA*-** verbs:

(39)

a.	b.	c.	
ris-ov-a-ť	raz-ris-ov-a-ť	raz-ris-ov-yv-a-ť	(R)
paint-TH-TH-INF	apart-paint-TH-TH-INF	apart-paint-TH-SI-TH-INF	
'to (be) paint(ing)'	'to paint over sth.'	'to (be) paint(ing) over sth.'	

In P, too:

(40)

a.	b.	c.	
mal-ow-a-ć	do-mal-ow-a-ć	do-mal-ow-yw-a-ć	(P)
paint-TH-TH-INF	to-paint-TH-TH-INF	to-paint-TH-SI-TH-INF	
'to (be) paint(ing)'	'to add by painting'	'to (be) paint(ing) over sth.'	

Morphosyntactic analysis

In Cz, Sk *-OVA-* not separated:

(41) a. mal'-ova-t'
paint-TH-INF
'to (be) paint(ing)'

b. o-mal'-ova-t'
around-paint-TH-INF
'to cover with a color'

c. o-mal'-ová-va-t' (Sk)
around-paint-TH-SI-INF
'to (be) cover(ing) with a color'

d. mal'-ová-va-t'
paint-TH-HAB-INF
'to tend to paint'

BCMS like R, P vs. Cz, Sk:

(42) a. is-pit-a-ti
out-ask-TH-INF
is-pyt-a-t'
out-ask-TH-INF
vy-pt-a-t se
out-ask-TH-INF self
'to examine'

b. is-pit-iv-a-ti (BCMS)
out-ask-SI-TH-INF
is-pyt-yv-a-t' (R)
out-ask-SI-TH-INF
vy-pt-á-va-t se (Cz)
out-ask-TH-SI-INF self
'to (be) examine(ing)'

Themes and suffixes in Slavic

(simplified)

	[T	[Inf	[Th	[Hab	[Asp	[Voice	[Iter$_{ext}$	[Del po-/ Int vy-	[Prog	[Iter$_{int}$	[v	[√
Russian	-e		-a	-yv/-v			-yv/-v		-yv/-v	-a/-i	-a/-e/-i/ -ov/-n	
Polish	-e		-a	-yw/-w			-yw/-w		-yw/-w	-a/-i	-a/-e/-i/ -ow/-n	
Czech/ Slovak	-e			-(v)a			-ova/-(v)a		-ova/-(v)a	-a/-i	-a/-e/-i/ -ova/-n	
BCMS	-e		-a				-iv/-av/-v		-iv/-av/-v	-a/-i	-a/-e/-i/ -ov/-n	

Derivation

Superset over Subset

-*a*, -*i*, -*e*, -*n* **span *v* till Theme**.

If **subset** and e.g. (fully) **underspecified** -*a*:

-*i* should be more specific, i.e. [*v*] or [*v*] + [scale] (Milosavljević & Arsenijević 2022: SC -*i* has [scale]).

But: If insertion happens 1x and only to 1 terminal, problem with portmanteaux:
[*v*] or [scale] not present in higher heads.

Superset better: VI has Fs of all projections.

Undespec. solution: Spellout of bigger portions (phases), e.g. Julien's (2015) spans.

Disadvantage: Spellout and voc. insertion not strictly derivational.

With superset ideally, they can.

Hence, VIs:

(43) a. -a ↔ {*v*, Iter_{int}, Voice, Asp, Theme} non-dir *létat*: **Iter_{int}, Voice block** the insertion of -e

b. -i ↔ {*v*, Scale, Iter_{int}, Voice, Asp, Theme} non-dir *nosit*: **[Scale] on *v* blocks** the insertion of -a

c. -e ↔ {*v*, Asp, Theme} dir *letět*: -e inserted ← **less complex** than -a and -i

d. -n ↔ {*v*, Seml, Voice, Asp, Theme} *kopnout*: **[Seml] on *v* blocks** other markers

Derivation

Spanning blocked by an intervening head: **SI** (Prog, $Iter_{ext}$) and **Hab**

since spans = **head-complement** sequences (e.g. Merchant 2015, Svenonius 2016).

Recall: [Prog], [$Iter_{ext}$], [Hab] **not in VIs** *-a*, *-i*, *-e*, *-n*.

SI ($Iter_{ext}$):

(44) a. po-plác-**á**-**v**-**á**-š ‘you slap repeatedly for a while several times’ (Cz)

b. [√plác [*v* [$Iter_{int}$ [Del [$Iter_{ext}$ [$Voice_{agent}$ [Asp_{ipf} [Theme [T_{pres} float. mora [Agr_{2sg}

It is **not the prefix** that blocks; the **same with LP**:

(45) a. u-plác-**á**-**v**-**á**-š ‘you are forming sth. by slapping several times’ (Cz)

b. [P[√plác [*v* [$Iter_{int}$ [$Iter_{ext}$ [$Voice_{agent}$ [Asp_{ipf} [Theme [T_{pres} float. mora [Agr_{2sg}

(46) -v ↔ {Prog, $Iter_{ext}$, Hab} (in fact -μv, as the R, P, BCMS -YV)

SPs also do not block spanning in pf. Vs:

(47) a. po-plác-**á**-š ‘you slap repeatedly for a while’ (Cz)

b. [√plác [*v* [$Iter_{int}$ [Del [$Voice_{agent}$ [Asp_{ipf} [Theme [T_{pres} float. mora [Agr_{2sg}

Derivation

Generally:

Prefixes do not block spanning.

→ **Spanning after Linearization** (Merchant 2015).

Hab = higher intervener:

(48) a. kop-**á**-v-á-š ‘you tend to kick repeatedly’ (Cz)

b. [√kop [*v* [Iter_{int} [$\text{Voice}_{\text{agent}}$ [Asp_{ipf} [Hab [Theme [T_{pres} float. mora [Agr_{2sg}

In Cz, Sk, **SI+Hab possible**:

(49) a. u-plác-**á**-**v**-**á**-**v**-**á**-š ‘you tend to form sth. by slapping several times’ (Cz)

b. [P[√plác [*v* [Iter_{int} [Iter_{ext} [$\text{Voice}_{\text{agent}}$ [Asp_{ipf} [Hab [Theme [T_{pres} float. mora [Agr_{2sg}

Recall: in **R, P, SI & Hab cannot co-occur** and are identical.

→ The markers **license Hab from SI** positions.

Support: in P, Hab in stem nominalizations vs. Cz.

R, P Hab not so grammaticalized as in Cz, Sk.

Support: in Cz, Sk Habs = subset of SIs and more regular phonological behavior.

Model

Model (strictly derivational): 1. Merge
2. Spellout: 2a. Linearization
2b. Vocabulary insertion
2c. Phonological processes Next cycle…

kop-n-ou-t 'to kick once'

1. 1. Merge (√kop,v_{seml})
2a. Linearization: <kop,*v*> *v* specified as suffix
2b. Insert -n: [kop-n] recall: -n ↔ {*v*, Seml, Voice, Asp, Theme}

2. 1. Merge ((√kop,*v*),Voice)
2a. Linearization: <<kop,*v*>,Voice> Voice specified as suffix
2b. **Insertion vacuous**: [kop-n] -n already present ~ **spanning**

3.,4. The same with Asp and Theme: <<<<kop,*v*>,Voice>,Asp>,Theme> = [kop-n]

5. 1. Merge ((√kop,*v*),Voice),Asp),Theme),Inf)
2a. Linearization: <<<<kop,*v*>,Voice>,Asp>,Theme>,Inf>
2b. Insert -t: [kop-n]-t] -t ↔ {Inf}
2c. Phonological processes: 1. U-insertion (Rubach 1993): [kop-n]-u-t]
2. Infinitival lengthening: [kop-n]-ou-t] (cf. Caha & Scheer 2008, Ziková 2018), floating μ on Inf.

Allomorphy, locality and adjacency

Allomorphy, locality and adjacency

Root allomorphy in paired motion Vs: (53)

(50) a. vez-ti b. voz-i-ť ‘to transport’ (R)

(51) a. nés-t b. nos-i-t ‘to carry’ (Cz)

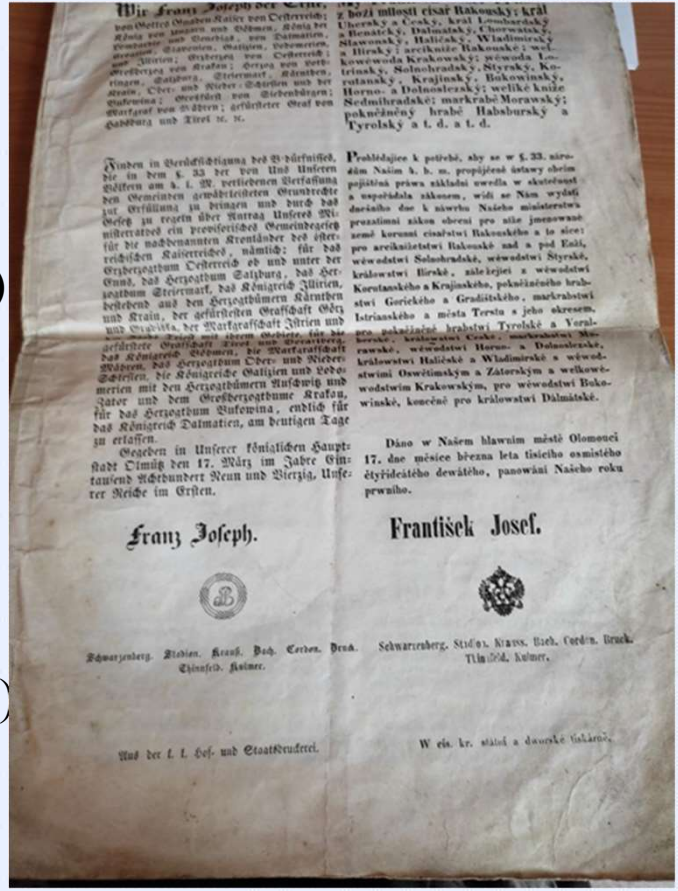
(52) a. ves-ti b. vod-i-ť ‘to lead’ (R)

Are √s of **non-dirs bigger > dirs** (i.e., √dir + Iter)?

No: √non-dirs in non-iterative root nominalizations (53a) & prog. SIs (53b)

(53) a. výnos císaře Františka Josefa
‘decree by emperor Franz Joseph (from March 17, 1849)’

b. vy-chádz-a-ť^{IPF}
‘to be going out’


Franz Joseph.

František Josef.

https://aukro.cz/historicky-vynos-cisare-frantiska-josefa-archivni-kopie-7011169254

So, how derived?

√s of **non-dirs basic**: in SIs, agent & instrument nominals and root nominalizations:

(54) a. nos-i-tel (Sk) b. nos-i-č (Cz) c. raz-voz (R)
‘holder’ ‘carrier’ ‘transport’

dir √s **restricted to athematic** motion Vs → **dir √s select *v*** with [Athematic] → **Ø theme**.
It is a **local** relation.

Allomorphy, locality and adjacency

Structural adjacency not relevant (against e.g. Embick 2010):

Dissimilation: R. dir *vesti* (ved-ti) 'to lead',
many projections between: [√ved [*v* [$\text{Voice}_{\text{agent}}$ [Asp [Theme [Inf ti
The same with inf. lengthening in Cz *pí-t* 'to drink'.

Linear adjacency relevant:

No dissimilation: R. non-dir *vod-i-t'* 'to lead', cf. also *ved-ë-t* 's/he leads'.

Allomorphy in: **Habs** (55c,d): linearly & structurally adjacent: [Asp [Hab
again 2 elements analysis.

SIs (55a,b) more problematic:

structurally not adjacent: [√bluz [*v* [Iter_{ext}

linearly yes but 1 step back necessary: 1. -ov + -i: iotation
2. -j + bloud: palatalization
3. -ov + blouz : shortening
(template 3μ (Scheer 2004) even later)

(55) a.	o-bloud-i-t	→	b.	o-bluz-ov-a-t	c.	bloud-i-t	→ d.	bloud-í-v-a-t (Cz)
	P-be.lost-TH-INF			P-be.lost-ITER_{ext}-TH-INF		be.lost-TH-INF		be.lost-TH-HAB-TH-INF
	'to fool'			'to fool'		'to be lost'		'to tend to go in circles'

*ABA pattern

Motion Vs display the *ABA pattern

(only adjacent functions may have the same marker):

semantically:	sg.	– pl.	– hab.
	seml./dir. Vs	– iterative/non-dir Vs	– habitual Vs
syntactically:	-e/-nu/-Ø	– -a/-i	– -a/-i
in roots:	-e	– -o	– -o

(56) a. nést – nosit – nosívat

b. běžet – běhat – běhávat

c. kopnout – kopat – kopávat

Based on **monotonicity** of growing verbal structure and

on **markedness of singularity** (root -e, seml. -nu).

Conclusions

Paired and **moment. motion Vs** have **event-internal** plurality,

contrasted with **event-external** plurality of **SIs**.

Themes have various functions: verbalizing,
singularizing
pluralizing,
argument structural…

Span from *v* up to T & modelled in terms of the **superset.**

Post-linearization spanning.

Derivational model.

Linear adjacency more relevant > structural.

Thank you!

References

Alexiadou, Artemis, Elena Anagnostopoulou & Florian Schäfer. 2015. *External Arguments in Transitivity Alternations: A Layering Approach*. Oxford: Oxford University Press.

Bertinetto, Pier Marco & Alessandro Lenci. 2012. Habituality, pluractionality, and imperfectivity. In Robert I. Binnick (ed.), *The Oxford handbook of tense and aspect*. New York: Oxford University Press, 852–880.

Biskup, Petr. 2019. *Prepositions, case and verbal prefixes: The case of Slavic.* Amsterdam: John Benjamins.

Biskup, Petr. 2024. On imperfective suffixes in Russian. *Russian Linguistics* 48, 14.

Biskup, Petr. To appear. Delimitatives, diminutive-iteratives and the secondary imperfective in North Slavic. In: Berit Gehrke, Denisa Lenertová, Roland Meyer, Daria Seres, Luka Szucsich & Joanna Zaleska (eds.), *Advances in Formal Slavic Linguistics 2022*. Berlin: Language Science Press.

Caha, Pavel & Markéta Ziková. 2016. Vowel length as evidence for a distinction between free and bound prefixes in Czech. *Acta Linguistica Hungarica* 63(3), 331–377.

Cetnarowska, Bożena. 2000. Resultative adjectives in Polish. *Acta Linguistica Hungarica* 47, 47–79.

Chrakovskij, Viktor S. (ed.). 1997. *Typology of iterative constructions*. München: LINCOM Europa.

Cusic, David D. 1981. *Verbal plurality and aspect*. Ph.D. dissertation, Stanford University.

Fehrmann, Dorothee, Uwe Junghanns & Denisa Lenertová. 2010. Two reflexive markers in Slavic. *Russian Linguistics* 34, 203–238.

Harves, Stephanie A. 2002. *Unaccusative Syntax in Russian*. Ph.D. thesis, Princeton University. MIT Occasional Papers in Linguistics 21.

Isačenko, Alexander V. 1960. *Grammatičeskij stroj russkogo jazyka v sopostavlenii s slovackim: Morfologija II*. Bratislava: Vydavateľstvo Slovenskej akadémie vied.

Kosta, Peter & Jens Frasek. 2004. Neakuzativita (ergativita) vs. neergativita v češtině, polštině a jiných slovanských jazycích na rozhraní morfologie a syntaxe. In: Zdeňka Hladká & Petr Karlík (eds.), *Čeština - univerzália a specifika 5*. Praha: Nakladatelství Lidové noviny, 189–212.

Landman, Fred. 2006. Indefinite time-phrases, in situ-scope, and dual-perspective intensionality. In Svetlana Vogeleer & Liliane Tasmowski (eds.), *Non-Definiteness and Plurality.* Amsterdam: John Benjamins, 237–266.

Lasersohn, Peter. 1995. *Plurality, conjunction and events*. Dordrecht: Kluwer.

Levin, Beth & Malka Rappaport Hovav. 1995. *Unaccusativity: At the Syntax-Lexical Semantics Interface*. Cambridge, MA: MIT Press.

Medová, Lucie. 2012. Anticausatives are Derived Unergatives. In: Markéta Ziková & Mojmír Dočekal (eds.), *Slavic Languages in Formal Grammar. Proceedings of FDSL 8.5, Brno 2010*. Frankfurt am Main: Peter Lang, 291–306.

Merchant, Jason. 2015. How much context is enough? Two cases of span-conditionned stem allomorphy. *Linguistic Inquiry* 46(2), 273-303.

References

Newman, Paul. 1980. *The classification of Chadic within Afroasiatic*. Leiden: Universitaire Press

Nichols, Johanna. 2010. Indeterminate motion verbs are denominals. In: Victoria Hasko & Renee Perelmutter (eds.), *New Approaches to Slavic Verbs of Motion*. Amsterdam: John Benjamins, 47–65.

Ramchand, Gillian C. 1997. *Aspect and Predication: The Semantics of Argument Structure*. Oxford: Oxford University Press.

Ramchand, Gillian C. 2008. Verb Meaning and the Lexicon: A First Phase Syntax. Cambridge: Cambridge University Press.

Romanova, Eugenia. 2004. Superlexical vs. lexical prefixes. *Nordlyd* 32(2), 255–278.

Schäfer, Florian 2022. Transitive Anticausatives. In: Özge Bakay, Breanna Pratley, Eva Neu & Peyton Deal (eds.), *NELS 52: Proceedings of the Fifty-Second Annual Meeting of the North East Linguistic Society*. Amherst, MA: GLSA Publications.

Scheer, Tobias. 2004. O samohláskové délce při derivaci v češtině. In Zdeňka Hladká & Petr Karlík (eds.), Čeština - univerzália a specifika 5. Praha: Nakladatelství Lidové noviny, 224–239.

Schoorlemmer, Maaike. 1995. *Participial Passive and Aspect in Russian.* Utrecht: Ots dissertation series.

Siddiqi, Daniel. 2009. *Syntax within the Word: Economy, Allomorphy, and Argument Selection in Distributed Morphology*. Amsterdam: John Benjamins.

Sussex, Roland & Paul Cubberley. 2006. *The Slavic Languages*. Cambridge: Cambridge University Press.

Štarkl, Ema, Marko Simonović, Stefan Milosavljević & Boban Arsenijević. Submitted. *nV/ne* is a diminutive affix plus a theme vowel. *Advances in Formal Slavic Linguistics 2022*. Berlin: Language Science Press.

Veselovská, Ludmila & Karlík, Petr. 2004. Analytic Passives in Czech. *Zeitschrift für Slawistik* 49, 163-235.

Wągiel, Marcin. 2023. Acts, occasions and multiplicatives: A mereotopological account. In Kim, Juhyae, Burak Öney, Yao Zhang & Fengyue (Lisa) Zhao (eds.), *Proceedings of Semantics and Linguistic Theory 33*. Washington, DC: Linguistic Society of America, 276–297.

Wood, Esther J. 2007. *The semantic typology of pluractionality*. Ph.D. Dissertation, University of California, Berkeley.