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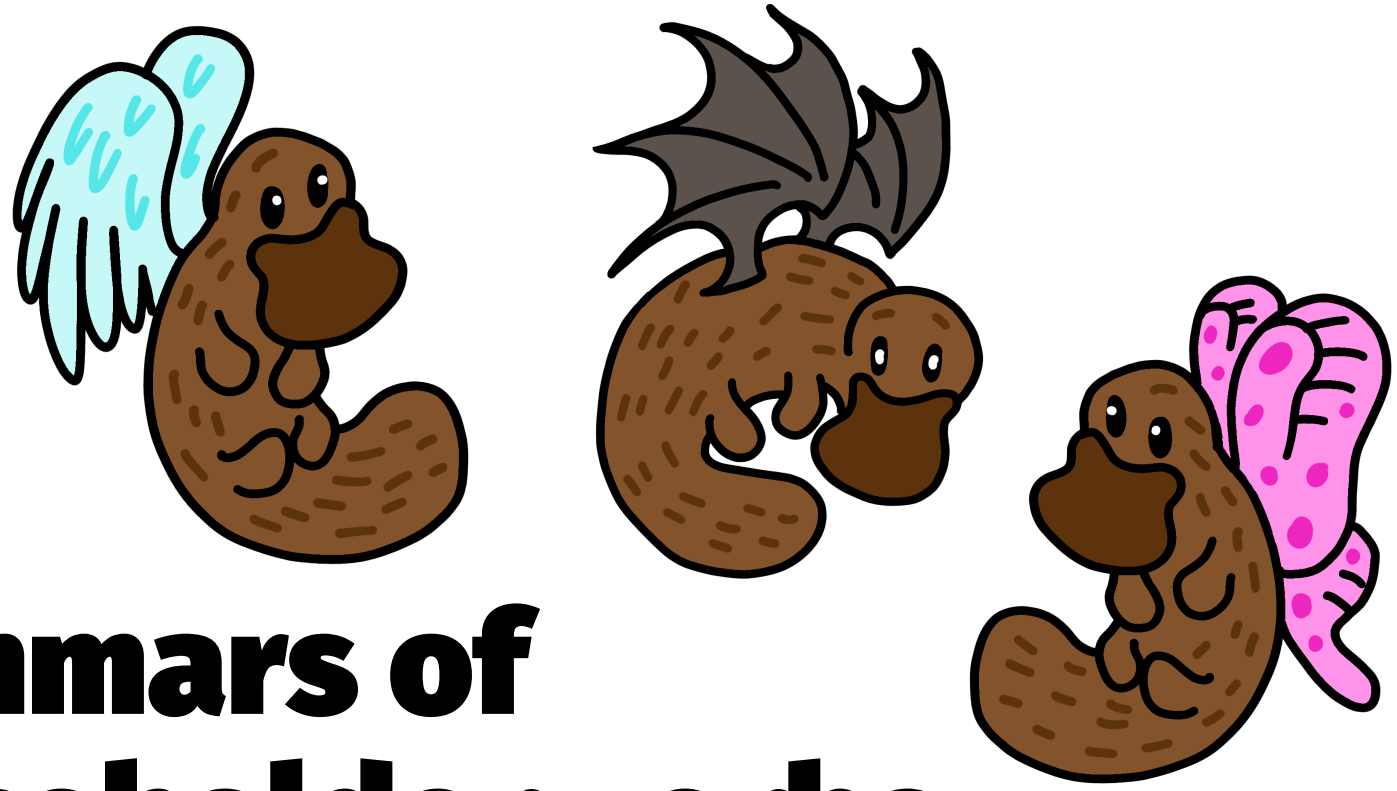

Multiple grammars of Georgian placeholder verbs coexist across speakers

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Manuscript
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Introduction

The placeholder verb (**PHV**) construction is emerging in colloquial Georgian (Amiridze 2010)

- Used when the intended verb can't be: ineffability, euphemism, tip-of-the-tongue states

Transparently derived from the event anaphoric VP "do that"

- Demonstrative *imas* has become a prefix
- Clearly some amount of reanalysis/ grammaticization has occurred

(1) ***imas-ʃvreba.***
DEM-do:PRES:3
"S/he is thatdoing."

(2) ***imas ʃvreba.***
DEM:DAT do:PRES:3
"S/he is doing that."

[Deixis context: The speaker is pointing to someone doing an unlexified activity]

[Euphemism context: The speaker wishes to avoid using a curse word]

[Tip-of-the-tongue context: The speaker cannot access the intended verb]

Introduction

PHVs exhibit morphological variation

- Unlike any other type of verb in Georgian!

Research questions

- Is there one grammar to derive them all, or multiple grammars across speakers?
- What small change could have given rise to *even more* complexity in Georgian morphology?
- How does a platypus grow wings?

(3) a. ***imas-v-kʰen-i***
DEM-1SU-do-PST1/2

b. ***ga=imas-v-kʰen-i***
PVB=DEM-1SU-do-PST1/2

c. ***ga=v-imas-kʰen-i***
PVB=1SU-DEM-do-PST1/2

d. ***ga=v-imas-v-kʰen-i***
PVB=1SU-DEM-1SU-do-PST1/2

All: “I thatdid.”

~~1. Introduction~~

2. Core patterns

3. Analytical possibilities

4. Acceptability experiment

5. Conclusion

Core patterns

Three major stages in the development of PHVs

VP → V^0 → PVB=V^0

PHVs exhibit unusual variation in prefixal inflection

DEM-AGR-*do*

PVB=DEM-AGR-*do*

PVB=AGR-DEM-*do*

PVB=AGR-DEM-AGR-*do*

Ongoing reanalysis

Three stages of development for the PHV construction

(4) a. ***imas ʃvreba.***
DEM:DAT do:PRES:3
“S/he is doing that.”

Event-anaphoric VP “do that”

b. ***imas-ʃvreba.***
DEM-do:PRES:3
“S/he is thatdoing.”

Simple PHV (no preverb)

c. ***ga=imas-ʃvreba.***
PVB=DEM-do:PRES:3
“S/he is thatdoing.”

Complex PHV (with preverb)

Ongoing reanalysis

In Complex PHVs, the PVB matches what would be on the intended verb

Sentence w/ intended verb

(5) ***Mariam-i*** ***ga=a-tʃʰer-a.***
Mariam-NOM PVB=TR-stop-PST3
"S/he stopped Mariam."

Sentence w/ PHV

(6) a. ***Mariam-i*** ***imas-kʰn-a.***
Mariam-NOM DEM-do-PST3
"S/he thatdid Mariam." [Simple PHV]

b. ***Mariam-i*** ***ga=imas-kʰn-a.***
Mariam-NOM PVB=DEM-do-PST3
"S/he thatdid Mariam." [Complex PHV]

c. ****Mariam-i*** ***ʃe=imas-kʰn-a.***
Mariam-NOM PVB=DEM-do-PST3
Attempted: [Complex w/ mismatched PVB]

Ongoing reanalysis

Distinguishable by the position of negation

(4) a. ***imas ʃvreba.***
DEM:DAT do:PRES:3
“S/he is doing that.”

b. ***imas-ʃvreba.***
DEM-do:PRES:3
“S/he is thatdoing.”

c. ***ga=imas-ʃvreba.***
PVB=DEM-do:PRES:3
“S/he is thatdoing.”

(7) a. ***imas ar ʃvreba.***
DEM:DAT NEG do:PRES:3
“S/he isn’t doing that.”

b. ***ar imas-ʃvreba.***
NEG DEM-do:PRES:3
“S/he isn’t thatdoing.”

c. ***ar ga=imas-ʃvreba.***
NEG PVB=DEM-do:PRES:3
“S/he isn’t thatdoing.”

Ongoing reanalysis

Distinguishable by object scrambling

(4) a. ***imas ʃvreba.***
DEM:DAT do:PRES:3
“S/he is doing that.”

b. ***imas-ʃvreba.***
DEM-do:PRES:3
“S/he is thatdoing.”

c. ***ga=imas-ʃvreba.***
PVB=DEM-do:PRES:3
“S/he is thatdoing.”

(8) a. ***ʃvreba imas.***
do:PRES:3 DEM:DAT
“S/he is doing that.”

b. ****ʃvreba-imas***
do:PRES:3-DEM
Attempted: “S/he is thatdoing.”

c. ****ga=ʃvreba-imas.***
PVB=do:PRES:3-DEM
Attempted: “S/he is thatdoing.”

Ongoing reanalysis

Distinguishable by case-shift of objects across tenses

(4) a. ***imas ʃvreba.***
DEM:DAT do:PRES:3
“S/he is doing that.”

b. ***imas-ʃvreba.***
DEM-do:PRES:3
“S/he is thatdoing.”

c. ***ga=imas-ʃvreba.***
PVB=DEM-do:PRES:3
“S/he is thatdoing.”

(9) a. ***is kʰna.***
DEM.NOM do:AOR:3
“S/he did that.”

b. ***imas-kʰna***
DEM-do:AOR:3
“S/he thatdid.”

c. ***ga=imas-kʰna.***
PVB=DEM-do:AOR:3
“S/he thatdid.”

Ongoing reanalysis

Distinguishable in expression of the intended event's theme

(9) a. ***is*** ***kʰna.***
DEM:NOM do:AOR:3
"S/he did that."

b. ***imas-kʰna***
DEM-do:AOR:3
"S/he thatdid."

c. ***ga=imas-kʰna.***
PVB=DEM-do:AOR:3
"S/he thatdid."

(10) a. ***is*** ***u-kʰna*** ***mariam-s.***
DEM:NOM APPL-do:AOR:3 Mariam-DAT
"S/he did that to Mariam."

b. ***imas-kʰna*** ***mariam-i.***
DEM-do:AOR:3 Mariam-NOM
"S/he thatdid Mariam."

c. ***ga=imas-kʰna*** ***mariam-i.***
PVB=DEM-do:AOR:3 Mariam-NOM
"S/he thatdid Mariam."

Ongoing reanalysis

Distinguishable by preradical vowels, e.g. signaling transitivity

(11) a. ***is*** (****a-***)***kʰna.***
DEM:NOM (*TR-)do:AOR:3
“S/he did that.”

b. (****a-***)***imas-***(****a-***)***kʰna.***
(*TR-)DEM-(*TR-)do:AOR:3
“S/he thatdid.”

c. ***ga=ʔ***(***a-***)***imas-***(****a-***)***kʰna.***
PVB=ʔ(TR-)DEM-(*TR-)do:AOR:3
“S/he thatdid pro_3.”

Variation in prefixal agreement

PHVs have unusual morphological structure and behavior

- The *imas-* prefix does not correspond to any position of a normal verb
- Inflectional prefixes (like *v-*) can appear after, before, or around *imas-*
- This variation is more typical of Complex PHVs

(12) ***imas-v-kʰeni***
DEM-1SUBJ-do:AOR:1/2
"I thatdid"

Simple(/Inner)

(13) a. ***ga=imas-v-kʰeni***
PVB=DEM-1SU-do:AOR:1/2
"I thatdid"

Complex/Inner

b. ***ga=v-imas-kʰeni***
PVB=1SU-DEM-do:AOR:1/2
"I thatdid"

Complex/Outer

c. ***ga=v-imas-v-kʰeni***
PVB=1SU-DEM-1SU-do:AOR:1/2
"I thatdid"

Complex/Doubled

~~1. Introduction~~

~~2. Core patterns~~

3. Analytical possibilities

4. Acceptability experiment

5. Conclusion

Analytical possibilities

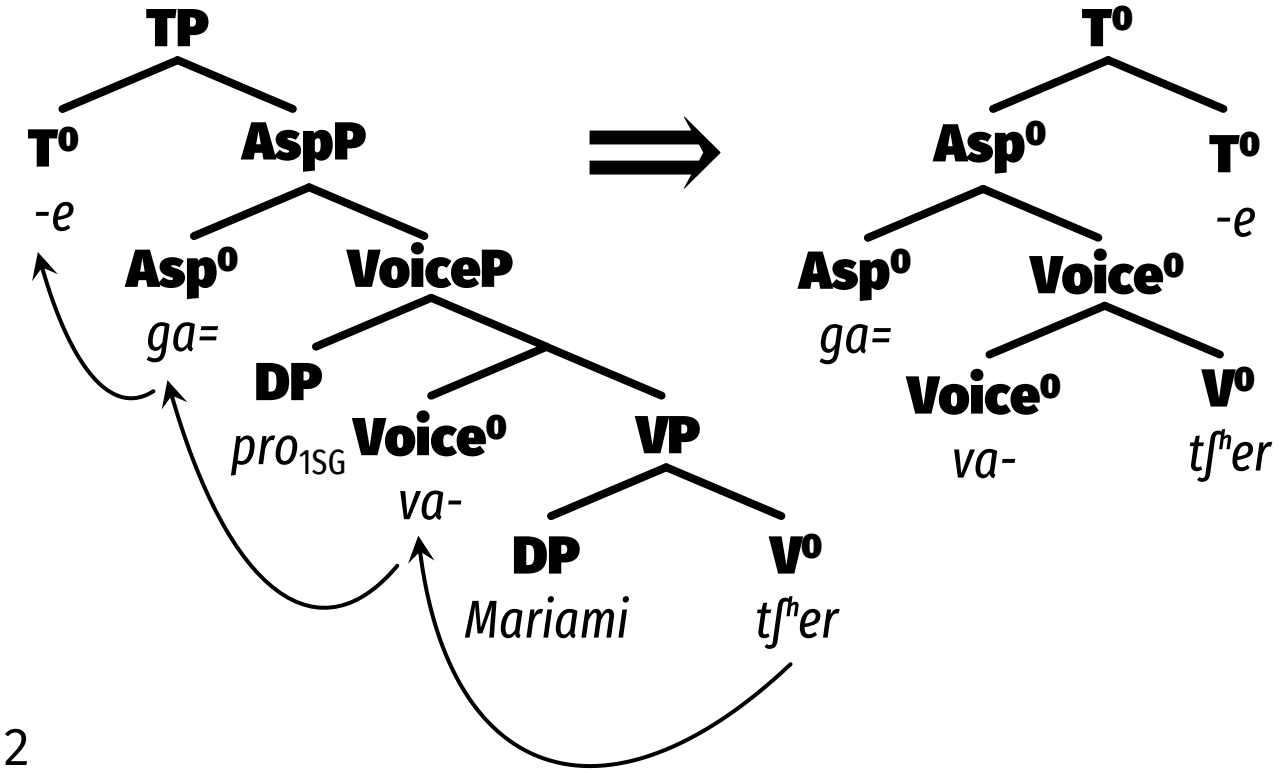
We propose four analyses for PHVs, differing in the representation of *imas-*

Analytical approach	***imas-* reanalyzed as…**
Compound analysis	X^0 adjoined/incorporated to V^0
PVB analysis	Novel instance of Asp^0
F^0 analysis	Novel functional head
Anaphor analysis	Replacement for a subword constituent

Starting points

Assumptions for a standard verb:

- Verb root = V^0
- Prefixal Infl = $Voice^0$
- Preverb = Asp^0
- Suffixal Infl = T^0
- Head mvmt forms the verb word
- (cf. Béjar & Rezac 2009, Lomashvili 2011)



(14) ***mariam-i*** ***ga-va-tʃʰer-e.***
Mariam-NOM PVB-1SU:TR-stop-PST1/2
"I stopped Mariam."

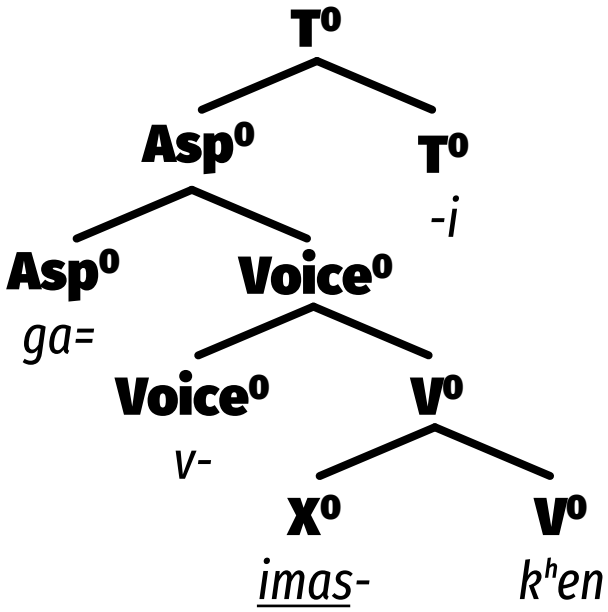
Compound analysis

imas- forms part of a complex root

- Perhaps an incorporated theme — i.e. synchronically, PHV is derived from EAVP
- Asp^0 (i.e. PVB) is copied from intended V

Akin to other compound verbs

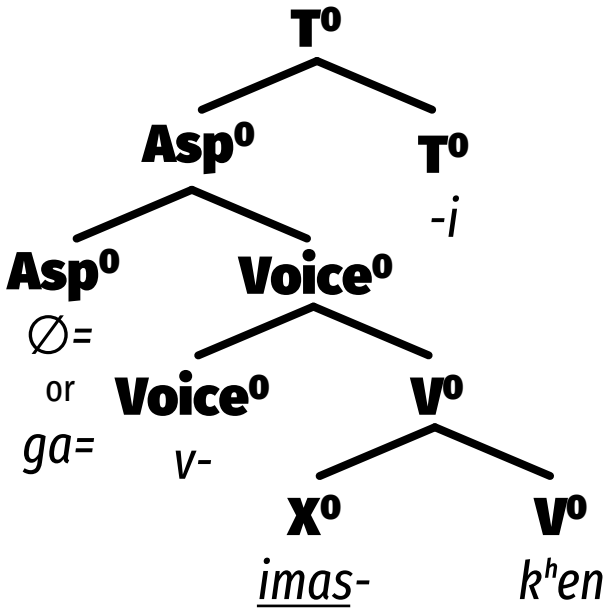
(15) ***ga=va-*[*did-gul*]*-e***
PVB=1SU:TR-[big-heart]-PST:1/2
"I made pro_3 arrogant."



Compound analysis

Key predictions

PHV Variant	Compound Analysis
Simple *imas-v-kʰeni*	✗
Complex/Inner *ga=imas-v-kʰeni*	✗
Complex/Outer *ga=v-imas-kʰeni*	✓
Complex/Double *ga=v-imas-v-kʰeni*	✗



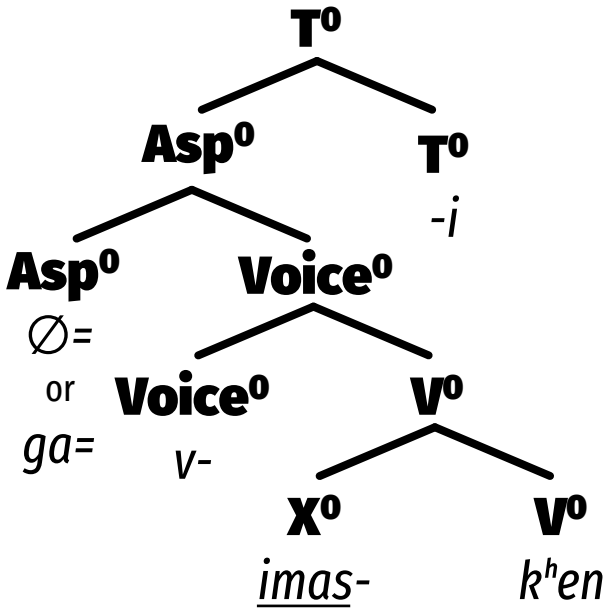
Compound analysis

Some head-scratchers:

- Theme incorporation is possible for standard verbs, but only in nonfinite forms
- Incorporated themes come outside PVBs

(16) [***χel***]+[***da=ban-il-i***]
[hand]+[PVB=wash-PPTC-NOM]
“with washed hands”

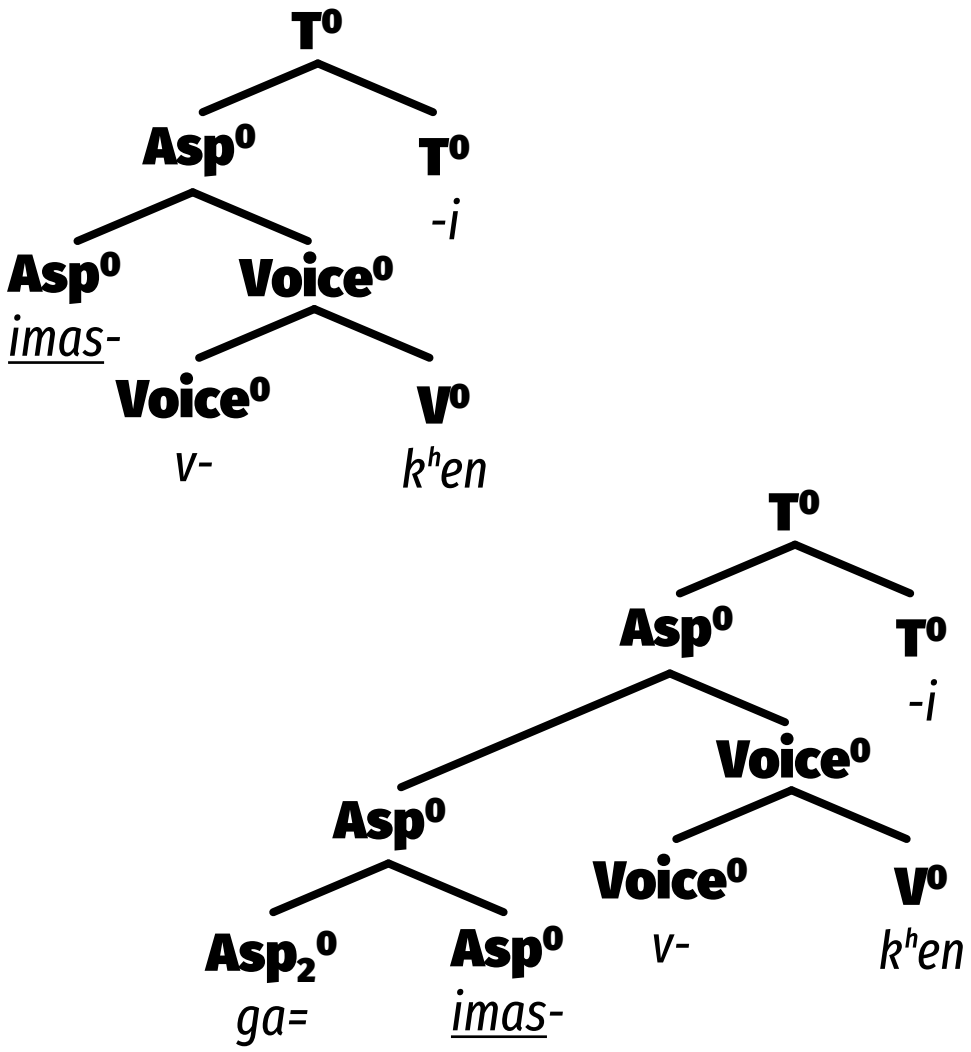
(17) *[***χel***]+[***da=vi-ban-e.***]
[hand]+[PVB=1SU:REFL-wash-PST1/2]
Attempted: “I hand-washed.”



Preverb analysis

imas- is reanalyzed as a new PVB

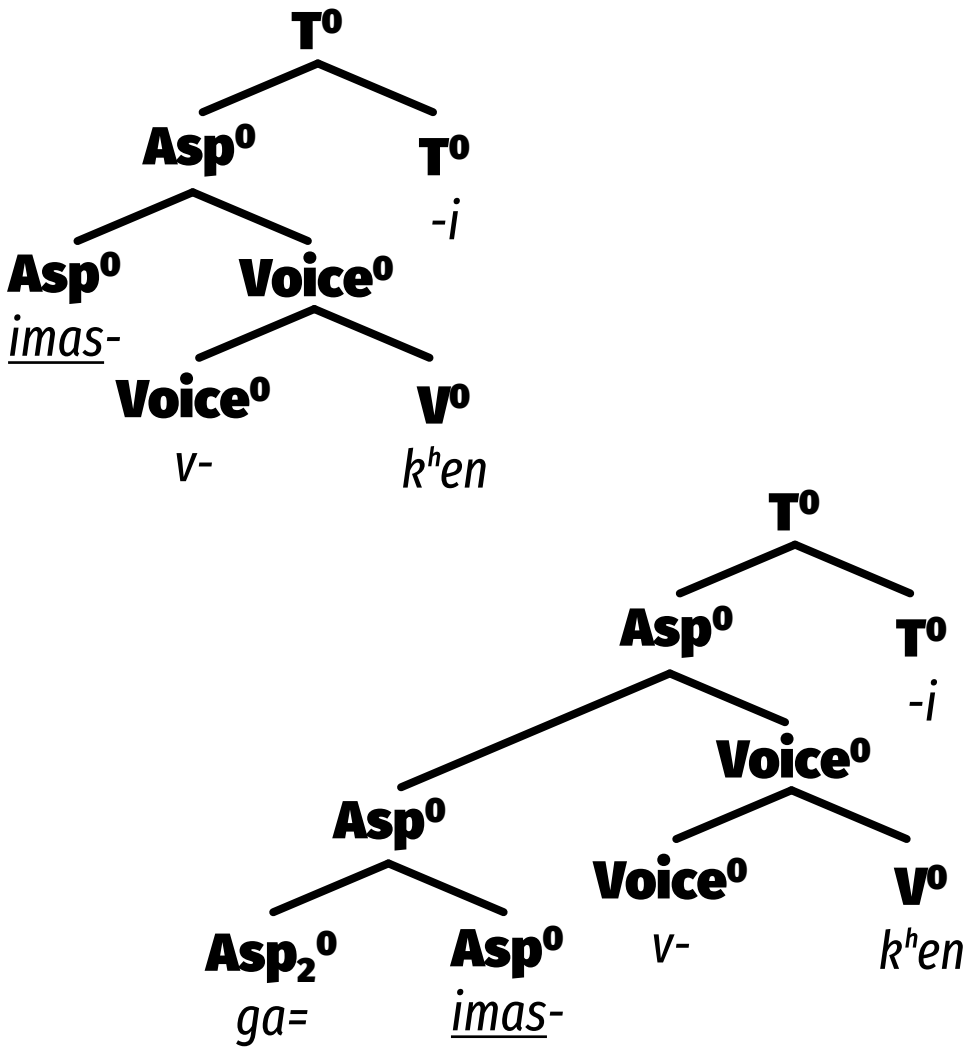
- It is in the same linear position…
- …But it doesn't express perfective aspect or direction of motion (Makharoblidze 2018)
- A copied PVB could be adjoined to Asp^0



Preverb analysis

Key predictions

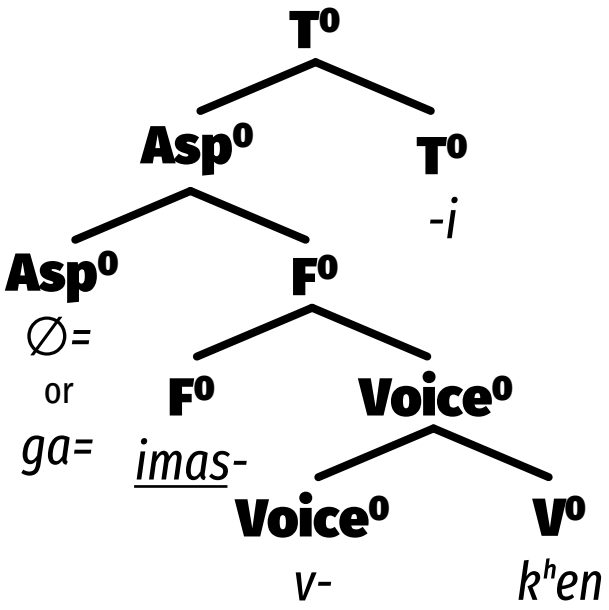
PHV Variant	PVB Analysis
Simple *imas-v-kʰenitʰ*	✓
Complex/Inner *ga=imas-v-kʰenitʰ*	✓
Complex/Outer *ga=v-imas-kʰenitʰ*	✗
Complex/Double *ga=v-imas-v-kʰenitʰ*	✗

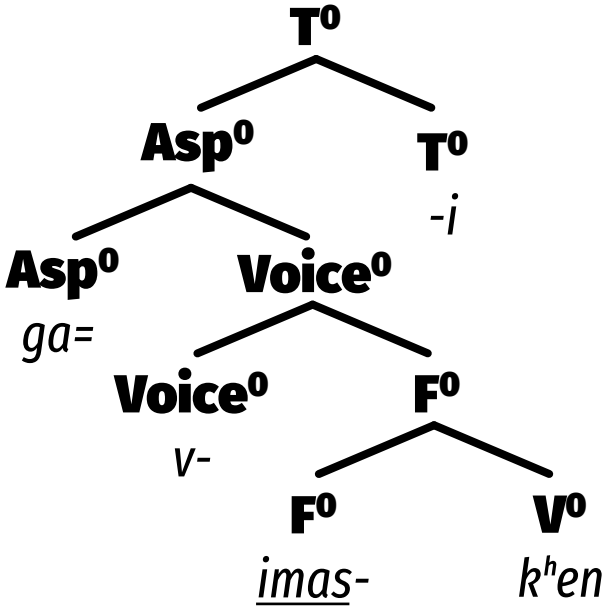


Functional head analysis

imas- is reanalyzed as a novel F^0

- FP could be merged in various positions, accounting for multiple variants…
- …But it isn't clear how to rule out certain combinations (like **v-imas-kʰen-itʰ*)
- …Nor is it clear what FP's functional (TAM/argument structure) contribution is





Functional head analysis

Key predictions

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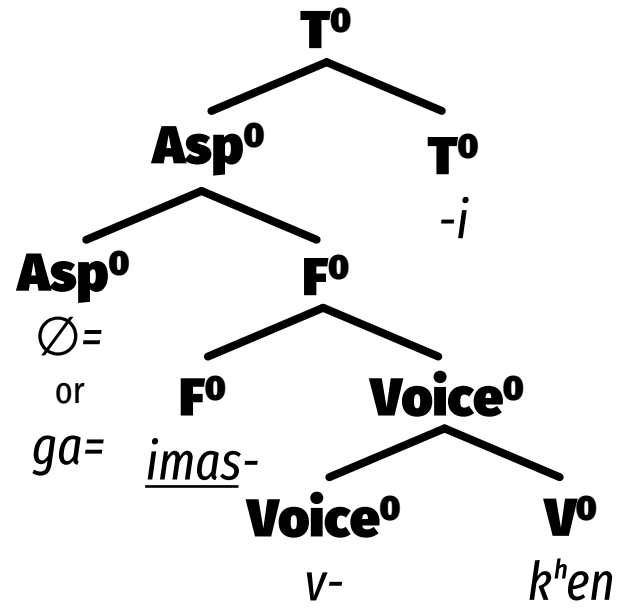
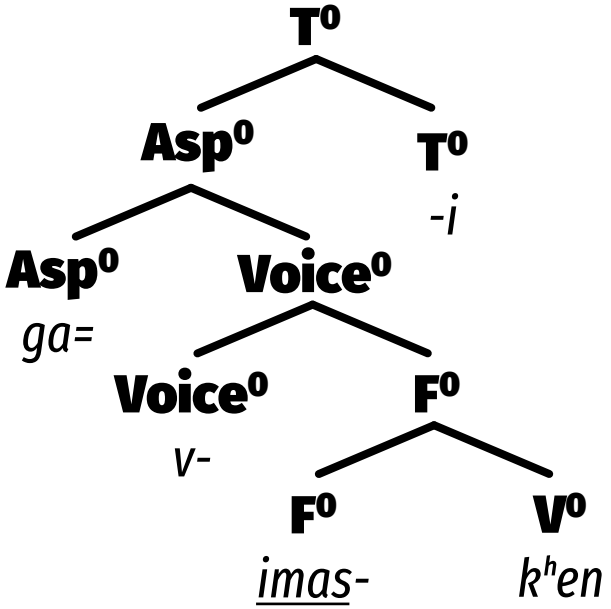
Complex/Inner *ga=imas-v-kʰenitʰ*	✓
Complex/Outer *ga=v-imas-kʰenitʰ*	✓
Complex/Double *ga=v-imas-v-kʰenitʰ*	✗

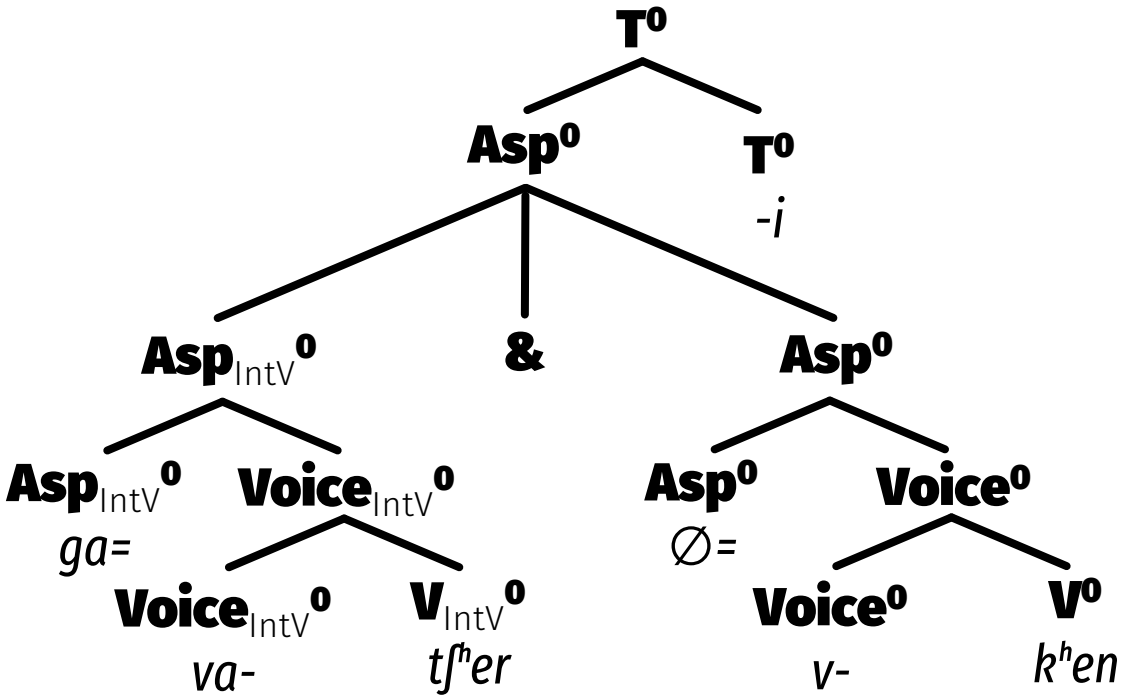




Morphological anaphor analysis

imas- is reanalyzed as a subword anaphor

- PHVs literally contain the intended verb (IntV), conjoined at AspP
- Replacing different subword constituents with *imas-* accounts for morphological variants
- Morphological anaphors are rare, but attested (Compton & Pittman 2010)



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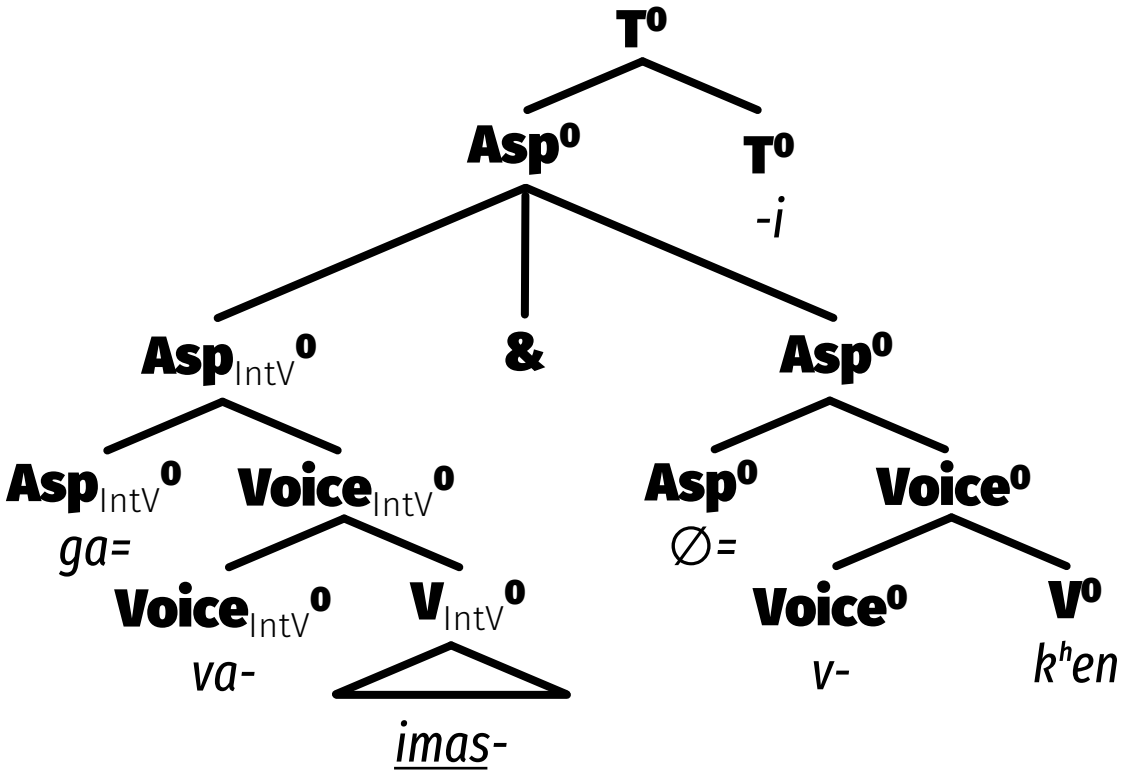

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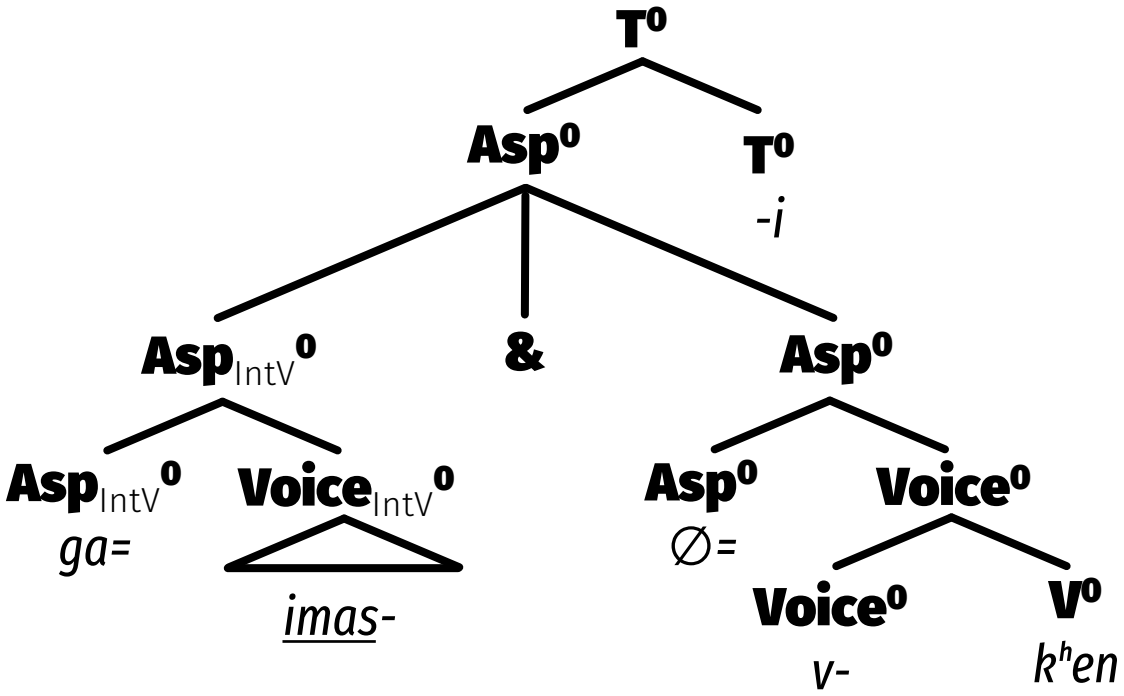

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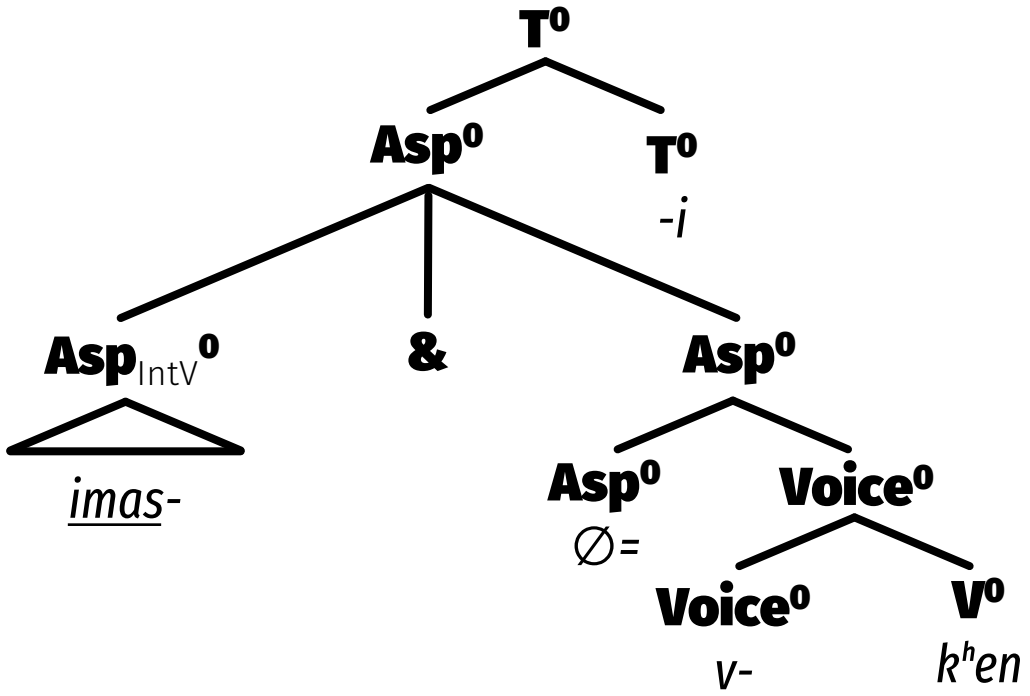
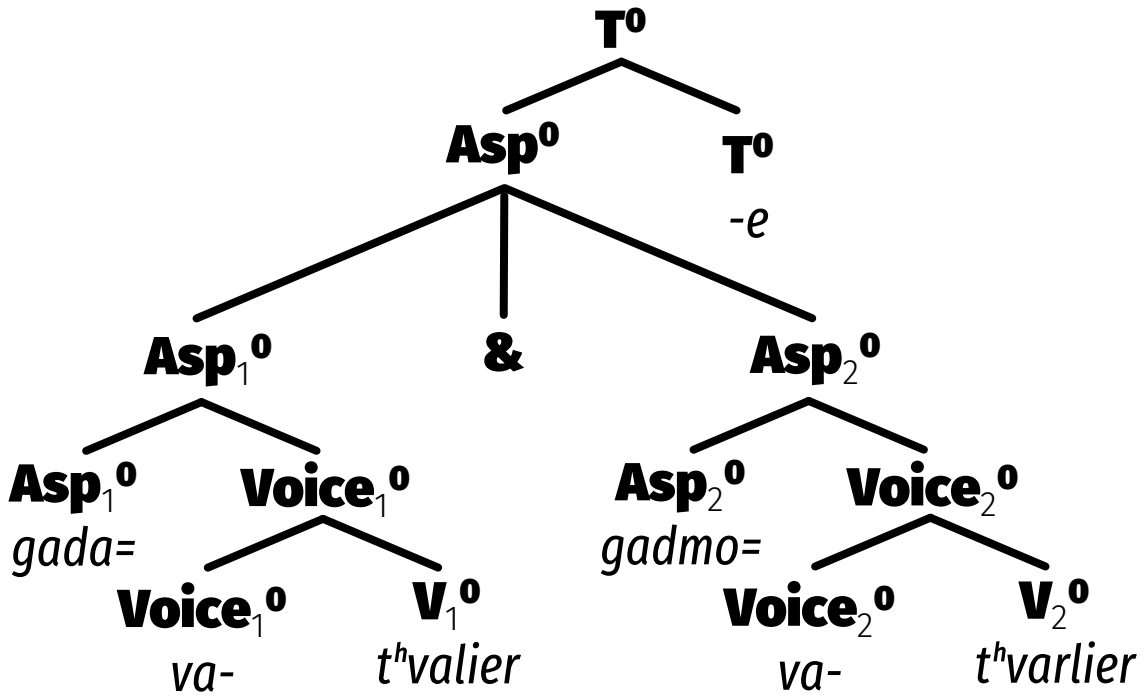


Morphological anaphor analysis

This conjunction structure is independently attested in truncated compounds (Harris 2017)

- But, truncated compounds and PHVs don't have parallel semantics

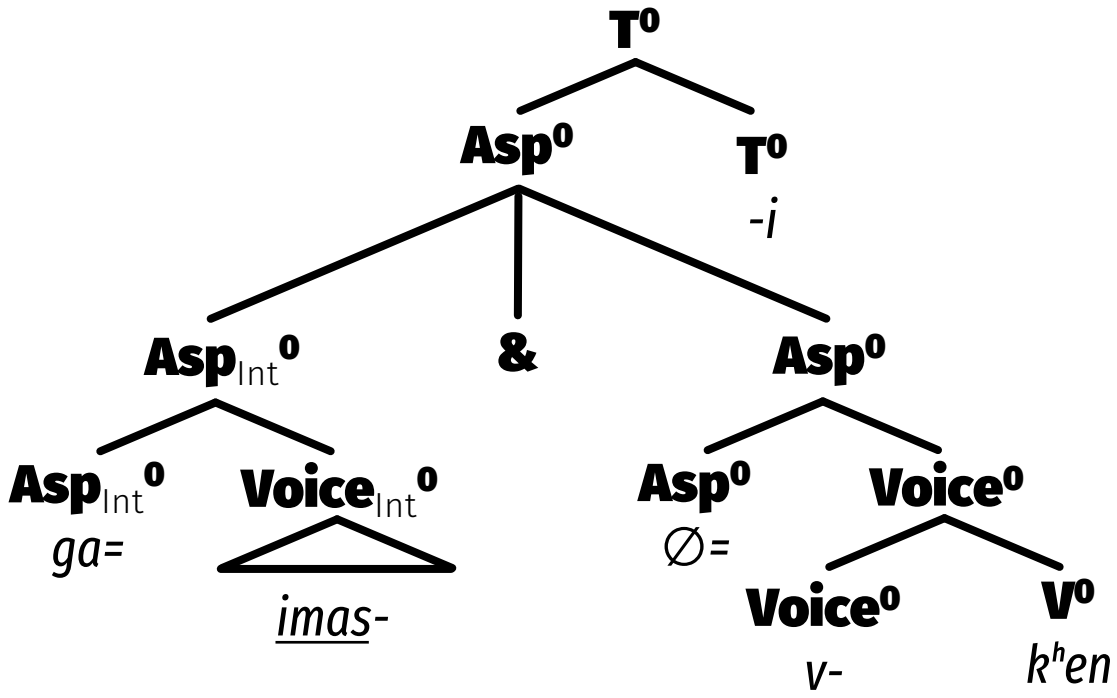


(18) ***ts'ign-i*** [***gada=va-tʰvalier***]+[***gadmo=va-tʰvalier***]***-e.***
book-NOM [PVB$_1$=1SU:TR-look]+[PVB$_2$=1SU:TR-look]-PST1/2
"I looked through the book back and forth."

Morphological anaphor analysis

Key predictions

PHV Variant	Anaphor Analysis
Simple *imas-v-kʰenitʰ*	✓
Complex/Inner *ga=imas-v-kʰenitʰ*	✓
Complex/Outer *ga=v-imas-kʰenitʰ*	✗
Complex/Double *ga=v-imas-v-kʰenitʰ*	✓



Summary

No single analysis accounts for everything — each is a set of predictions!

PHV Variant	Compound Analysis	PVB Analysis	Novel F^0 Analysis	Anaphor Analysis
Simple *imas-v-kʰenitʰ*	✗	✓	✓	✓
Complex/Inner *ga=imas-v-kʰenitʰ*	✗	✓	✓	✓
Complex/Outer *ga=v-imas-kʰenitʰ*	✓	✗	✓	✗
Complex/Double *ga=v-imas-v-kʰenitʰ*	✗	✗	✗	✓

~~1. Introduction~~

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Acceptability experiment

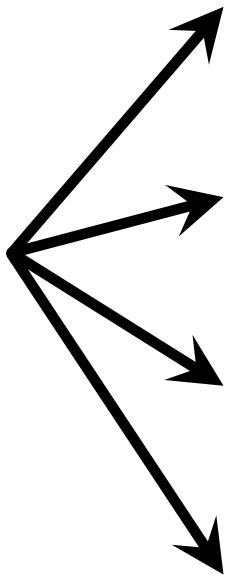
Task: rate how good a PHV form is relative to a given intended verb

Experimental trial mock-up	
ნაგულისხმევი ზმნა: მოვატყუებ	Intended verb: *mo=va-t'q'u-eb* PVB=1SU:TR-deceive-THM "I will deceive *pro*$_3$"
ჩამნაცვლებელი ზმნა: მოიმასვიზამ	Placeholder verb: *mo=imas-vi-z-am* PVB=DEM-1SU:REFL-do.FUT-THM "I will thatdo *pro*$_3$"
1 – 2 – 3 – 4 – 5 (ძალიან ცუდი) (ძალიან კარგი)	**1 – 2 – 3 – 4 – 5** (very bad) (very good)

Acceptability experiment

Design: IntV paired with all four major PHV types (Latin Square distribution)

(19) Intended verb
gada=v-ri-et^h
PVB=1SU-madden-PST1/2:PL
"We drove *pro*$_3$ mad."



Possible PHVs

a. ***imas-v-k^{h}en-it^h***
DEM-1SU-do.AOR-PST1/2:PL

b. ***gada=imas-v-k^{h}en-it^h***
PVB=DEM-1SU-do.AOR-PST1/2:PL

c. ***gada=v-imas-k^{h}en-it^h***
PVB=1SU-DEM-do.AOR-PST1/2:PL

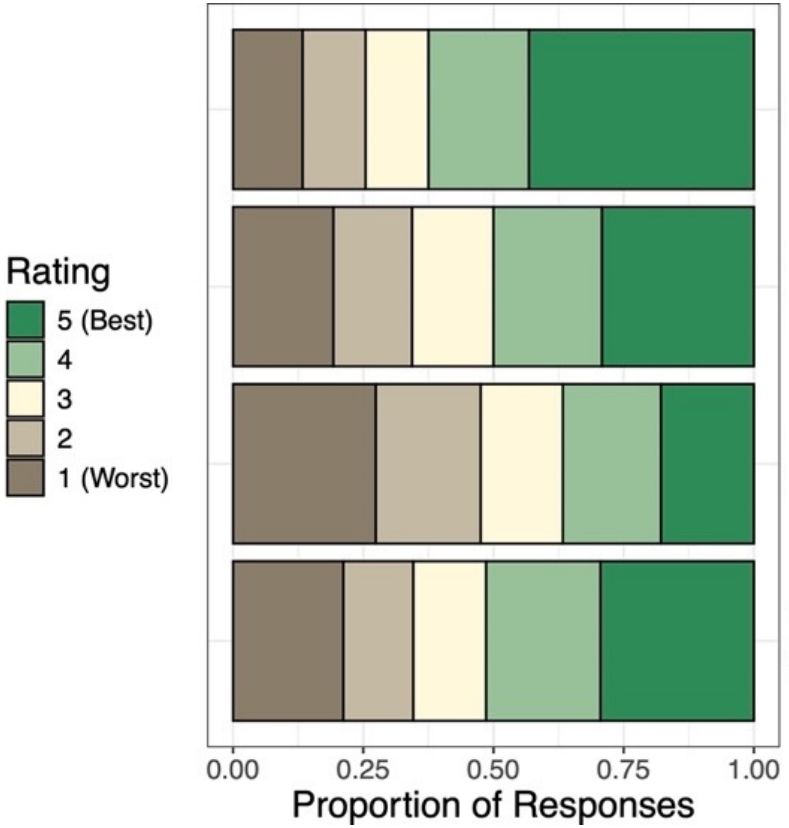
d. ***gada=v-imas-v-k^{h}en-it^h***
PVB=1SU-DEM-1SU-do.AOR-PST1/2:PL

Acceptability experiment

Other details

- 32 critical itemsets, 160 fillers; two experimental sessions
- 65 native Georgian speakers took part; 36 took both sessions
- Conducted remotely via the internet, hosted on PCIbex (Zehr & Schwartz 2018)

Aggregate results

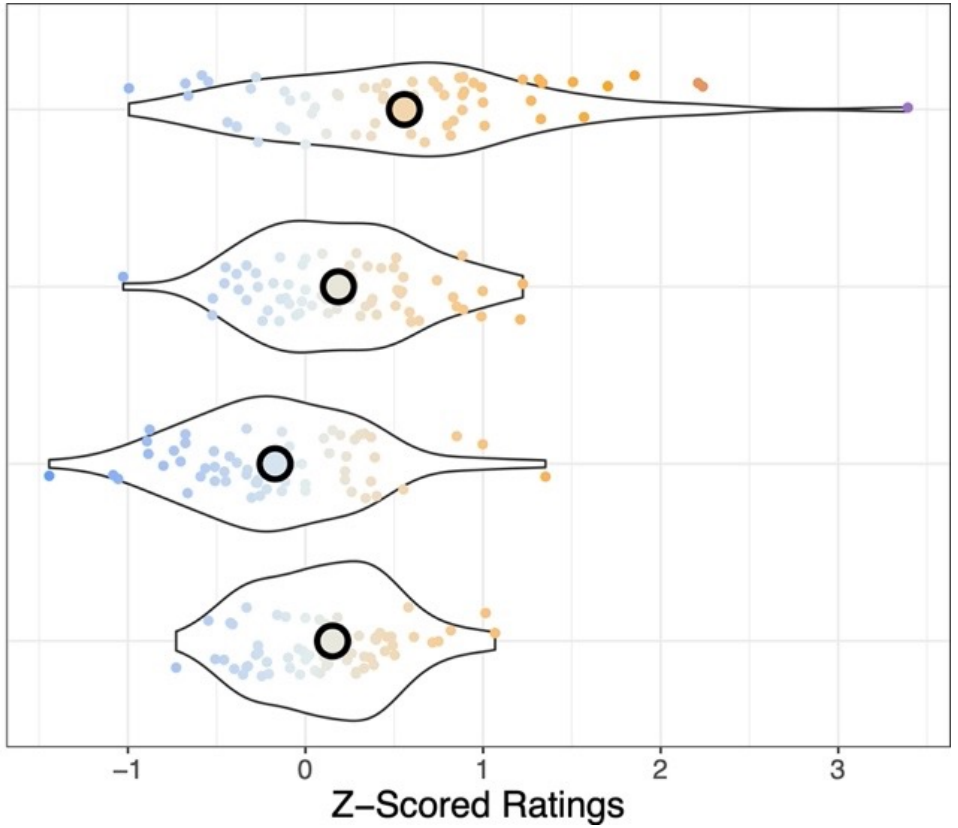


Simple
imas-v-k^{h}eni

Complex/Inner
ga=imas-v-k^{h}eni

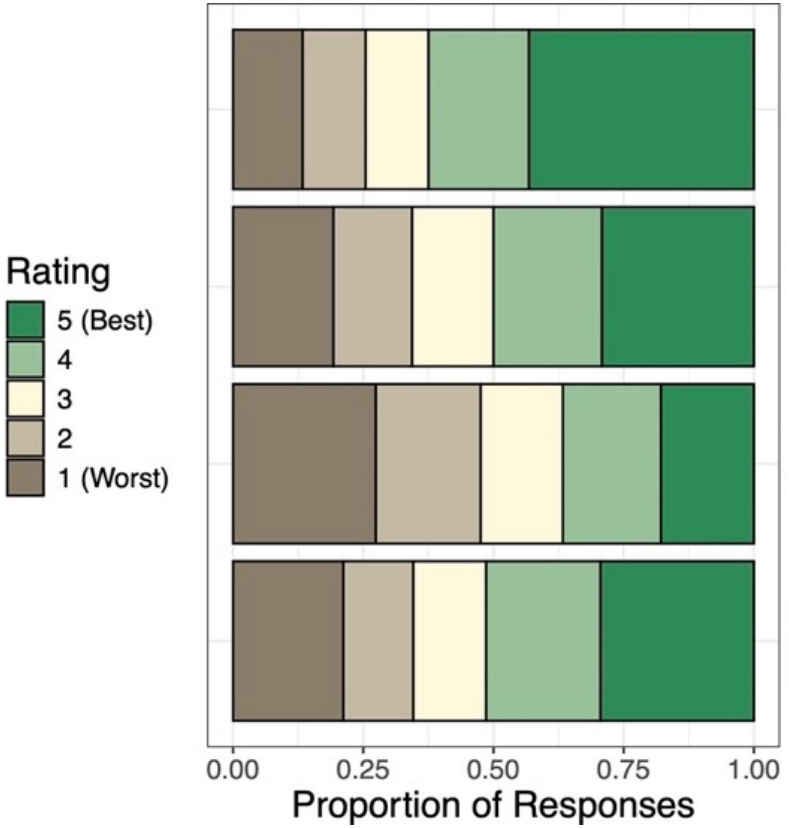
Complex/Inner
ga=v-imas-k^{h}eni

Complex/Inner
ga=v-imas-v-k^{h}eni



Worse than average ← **→ Better than average**

Aggregate results



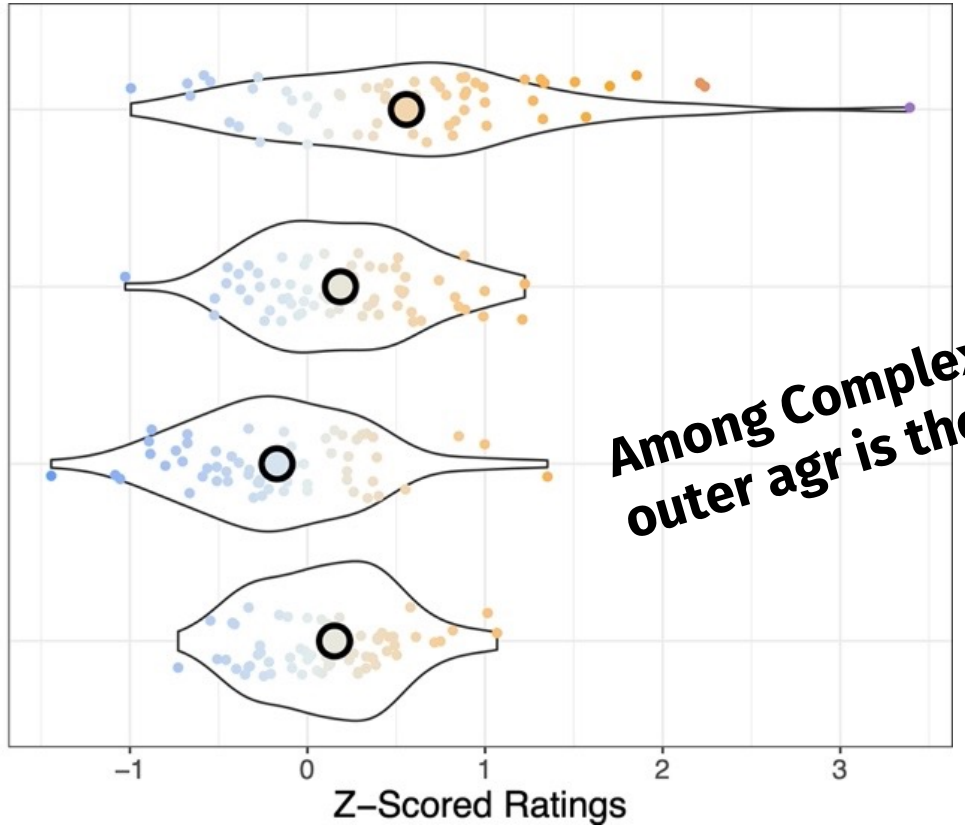
Simple
imas-v-kʰeni

Complex/Inner
ga=imas-v-kʰeni

Complex/Inner
ga=v-imas-kʰeni

Complex/Inner
ga=v-imas-v-kʰeni

Simple PHVs were rated best overall



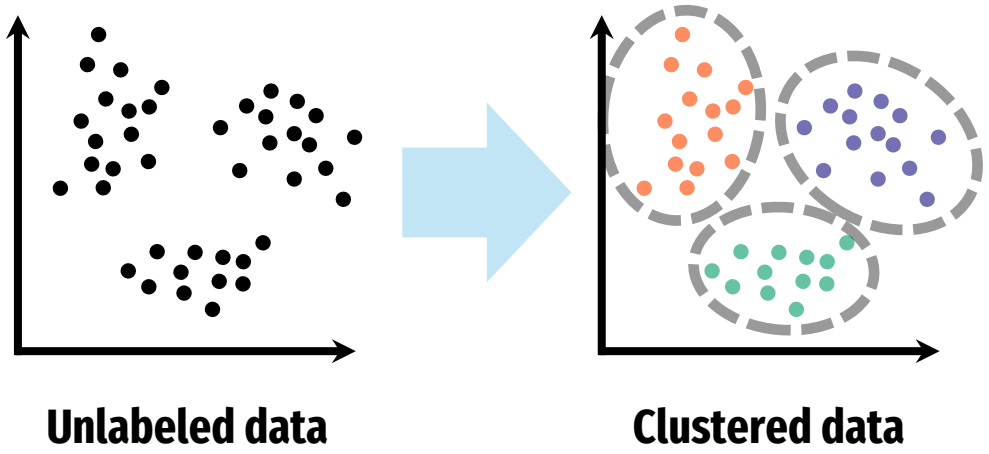
Among Complex PHVs, outer agr is the worst

Worse than average ← **→ Better than average**

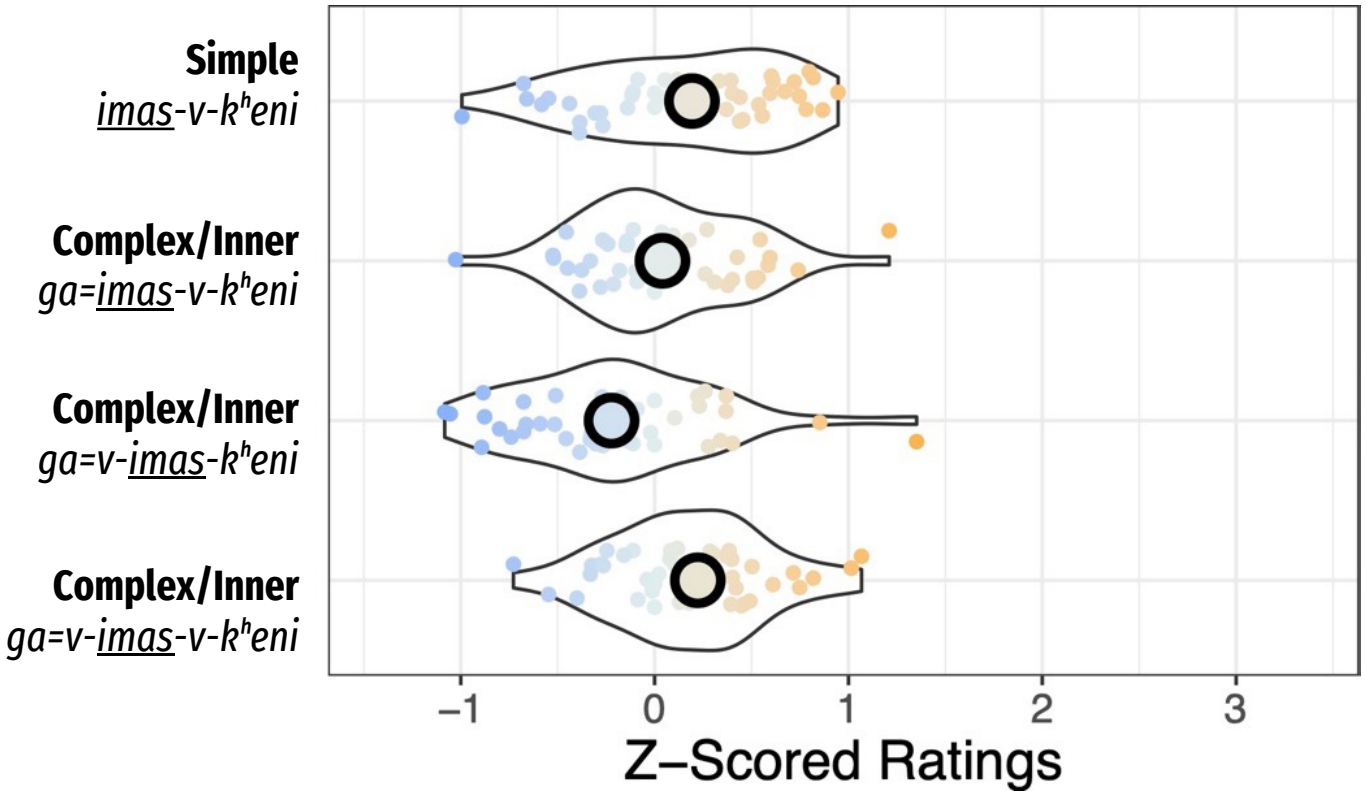
Clustering analysis

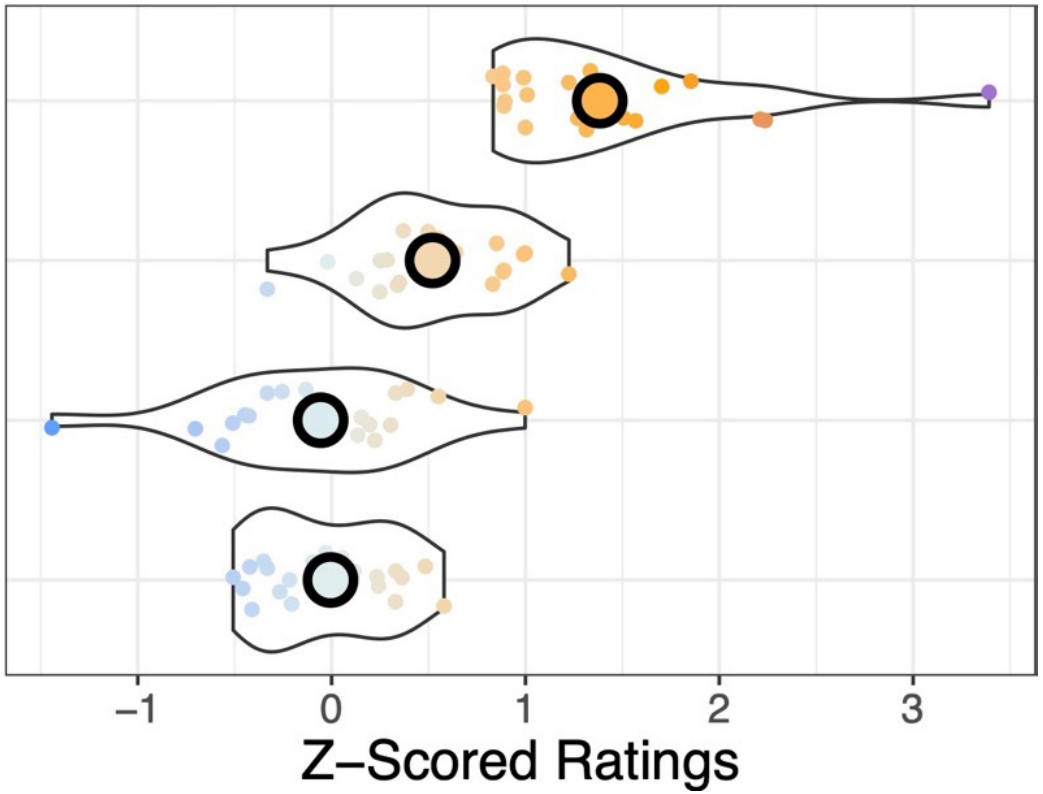
K-means clustering

- A technique for latent patterns in data (Burnett et al. 2014)
- Here, used to identify groups of participants whose ratings were similar



Clustering analysis





Cluster A

- 43 participants
- Complex/Outer PHVs rated worse than all the others
- Speakers with the Anaphor Grammar?

Cluster B

- 20 participants
- Simple PHVs best by far; Complex/Inner ok
- Speakers with the PVB Grammar?

Clustering analysis

Cluster B grammar

Cluster A grammar

PHV Variant	Compound Analysis	PVB Analysis	Novel F⁰ Analysis	Anaphor Analysis
Simple *imas-v-kʰenitʰ*	✗	✓	✓	✓
Complex/Inner *ga=imas-v-kʰenitʰ*	✗	✓	✓	✓
Complex/Outer *ga=v-imas-kʰenitʰ*	✓	✗	✓	✗
Complex/Double *ga=v-imas-v-kʰenitʰ*	✗	✗	✗	✓

~~1. Introduction~~

~~2. Core patterns~~

~~3. Analytical possibilities~~

~~4. Acceptability experiment~~

5. Conclusion

Conclusion

Our experiments suggests there are at least two types of speakers

- Those who reanalyze *imas-* as a novel PVB, and those who reanalyze it as a morphological anaphor

Why these grammars rather than the others?

- Language-specific pressure: Georgian avoids theme-incorporation
- Language-general pressure: Repurpose existing constructions, rather than positing new structure (FP)

Conclusion

Outstanding questions

- Do EAVPs and PHVs have identical interpretations? Or has there been semantic change?
- What PHV forms are best when intending an intransitive (e.g. passive) verb?

Intended intransitive verb

(20) ***ga=tʃʰer-d-a*** ~ ***ga=i-ts'vrtʰn-a***
PVB=stop-INCH-PST PVB=REFL-train-PST
"S/he was stopped ~ trained."

Conceivable PHVs

(21) a. ***ga=imas-kʰn-a***
PVB=DEM-do-PST

b. ***ga=imas-kʰn-d-a***
PVB=DEM-do-INCH-PST

c. ***ga=imas-i-kʰn-a***
PVB=DEM-REFL-do-PST

Conclusion

Georgian is already a platypus among languages

- i.e. many typologically unusual and complex grammatical features

The development of PHVs shows how a language can become *more complex*

- How might a platypus grow wings? Possibly in multiple ways!

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