

POSTVERBAL ELEMENTS IN UDMURT AND ESTONIAN ARE DERIVED BY VERB MOVEMENT

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THE PROBLEM: UDMURT VERB POSITION

Standard Udmurt is a **verb-final** language:

- (1) [C: What happened?] (Standard Udmurt, elicited, Asztalos 2018: 80)

Nasťa Koľa-jez šukk-i-z.

Nastja Kolja-ACC hit-PST-3SG

‘Nastja hit Kolja.’

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‘Nastja hit Kolja.’

But it also allows for **verb-medial orders, even in wide focus**:

- (2) [C: What happened?] (Standard Udmurt, elicited, Asztalos 2018: 80)

Nasťa šukk-i-z Koľa-jez .

Nastja hit-PST-3SG Kolja-ACC

‘Nastja hit Kolja.’

RESEARCH QUESTION AND ANSWER

Central Question

Is a verb-final language still verb-final when it features verb-medial orders?

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Answer

Yes, in Udmurt and Estonian via **derivationally underlying** verb finality.

Underlying verb finality

Estonian and Udmurt feature free variation in verb placement. This is the result of verb movement from a verb-final base.

Postverbal elements are diverse

Verb-final languages typically feature postverbal elements. Postverbal elements in verb-final languages are descriptively and structurally heterogeneous.

ROADMAP

- 1 Research question
- 2 Background: Postverbal elements (PVE) in verb-final languages
- 3 Typology of PVE
- 4 Evidence for verb raising from a verb-final base
- 5 Conclusion

Background

PREVIOUS RESEARCH ON URALIC PVE

Language	Reference
Udmurt	Asztalos et al. (2017), Asztalos (2018, 2021)
Khanty	Asztalos et al. (2017), Gugán & Sipos (2017)
Nenets	Asztalos et al. (2017)
Nganasan	Däbritz (2020)
Enets	Däbritz (2020)
Mari	Hirvonen (2023)
Estonian	Lindström (2017), Ehala (2006)

previous research: excellent ground work



here: detailed structural analysis

- elicitation
- judgements on pre-constructed material
- minimal pairs
- backed by corpus data for Udmurt

A typology of postverbal elements in verb-final languages

- no comprehensive typology of PVE in OV (tentatively: Asztalos et al. 2022, Pregla 2024) $\Rightarrow$ typological sketch of PVE variability
- two dimensions of variability:
 - 1 category and function
 - 2 information structure

IMPLICATIONAL HIERARCHY OF PVE BY FUNCTION/CATEGORY (PREGLA 2024)

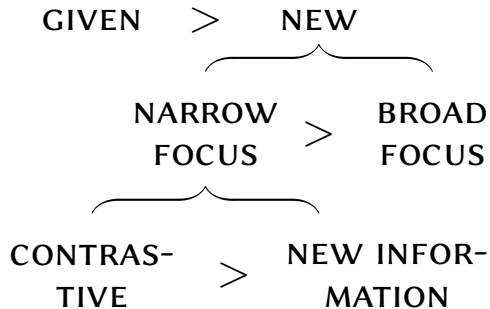
	Estonian Udmurt	M. Mari	Macro- Sudan	S. Khanty	Dutch	T. Nenets	Nepali
non-referential	✓	✗	✗	✗	✗	✗	✗
non-oblique NP	✓	✓	✗	✗	✗	✗	✗
adverb	✓	✓	✓	✗	✗	✗	✗
oblique NP	✓	✓	✓	✓	✗	✗	✗
PP	✓	✓	✓	✓	✓	✗	✗
finite CP	✓	✓	✓	✓	✓	✓	✗
none	✓	✓	✓	✓	✓	✓	✓

IMPLICATIONAL HIERARCHY OF PVE BY FUNCTION/CATEGORY (PREGLA 2024)

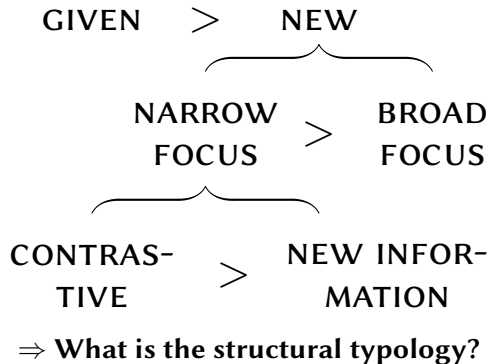
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PP	✓	✓	✓	✓	✓	✗	✗
finite CP	✓	✓	✓	✓	✓	✓	✗
none	✓	✓	✓	✓	✓	✓	✓

non-oblique NPs $\Rightarrow$ information structural usage

PVE TYPOLOGY BY INFORMATION STRUCTURE ASZTALOS ET AL. 2022



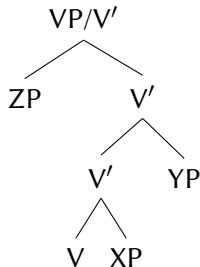
PVE TYPOLOGY BY INFORMATION STRUCTURE ASZTALOS ET AL. 2022



PVE: POSSIBLE STRUCTURES

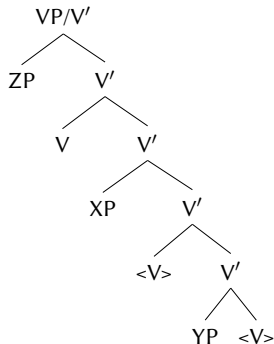
1. Base-generated PVE

SVO



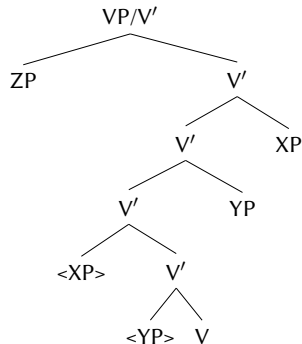
2. Stranded PVE

Estonian, Udmurt



3. Moved PVE

Turkish



MAIN DIAGNOSTIC: MIRROR IMAGE EFFECTS

verb is a symmetry axis $\Rightarrow$ rightward merge

$$[2 [1 [V] 1] 2]$$

preservation of preverbal order $\Rightarrow$ verb movement (Koster 1974, Cinque 1999, Neeleman 2017, ...)

$$[V \quad [2 \quad [1 <V>]]]$$


ILLUSTRATION: MIRROR IMAGE ORDERS IN VO: RIGHTWARD MERGE IN ENGLISH

[**now₂** [**completely₁** [finished] **completely₁**] **now₂**]

(3) Preverbal adverbial order in English: 2 – 1

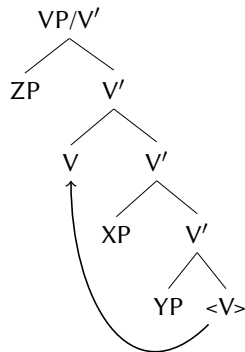
- a. The cat **now₂** **completely₁** finished its nap.
- b. *The cat **completely₁** **now₂** finished its nap.

(4) Postverbal adverbial order in English: 1 – 2

- a. The cat finished its nap **completely₁** **now₂**.
- b. #The cat finished its nap **now₂** **completely₁** . (not as a neutral sentence)

Evidence for verb raising from a verb-final base in Estonian and Udmurt

STRANDED PVE IN ESTONIAN AND UDMURT



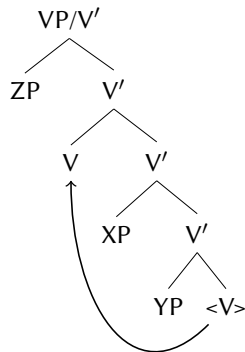
Evidence for stranding and against rightward merge:

- preverbal order = postverbal order
- **absence of mirror-image effects (E,U)**
- **preserved preverbal IS $\Rightarrow$ stranded preverbal focus (E,U)**
- distribution of verb particles (E)
- clause-medial preverbal focus (U)



derivationally underlying V-finality

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Evidence for stranding and against rightward merge:

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- absence of mirror-image effects (E,U)
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- **distribution of verb particles (E)**
- **clause-medial preverbal focus (U)**



derivationally underlying V-finality

Mirror image diagnostics

FREE VARIATION: NO INFORMATION STRUCTURE INVOLVED

- established for Udmurt with various methods (Asztalos 2018, 2021)
- Estonian below:

(5) **Estonian** [C: What happened earlier?/Mis on varem juhtunud?]

- a. Ema on lapselt mänguasja ära **võtnud**.
mother COP.PRS.3SG child.ABL toy.ACC PRT take.PTCP
'Mother has taken the toy away from the child.'
- b. Ema on lapselt **võtnud** mänguasja ära.
mother COP.PRS.3SG child.ABL take.PTCP toy.ACC PRT
- c. Ema on **võtnud** lapselt mänguasja ära.
mother COP.PRS.3SG take.PTCP child.ABL toy.ACC PRT

NO MIRROR IMAGE EFFECTS IN ESTONIAN: ADVERBS

(6) Estonian preverbal order of adverbs: 3 – 2 – 1

- a. Ilmselt oli kass eile₃ tihti₂ valjusti₁ **nurrunud**.
probably COP.PST.3SG cat yesterday often loudly meow.PTCP
'The cat probably often meowed yesterday.'
- b. *Ilmselt oli kass valjusti₁ tihti₂ eile₃ **nurrunud**.
probably COP.PST.3SG cat loudly often yesterday meow.PTCP

(7) Estonian postverbal order of adverbs: 3 – 2 – 1

- a. Ilmselt oli kass **nurrunud** eile₃ tihti₂ valjusti₁.
probably COP.PST.3SG cat meow.PTCP yesterday often loudly
- b. *Ilmselt oli kass **nurrunud** valjusti₁ tihti₂ eile₃.
probably COP.PST.3SG cat meow.PTCP loudly often yesterday

⇒ same in Udmurt

NO MIRROR IMAGE EFFECTS IN UDMURT: PPs

(8) Standard Udmurt (colloquial; elicited; Svetlana Edygarova, p.c.)

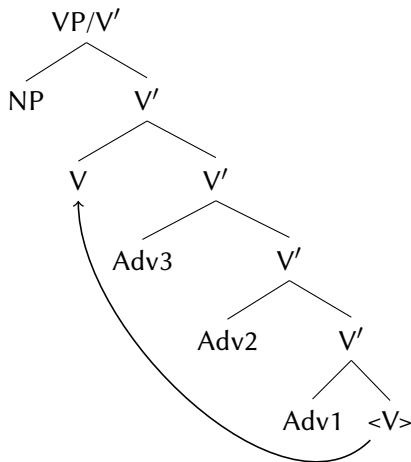
a. **Udmurt neutral order of PPs: 2 – 1**

Mon (vetli) Mašajen₂ arñapumj_n₂ nuleskj₁ (vetli).
1SG[NOM] go:PST[1SG] Masha:INS weekend:IN forest:ILL go:PST[1SG]
'I went into the forest with Masha on the weekend.'

b. **Udmurt marked order of PPs: 1 – 2**

#Mon (vetli) nuleskj₁ Mašajen₂ arñapumj_n₂ (vetli).
1SG[NOM] go:PST[1SG] forest:ILL Masha:INS weekend:IN go:PST[1SG]
'I went into the forest with Masha ON THE WEEKEND.'

ADVERBIALS: MOVEMENT FROM A VERB-FINAL BASE



(leaving Estonian V2 aside)

NO MIRROR IMAGES IN UDMURT: INFORMATION STRUCTURE I

- directly preverbal narrow focus in Estonian and Udmurt
⇒ **sentence-final focus after verb raising**

(9) [C: Who made the nicest picture?] (Standard Udmurt, questionnaire (n=50), Asztalos 2020: 32)

a. **directly preverbal subject focus**

Tužges no éber kart'inajez **KAT'A** daśaz.
very.CMPR PRT nice picture.ACC Kate make.PST.3SG
'It was Kate who made the nicest picture.'

b. **sentence-final subject focus**

Tužges no éber kart'inajez daśaz **KAT'A**.
very.CMPR PRT nice picture.ACC make.PST.3SG Kate

NO MIRROR IMAGES IN UDMURT: INFORMATION STRUCTURE II

- in corpus: detectable as postverbal OLD–NEW order

(10) Standard Udmurt (blogpost, MZ 30.11.2015)

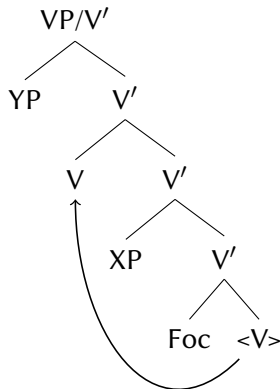
[C: Yesterday I told that the world is in chaos. And today, I will tell ...]

mar malpa-lo [OLD so xaos śaryś] [NEW šor jozo pokoleńi-yś
what think-3PL that chaos about middle of.age generation-ELA
adami-os]
man-PL

‘(...) what the middle-aged generation thinks about that chaos.’

ANALYSIS: STRANDED PREVERBAL FOCUS

- displayed with base generation; evacuation analysis works the same



Pied-piping in verb raising

STRANDED PVE AND PIED-PIPING IN ESTONIAN: PARTICLES

(11) a. **V-final particle verb**

Ema on need paberid varem **üle** **vaadanud**.
mother AUX.PRS.3SG those.PL.PAR paper.PL.PAR earlier PRT look.PTCP
'A/the mother has reviewed these papers earlier.'

b. **Stranded verb particle**

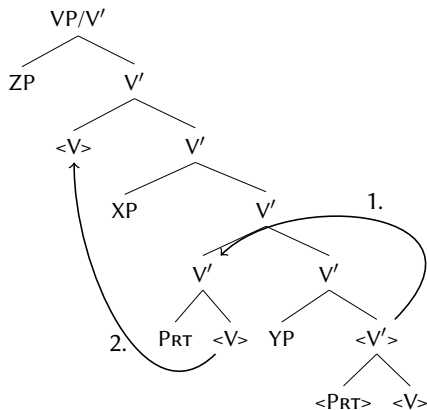
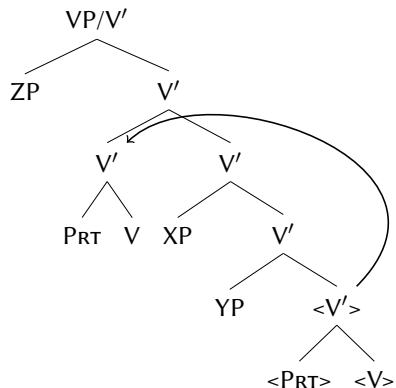
Ema on **vaadanud** need paberid (**üle**) varem (**üle**).
mother AUX.PRS.3SG look.PTCP those.PL.PAR paper.PL.PAR PRT earlier PRT

c. **Pied-piped verb particle**

Ema on **üle** **vaadanud** need paberid varem.
mother AUX.PRS.3SG PRT look.PTCP those.PL.PAR paper.PL.PAR earlier

PARTICLE PIED-PIPING IN ESTONIAN: ANALYSIS

- **optional** pied-piping (= Scandinavian verb particles)
- **multiple** movements



PIED-PIPING OF FOCUS IN UDMURT

- (12) **Directly preverbal focus** (Standard Udmurt, elicited)

Anaje kəkije **NUNIDE** **poniz.**

mother:1SG crib:ILL baby:ACC.2SG put:PST.3SG

‘My mother put YOUR CHILD into the crib.’

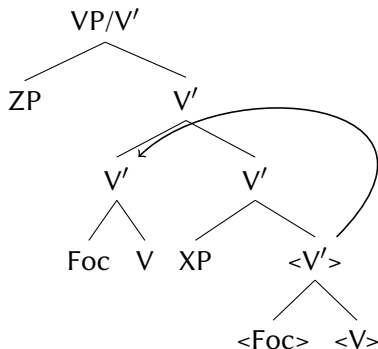
- (13) **Pied-piped preverbal focus** (Standard Udmurt, elicited)

Anaje **NUNIDE** **poniz** kəkije.

mother:1SG baby:ACC.2SG put:PST.3SG crib:ILL

PIED-PIPING OF FOCUS IN UDMURT: ANALYSIS

- straightforward analysis under base generation
- with evacuation movement: remnant movement



GENERAL GRAMMATICAL SYSTEM: NEELEMAN'S FLEXIBLE SYNTAX

- (14) Axioms for information-structurally neutral word orders Abels (2016), Abels & Neeleman (2012), Neeleman (2015, 2017)
- I. There are independent merger hierarchies. The order of merge is only restrained within each merger hierarchy.
 - II. Merge is symmetric. Structure building can take place to the left and to the right.
 - III. **Neutral orders are base-generated or derived by X^+ -movement.**
 - IV. X^+ -movement is asymmetric: it must be leftward.

Conclusions

Word order variability in OV

PVE are common in OV

in Estonian and Udmurt:
descriptively free variation,
structurally verb raising



no mirror image effects,
pied-piping



untriggered verb movement

OVERALL CONCLUSIONS

PVE in Udmurt and Estonian

PVE are common in OV

in Estonian and Udmurt:

free variation,
verb raising



no mirror image effects,
pied-piping



untriggered verb
movement



Appendix

NON-REFERENTIAL PVE

- Estonian: V particles
- Standard Udmurt: ideophones, V-particle like elements, predicative NPs, parts of idioms (not for everyone)

(15) Verb particle

Tolon Saža kıl-i-z poesd-leš b'er'e.

yesterday Sasha stay-PST-3SG train-ABL after

‘Yesterday Sasha missed the train.’ (elicited, Svetlana Edygarova p.c.)

(16) Part of idiom

%Anna lu-i-z köto.

Anne become-PST-3SG pot-bellied

‘Anne got pregnant.’ (Asztalos 2018: 99, several tasks)

PVE TYPOLOGY BY INFORMATION STRUCTURE PREGLA 2024

PVE type	Example language
backgrounding PVE	Turkish, Uyghur, Amharic, Siouan, Quechua
contrastive PVE + backgrounding PVE	Meadow Mari, Standard Dargwa, Hindi-Urdu
free variation (any IS-function)	Estonian, Udmurt , Georgian, Eastern Armenian

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FREE VERB PLACEMENT IN UDMURT, NON-FINITE VERB

- no systematic difference to dependent verbs and clauses $\Rightarrow$ no V2-like Penthouse effect

- (17) [C: To whom could grandmother bring the five perepech yesterday?]
Чуказе (вайыны) пезянай (вайыны) вить перепечез (вайыны)
yesterday bring.INF grandmother bring.INF five perepech.ACC bring.INF
котькуд нунокезлы (вайыны) быгатэ.
every grandchild.Px.3SG.DAT bring.INF could
‘Grandmother could bring the five perepech TO EVERY GRANDCHILD yesterday.’

FREE OV/VO VARIATION IN UDMURT, EMBEDDED CLAUSE

(18) Udmurt [C: out-of-the-blue]

- a. Инву, пöйшурасьёс гондырез **виёзы** (шуыса), малпа.
Invu.NOM hunter.PL.NOM bear.ACC kill.FUT.3PL COMP think.PRS.3SG
'Invu thinks that the hunters will kill a bear.'
- b. Инву, пöйшурасьёс **виёзы** гондырез (шуыса), малпа.
Invu.NOM hunter.PL.NOM kill.FUT.3PL bear.ACC COMP think.PRS.3SG

MIRROR IMAGE EFFECTS IN VO: RIGHTWARD MERGE IN RUSSIAN

(19) Russian postverbal PP order: 1 – 2 – 3

- a. Кошка шипела [с силой]PP1 [на собаку]PP2 [в понедельник]PP3
cat hissed with strength at dog on Monday
'The cat hissed at the dog with strength on monday.'
- b. #Кошка шипела [с силой]PP1 [на собаку]PP2 [в понедельник]PP3
cat hissed on Monday at dog with strength

(20) Russian preverbal PP order: 3 – 2 – 1

- a. [В понедельник]PP3 Кошка [на собаку]PP2 [с силой]PP1 шипела
on Monday cat at dog with strength hissed
- b. #[С силой]PP1 [на собаку]PP2 [в понедельник]PP3 кошка шипела
with strength at dog on Monday cat hissed



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