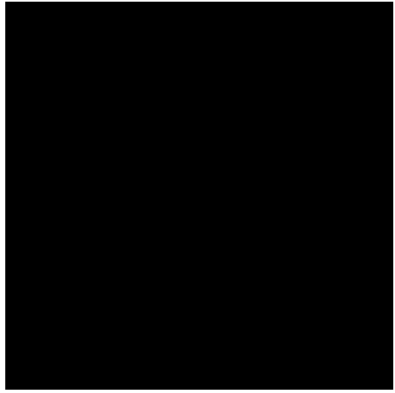
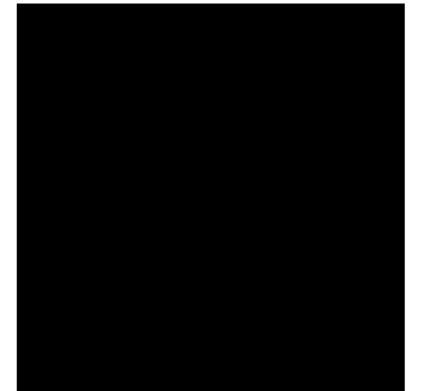


Slides



Multiple grammars of Georgian placeholder verbs coexist across speakers

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The Fourth South Caucasian Chalk Circle (SCCC-4) • Paris • Oct 8, 2025



Manuscript

Introduction

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

- Used when the intended verb can't: 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-fvreba.***
DEM-do:PRES:3
“S/he is thatdoing.”

[Context 1: The speaker is pointing to someone doing an unlexified activity]

[Context 2: The speaker wishes to avoid using a curse word]

[Context 3: The speaker's intended verb is on the tip of their tongue]

(2) ***imas fvreba.***
DEM:DAT do:PRES:3
“S/he is doing that.”

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-k^hen-i***
DEM-1SU-do-PST1/2
- b. ***ga=imas-v-k^hen-i***
PVB=DEM-1SU-do-PST1/2
- c. ***ga=v-imas-k^hen-i***
PVB=1SU-DEM-do-PST1/2
- d. ***ga=v-imas-v-k^hen-i***
PVB=1SU-DEM-1SU-do-PST1/2
All: “S/he thatdid.”

~~1. Introduction~~

2. Core patterns

3. Analytical possibilities

4. Acceptability experiment

5. Conclusion

Core patterns

Three major stages in the development of PHVs

$VP \rightarrow V^0 \rightarrow PVB=V^0$

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 fvreba.*
DEM:DAT do:PRES:3
“S/he is doing that.”

Event-anaphoric VP “do that”

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

Simple PHV (no preverb)

c. *ga=imas-fvreba.*
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-tʃ^her-a.***
Mariam-NOM PVB=TR-stop-PST3
“S/he stopped Mariam.”

Sentence w/ PHV

- (6) a. ***Mariam-i*** ***imas-k^hn-a.***
Mariam-NOM DEM-do-PST3
“S/he thatdid Mariam.” [Simple PHV]
- b. ***Mariam-i*** ***ga=imas-k^hn-a.***
Mariam-NOM PVB=DEM-do-PST3
“S/he thatdid Mariam.” [Complex PHV]
- c. ****Mariam-i*** ***je=imas-k^hn-a.***
Mariam-NOM PVB=DEM-do-PST3
Attempted: [Complex w/ mismatched PVB]

Ongoing reanalysis

Distinguishable by the position of negation

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

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

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

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

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

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

Ongoing reanalysis

Distinguishable by object scrambling

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

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

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

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

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

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

Ongoing reanalysis

Distinguishable by case-shift of objects across tenses

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

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

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

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

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

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

Ongoing reanalysis

Distinguishable in expression of the intended event's theme

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

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

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

(10) a. ***is*** ***u-k^hna*** ***mariam-s***.
DEM:NOM APPL-do:AOR:3 Mariam-DAT
“S/he did that to Mariam.”

b. ***imas-k^hna*** ***mariam-i***.
DEM-do:AOR:3 Mariam-NOM
“S/he thatdid Mariam.”

c. ***ga=imas-k^hna*** ***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-*)*k^hna*.
DEM:NOM (*TR-)do:AOR:3
“S/he did that.”
- b. (**a-*)*imas*-(*)*a-*)*k^hna*.
(*TR-)DEM-(*)TR-)do:AOR:3
“S/he thatdid.”
- c. *ga*=?(*a-*)*imas*-(*)*a-*)*k^hna*.
PVB=? (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-k^heni***
DEM-1SUBJ-do:AOR:1/2
“I thatdid”

Simple/Inner

(13) a. ***ga=imas-v-k^heni***
PVB=DEM-1SU-do:AOR:1/2
“I thatdid”

Complex/Inner

b. ***ga=va-imas-k^heni***
PVB=SU:TR-DEM-do:INFL
“I thatdid”

Complex/Outer

c. ***ga=va-imas-v-k^heni***
PVB=1SU:TR-DEM-1SU-do:INFL
“I thatdid”

Complex/Doubled

~~1. Introduction~~

~~2. Core patterns~~

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Analytical possibilities

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

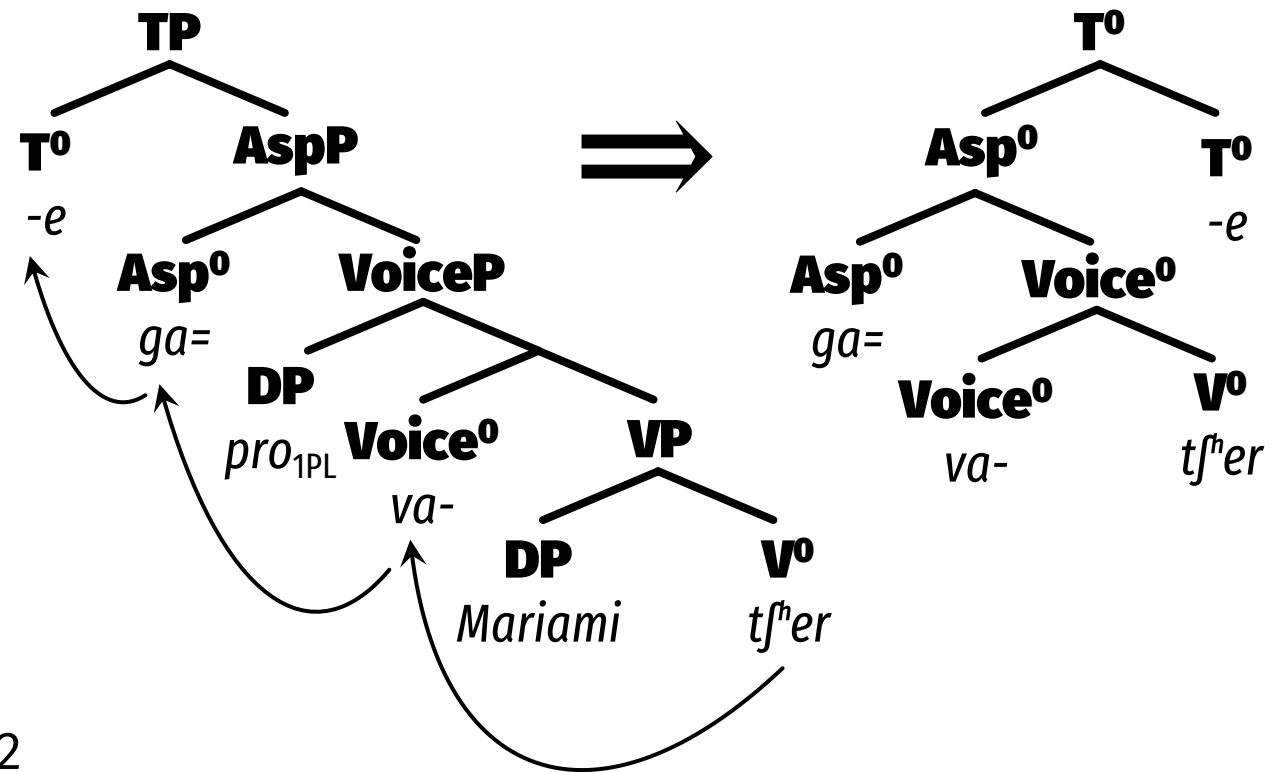
Analytical approach	<i>imas-</i> reanalyzed as...
Compound analysis	X^0 adjoined/incorporated to V^0
PVB analysis	Novel instance of Asp^0
F^0 analysis	Novel functional head
Anaphor analysis	Replacement for a subword constituent

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-tf^her-e*.
Mariam-NOM PVB-1SU:TR-stop-PST1/2
“I stopped Mariam.”



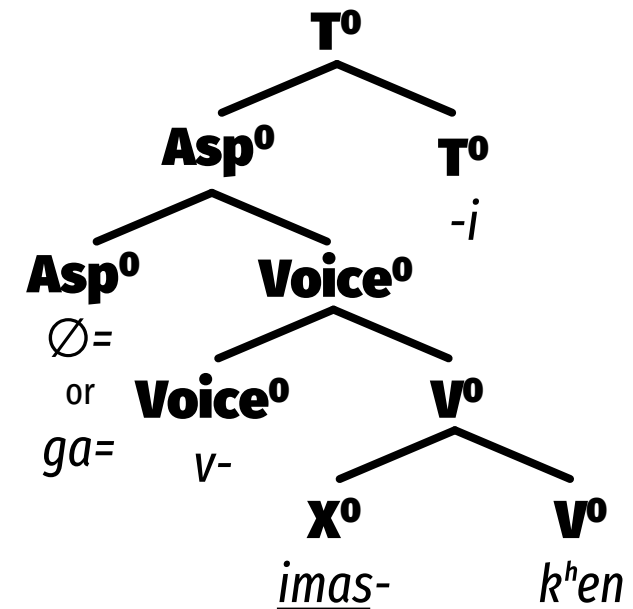
Compound analysis

imas- forms part of a complex root

- Perhaps an incorporated theme — i.e. synchronically, PHV is derived from EAVP
- Asp^0 might be null, or copied from intended V

Akin to other compound verbs

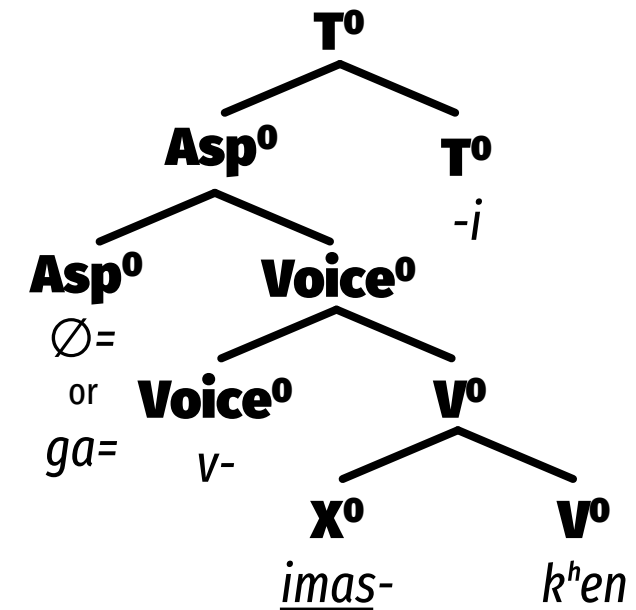
- (15) ***ga=va-[did-gul]-e***
PVB=1SU:TR-[big-heart]-PST:1/2
“I made *pro*₃ arrogant.”



Compound analysis

Key predictions

PHV Variant	Compound Analysis
Simple <i>imas-v-k^heni</i>	✓
Complex/Inner <i>ga=imas-v-k^heni</i>	✗
Complex/Outer <i>ga=v-imas-k^heni</i>	✓
Complex/Double <i>ga=v-imas-v-k^heni</i>	✗



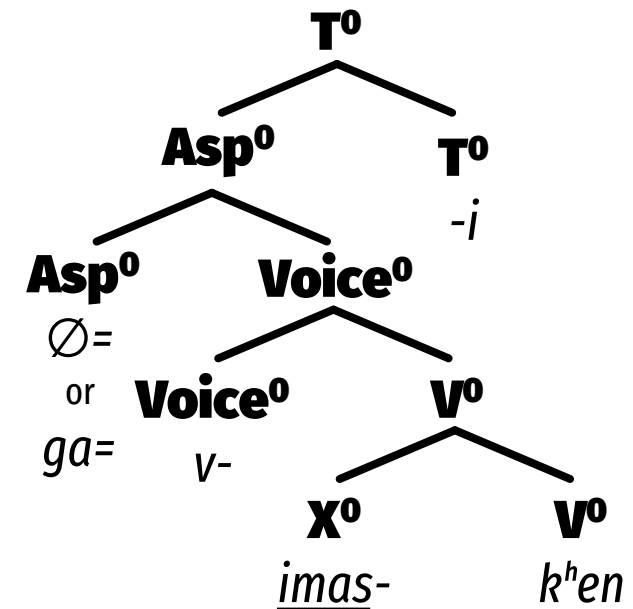
Compound analysis

Some head-scratchers:

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

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

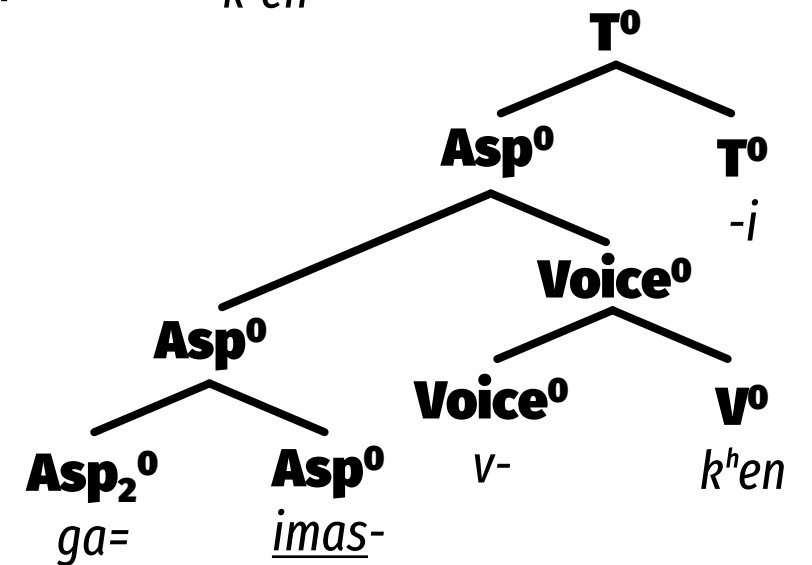
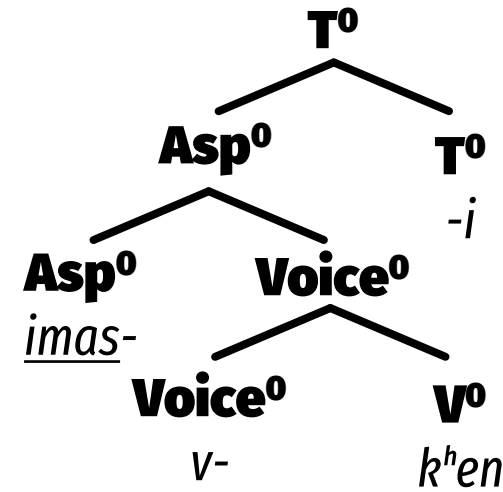
(17) *[*xel*]+[*da=vi-ban-e.*]
 [hand]+[PVB=1SU:REFL-wash-PST1/2]
 Attempted: “I hand-washed.”



Preverb analysis

imas- is reanalyzed as a new PVB

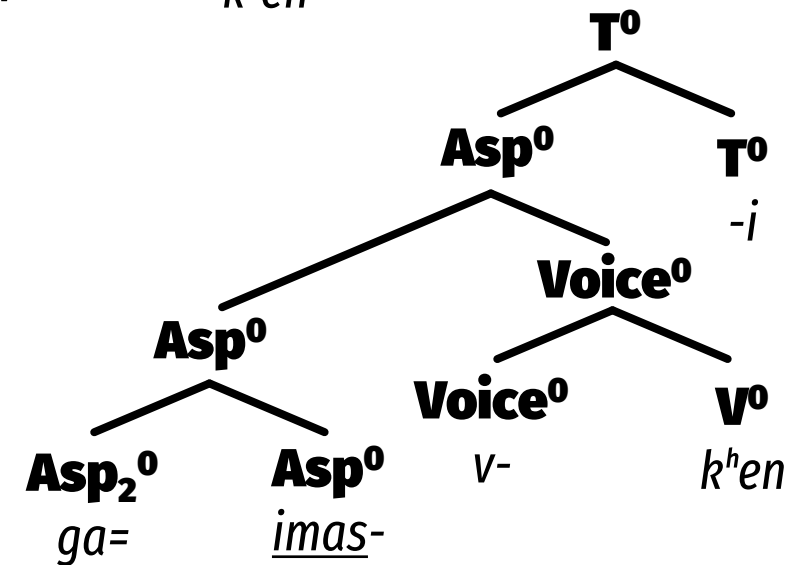
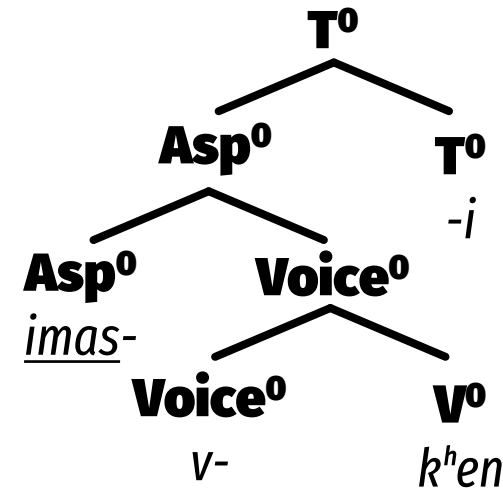
- It is in the same linear position...
- ...But it doesn't express perfective aspect or direction of motion (Makharoblidze 2018)
- A copied PVB could be adjoined to Asp^0



Preverb analysis

Key predictions

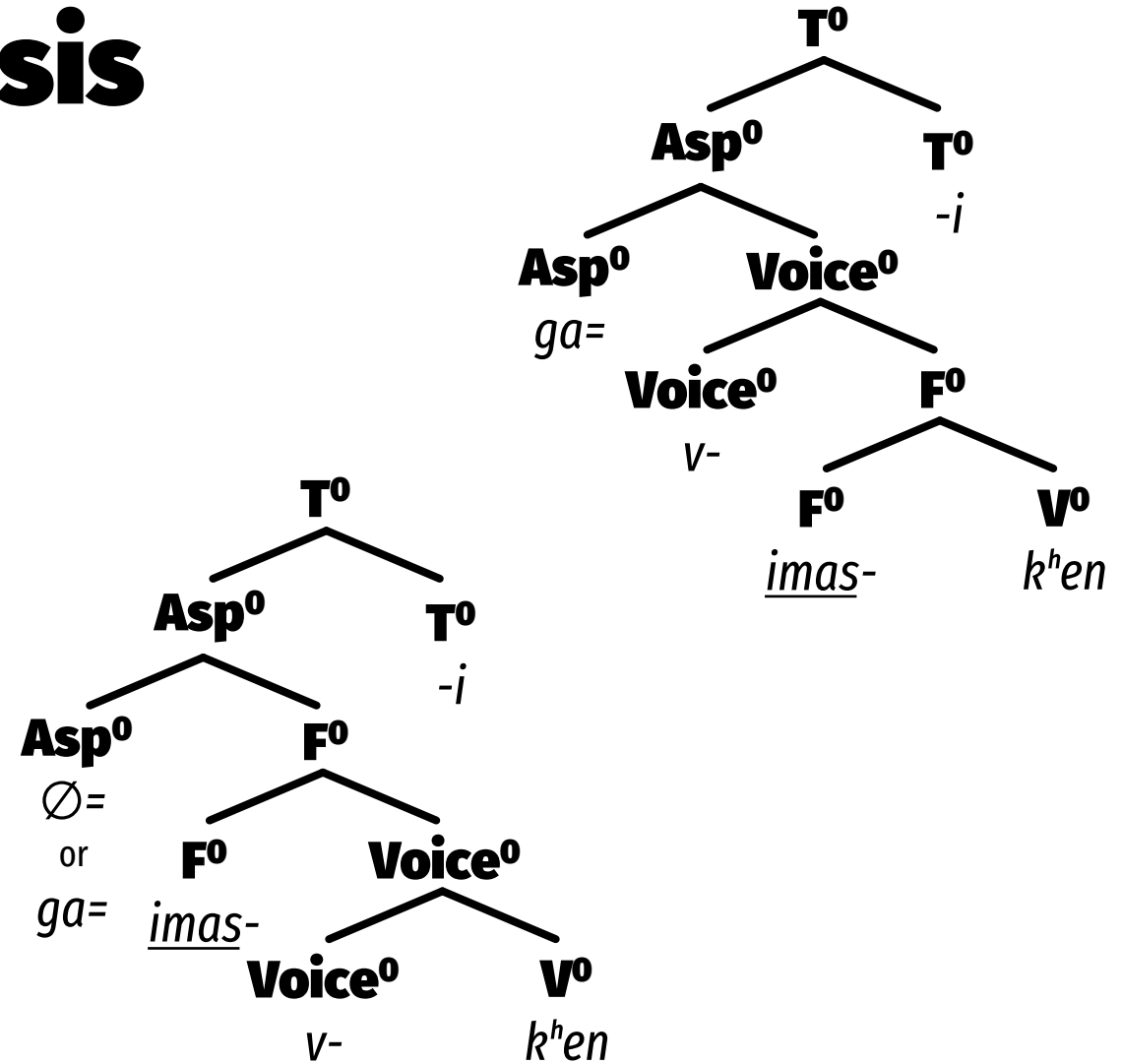
PHV Variant	PVB Analysis
Simple <i>imas-v-k^henit^h</i>	✓
Complex/Inner <i>ga=imas-v-k^henit^h</i>	✓
Complex/Outer <i>ga=v-imas-k^henit^h</i>	✗
Complex/Double <i>ga=v-imas-v-k^henit^h</i>	✗



Functional head analysis

imas- is reanalyzed as a novel F⁰

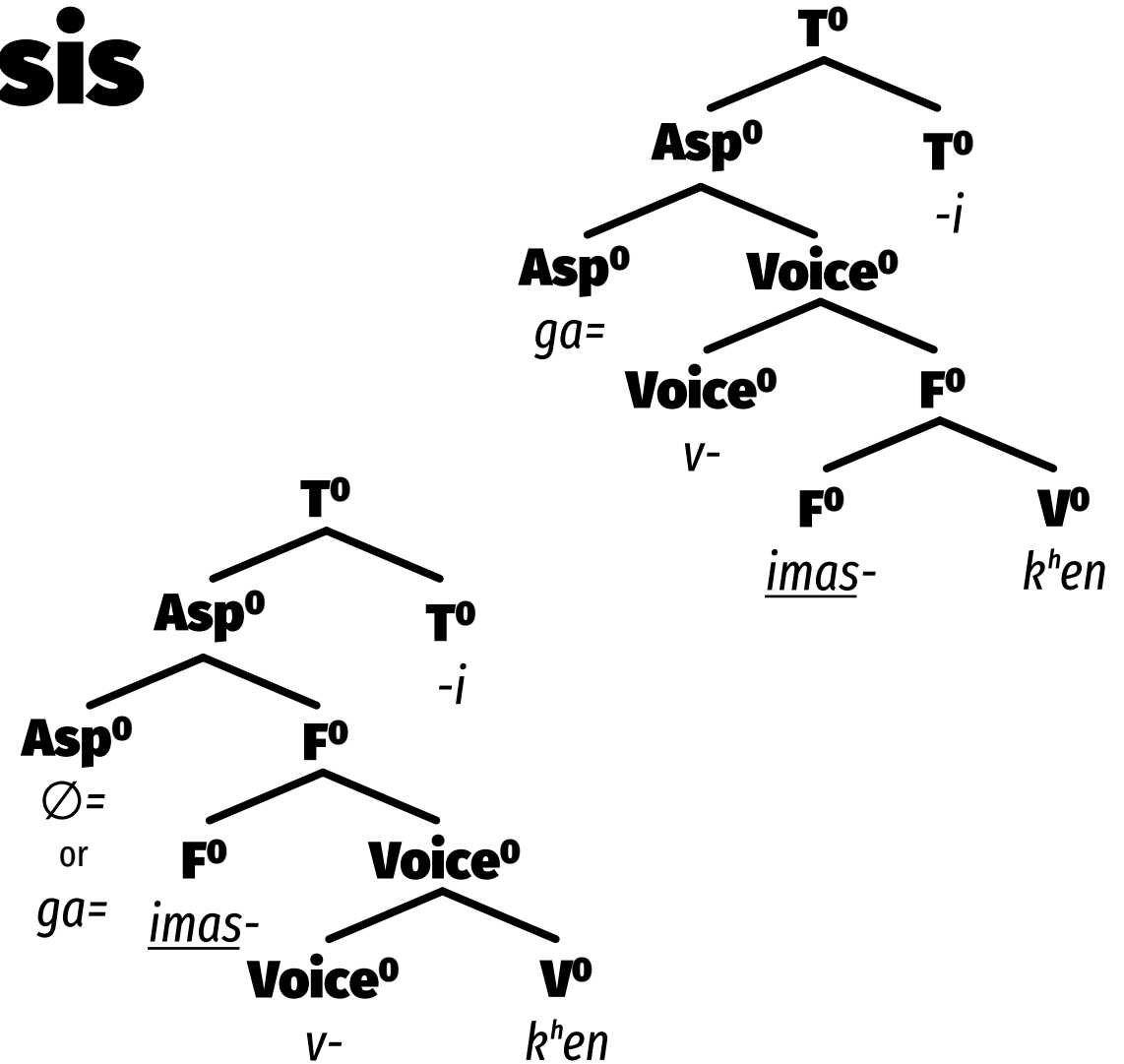
- FP could be merged in various positions, accounting for multiple variants...
- ...But it isn't clear how to rule out certain combinations (like **v-imas-k^hen-it^h*)
- ...Nor is it clear what FP's functional (TAM/argument structure) contribution is



Functional head analysis

Key predictions

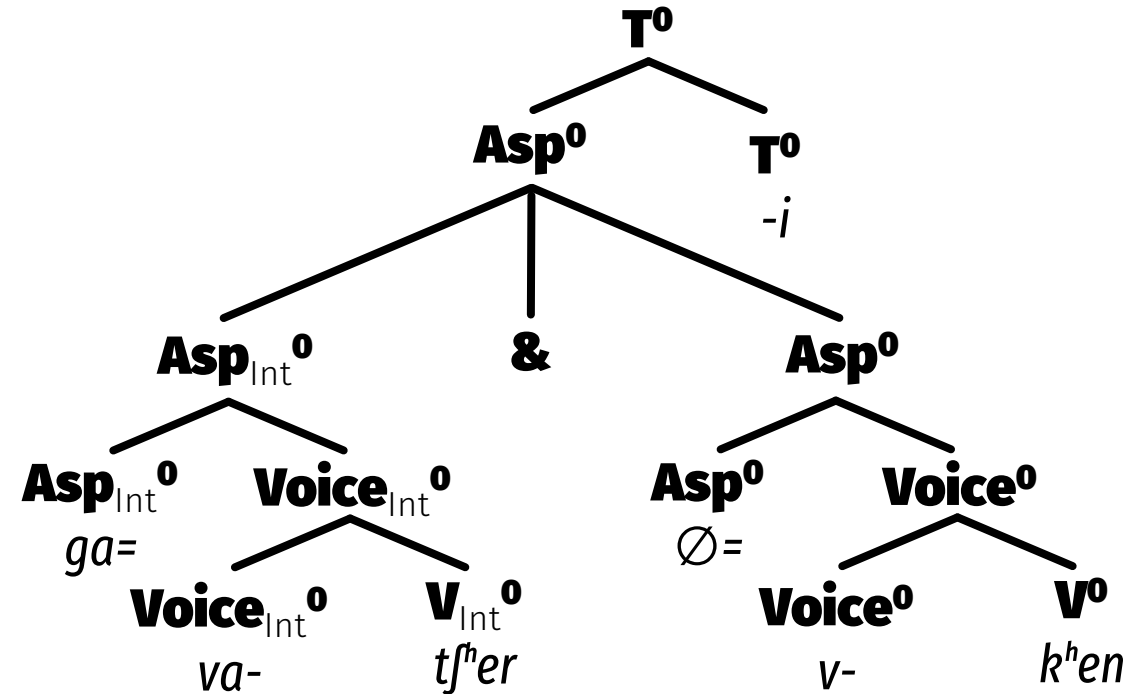
PHV Variant	Novel F ⁰ Analysis
Simple <i>imas-v-k^henit^h</i>	✓
Complex/Inner <i>ga=imas-v-k^henit^h</i>	✓
Complex/Outer <i>ga=v-imas-k^henit^h</i>	✓
Complex/Double <i>ga=v-imas-v-k^henit^h</i>	✗



Morphological anaphor analysis

imas- is reanalyzed as a subword anaphor

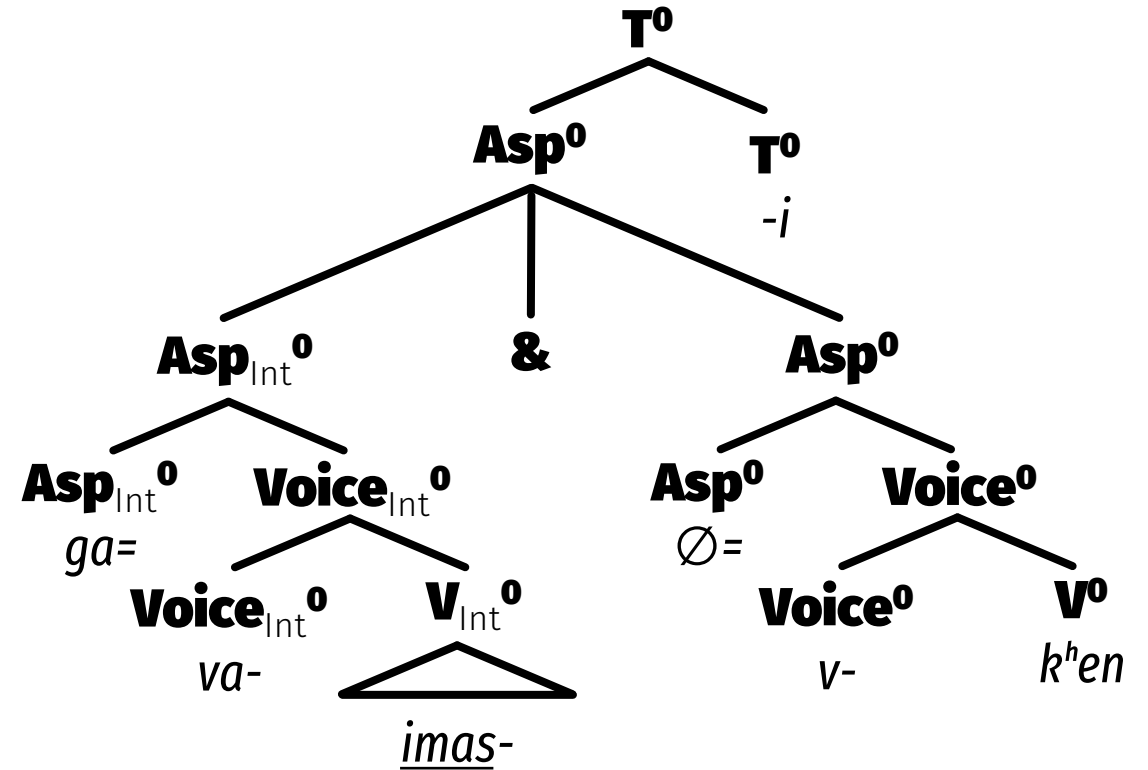
- PHVs literally contain the intended verb, conjoined at AspP
- Replacing different subword constituents with *imas-* accounts for morphological variants
- Morphological anaphors are rare, but attested (Compton & Pittman 2010)



Morphological anaphor analysis

imas- is reanalyzed as a subword anaphor

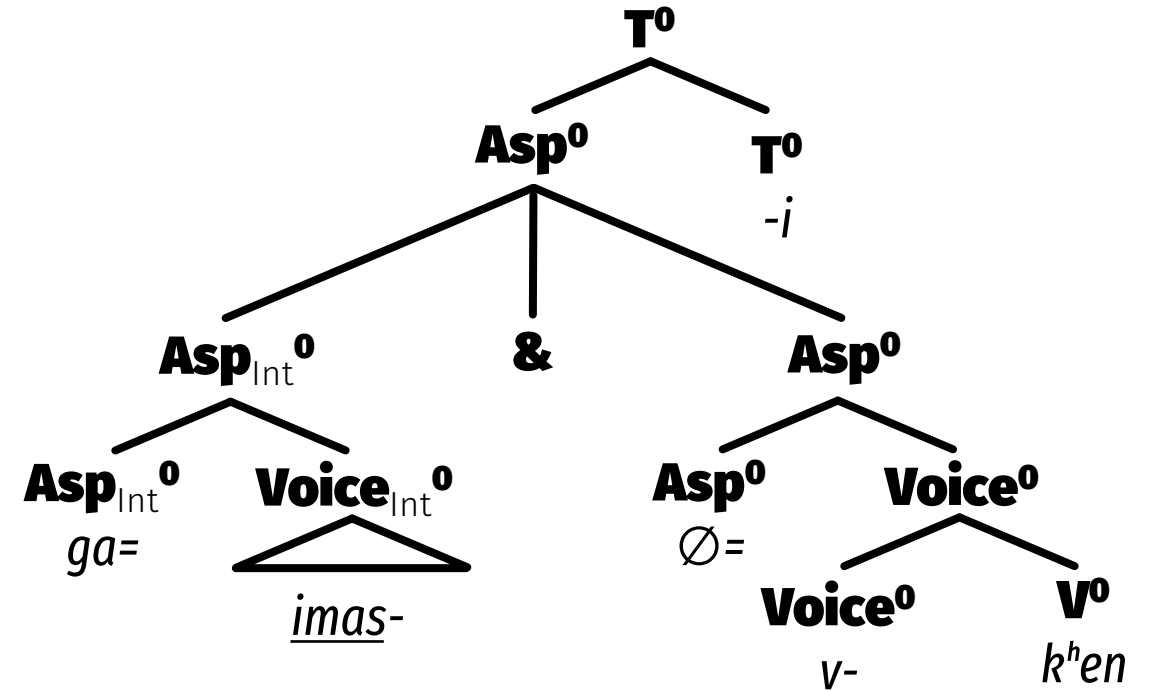
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Morphological anaphor analysis

imas- is reanalyzed as a subword anaphor

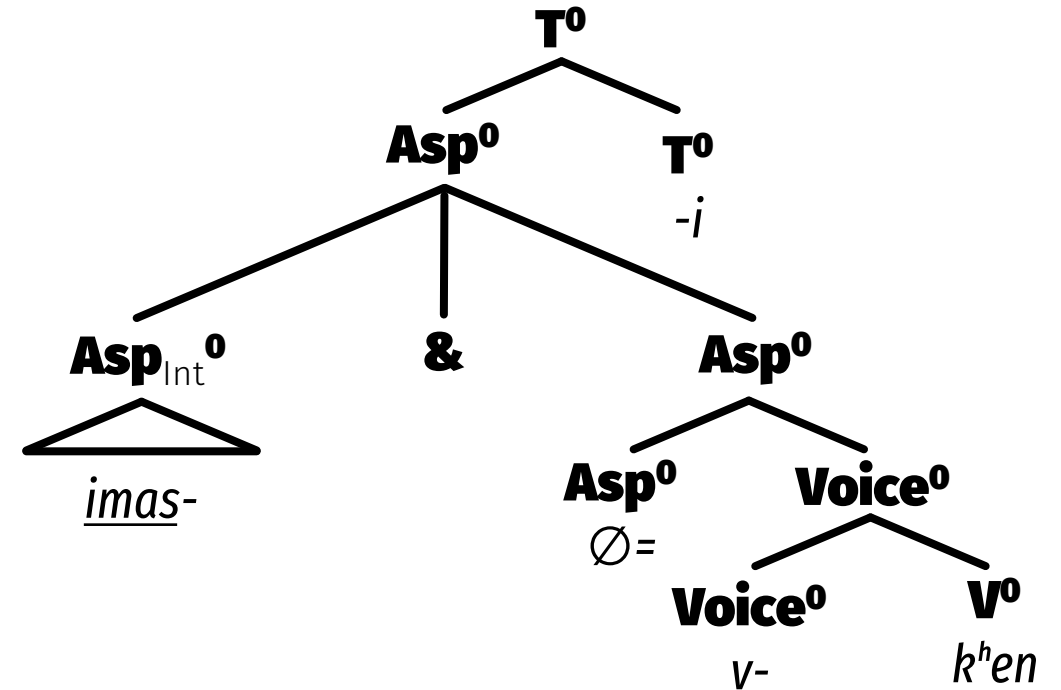
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Morphological anaphor analysis

imas- is reanalyzed as a subword anaphor

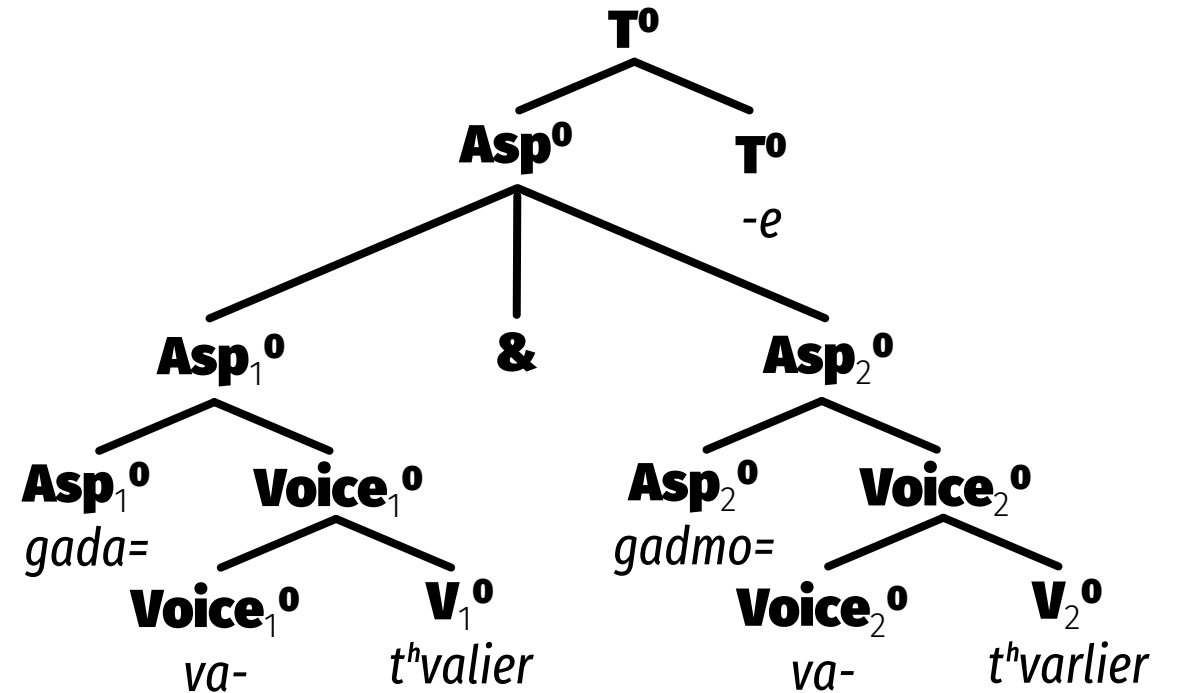
- PHVs literally contain the intended verb, conjoined at AspP
- Replacing different subword constituents with *imas-* accounts for morphological variants
- Morphological anaphors are rare, but attested (Compton & Pittman 2010)



Morphological anaphor analysis

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

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

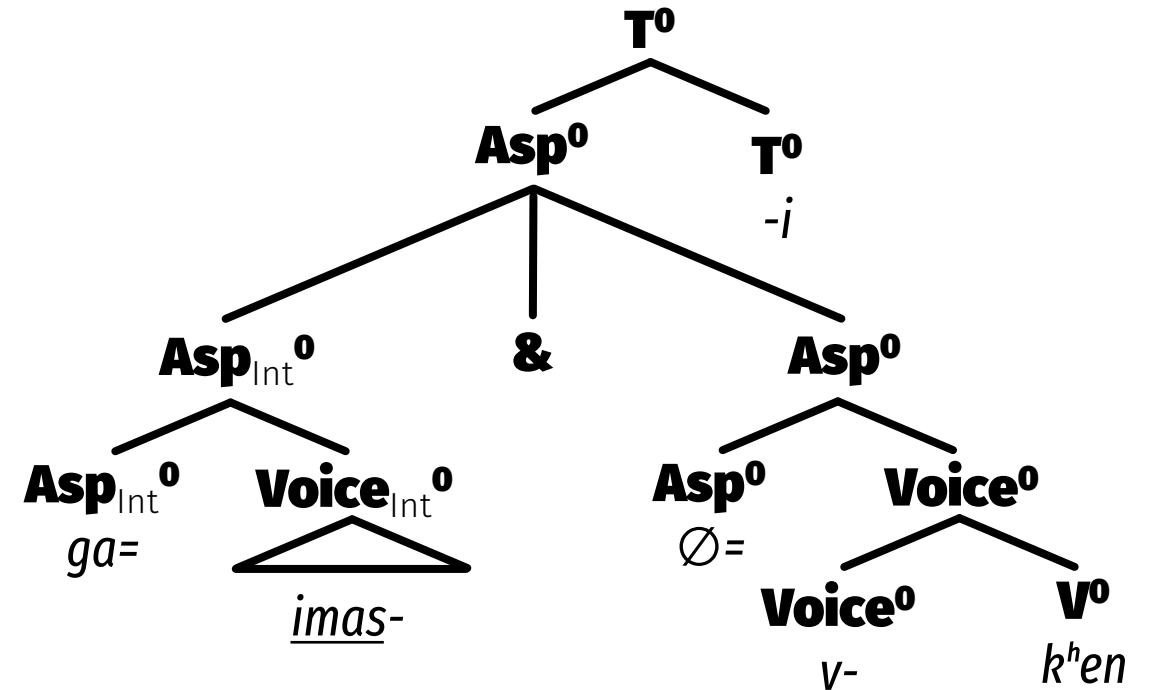


- (18) *ts'ign-i* [gada=va-t^hvalier]+[gadmo=va-t^hvalier]-e.
 book-NOM [PVB₁=1SU:TR-look]+[PVB₂=1SU:TR-look]-PST1/2
 “I looked through the book back and forth.”

Morphological anaphor analysis

Key predictions

PHV Variant	Anaphor Analysis
Simple <i>imas-v-k^henit^h</i>	✓
Complex/Inner <i>ga=imas-v-k^henit^h</i>	✓
Complex/Outer <i>ga=v-imas-k^henit^h</i>	✗
Complex/Double <i>ga=v-imas-v-k^henit^h</i>	✓



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 <i>imas-v-k^henit^h</i>	✓	✓	✓	✓
Complex/Inner <i>ga=imas-v-k^henit^h</i>	✗	✓	✓	✓
Complex/Outer <i>ga=v-imas-k^henit^h</i>	✓	✗	✓	✗
Complex/Double <i>ga=v-imas-v-k^henit^h</i>	✗	✗	✗	✓

~~1. Introduction~~

~~2. Core patterns~~

~~3. Analytical possibilities~~

4. Acceptability experiment

5. Conclusion

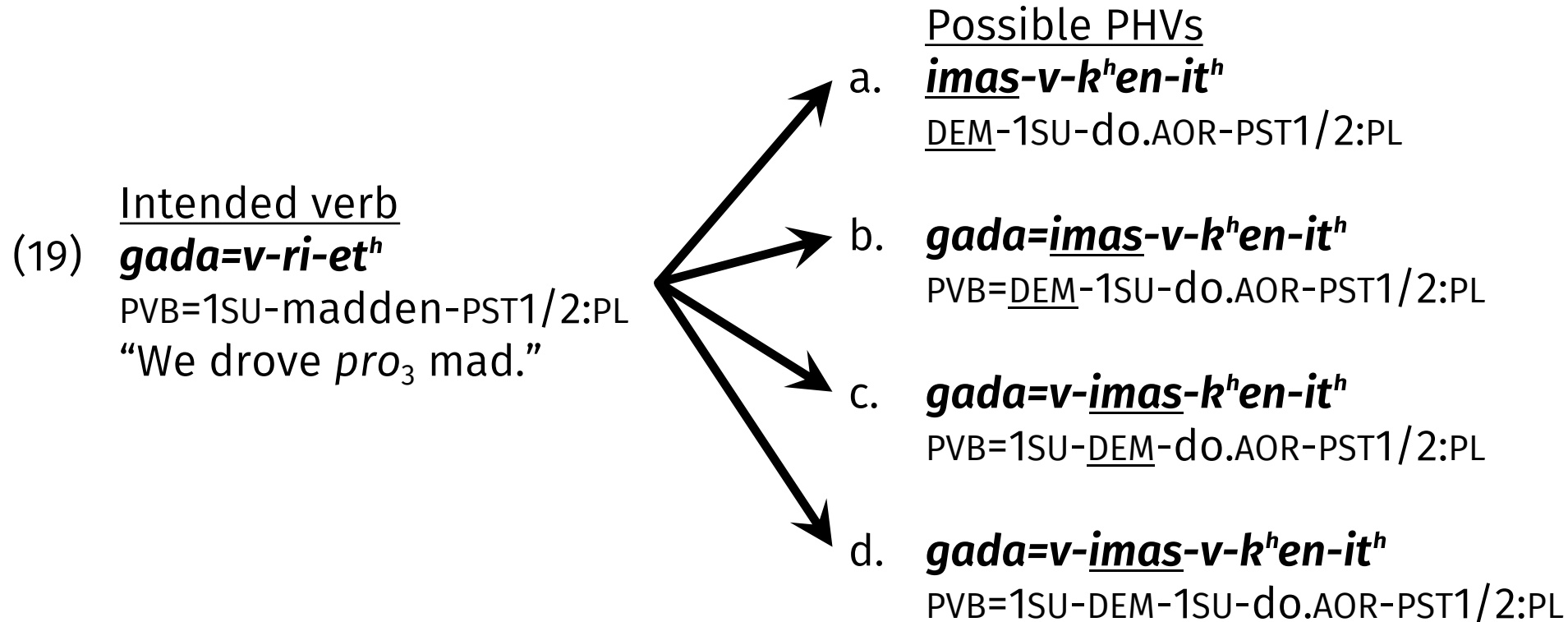
Acceptability experiment

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

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

Acceptability experiment

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

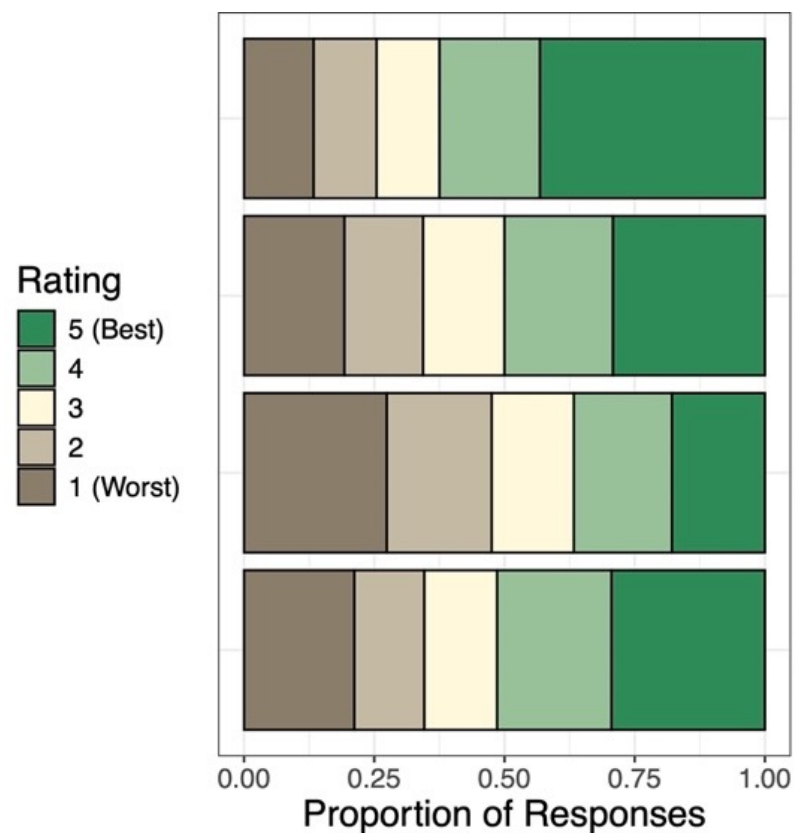


Acceptability experiment

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

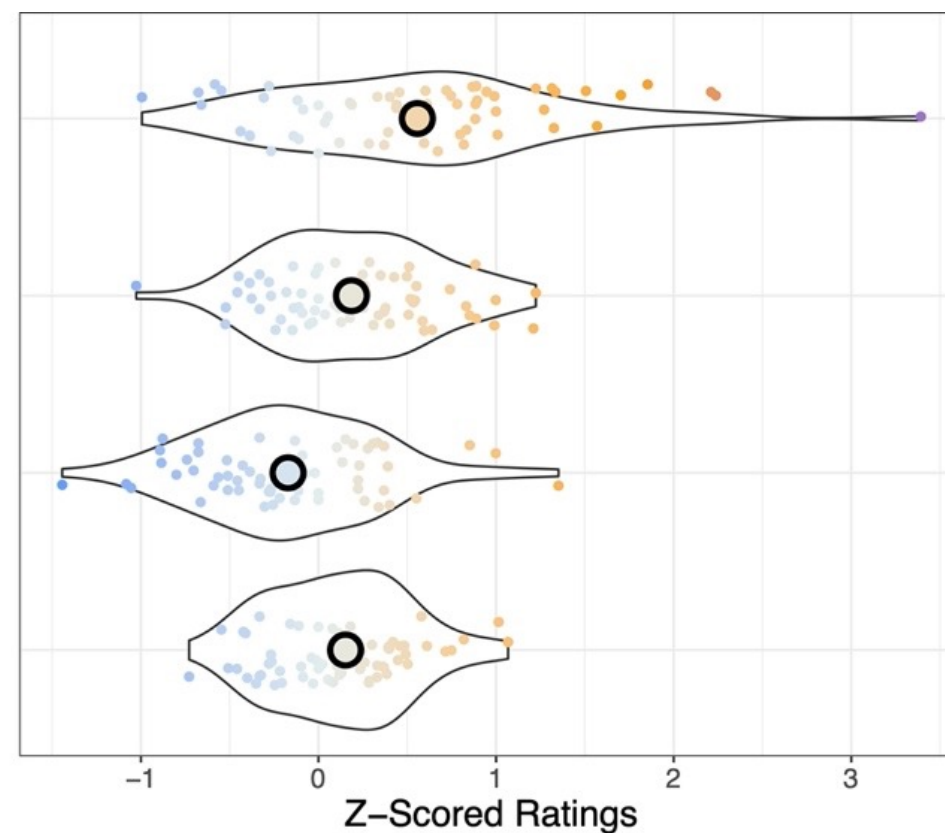


Simple
 $imas-v-k^h eni$

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

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

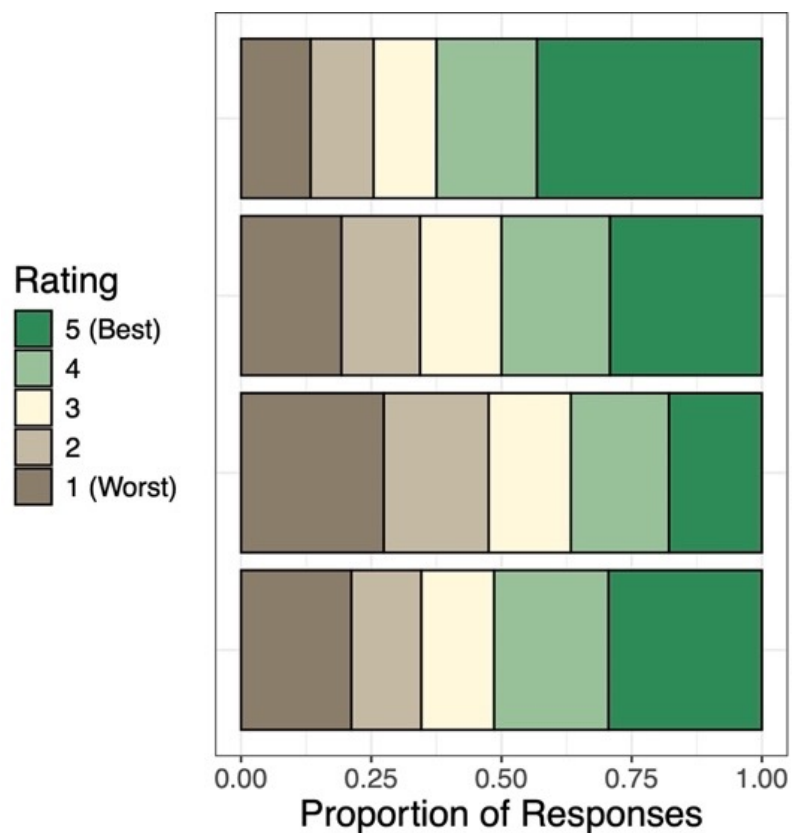
Complex/Inner
 $ga=v-imas-v-k^h eni$



Worse than average ←

→ Better than average

Aggregate results

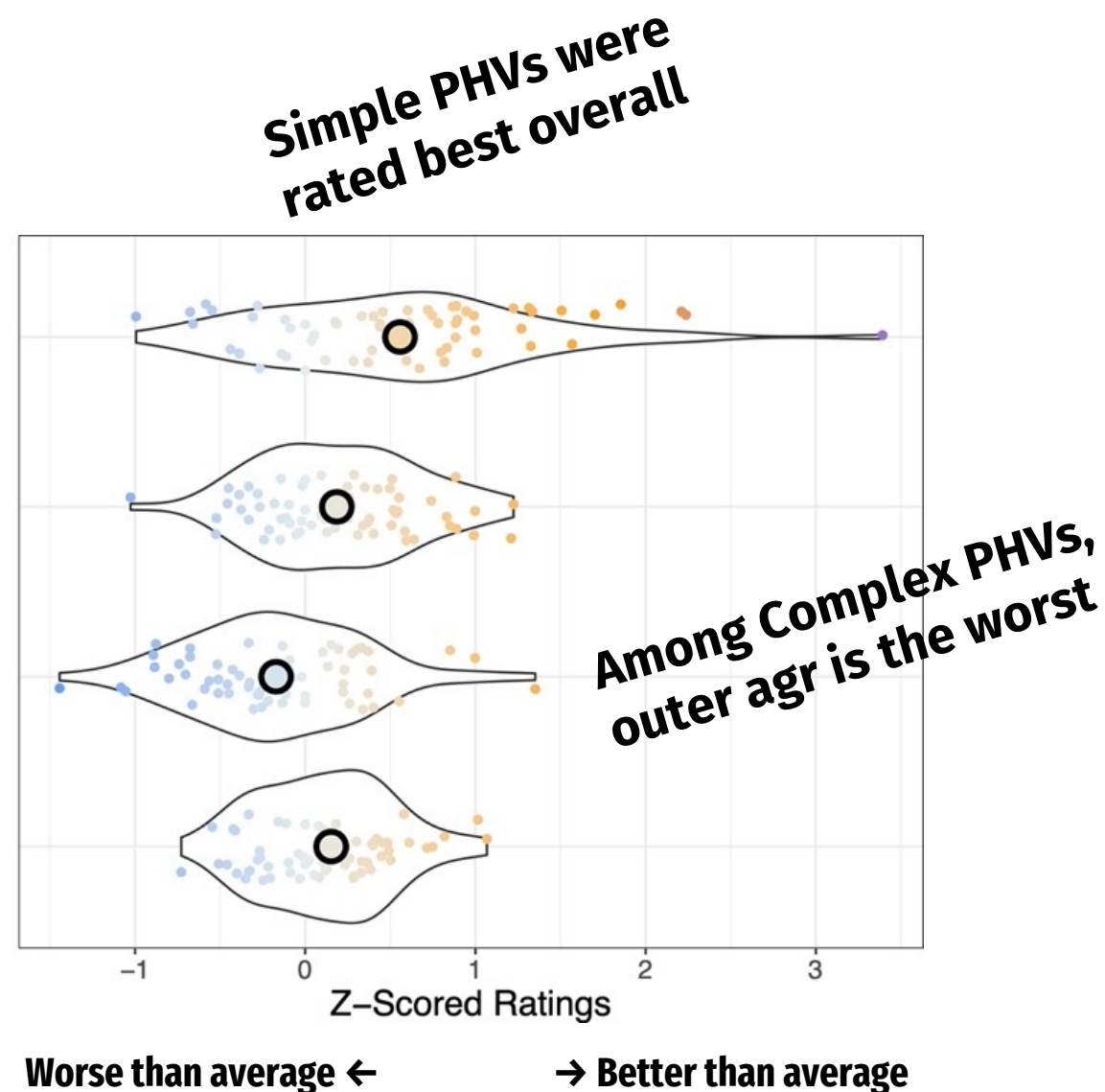


Simple
 $imas-v-k^h eni$

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

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

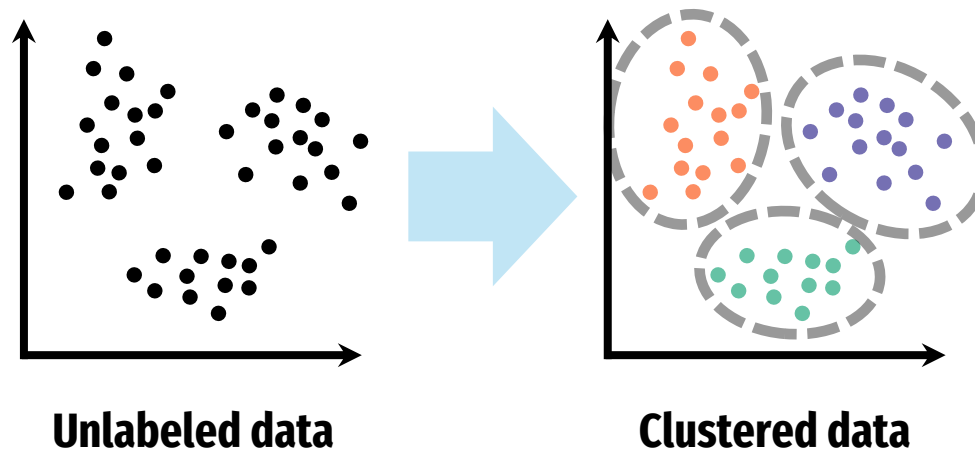
Complex/Inner
 $ga=v-imas-v-k^h eni$



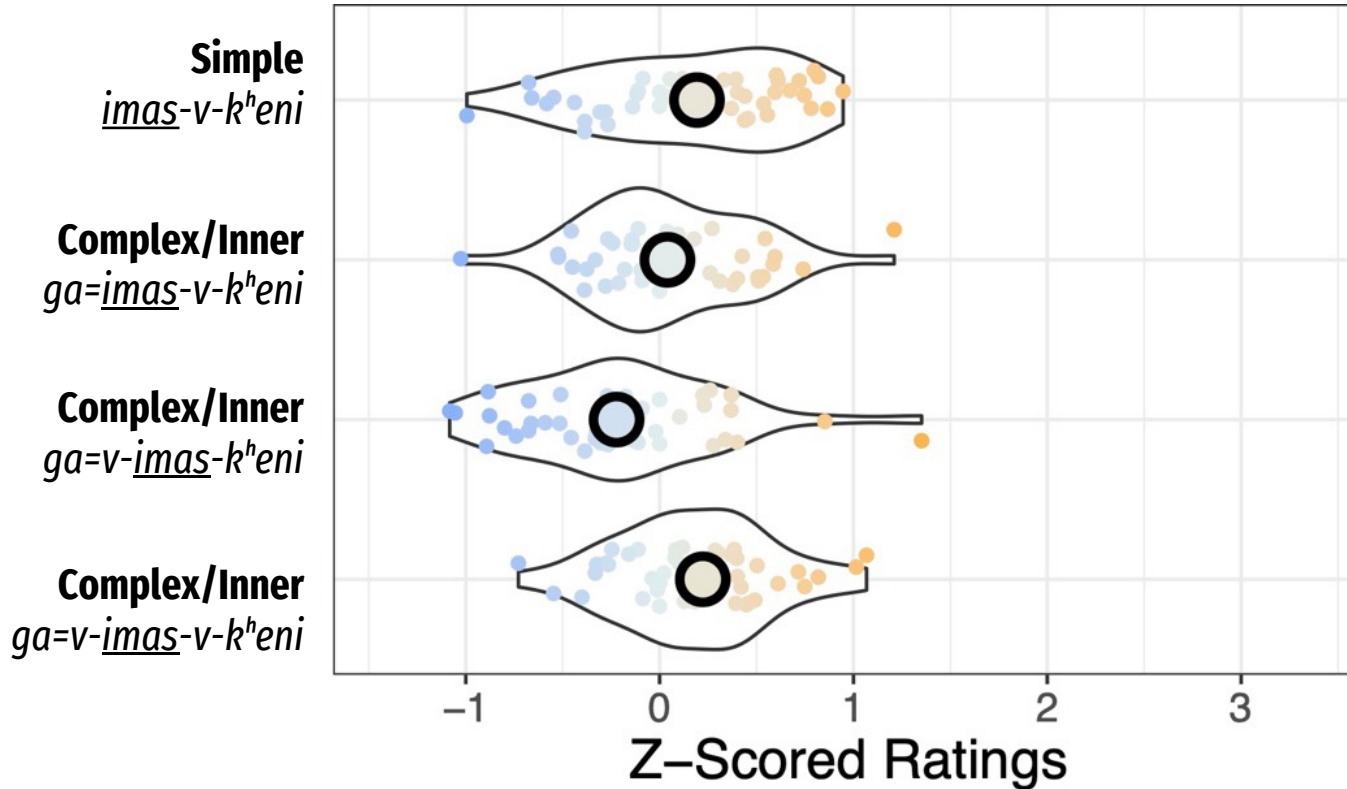
Clustering analysis

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

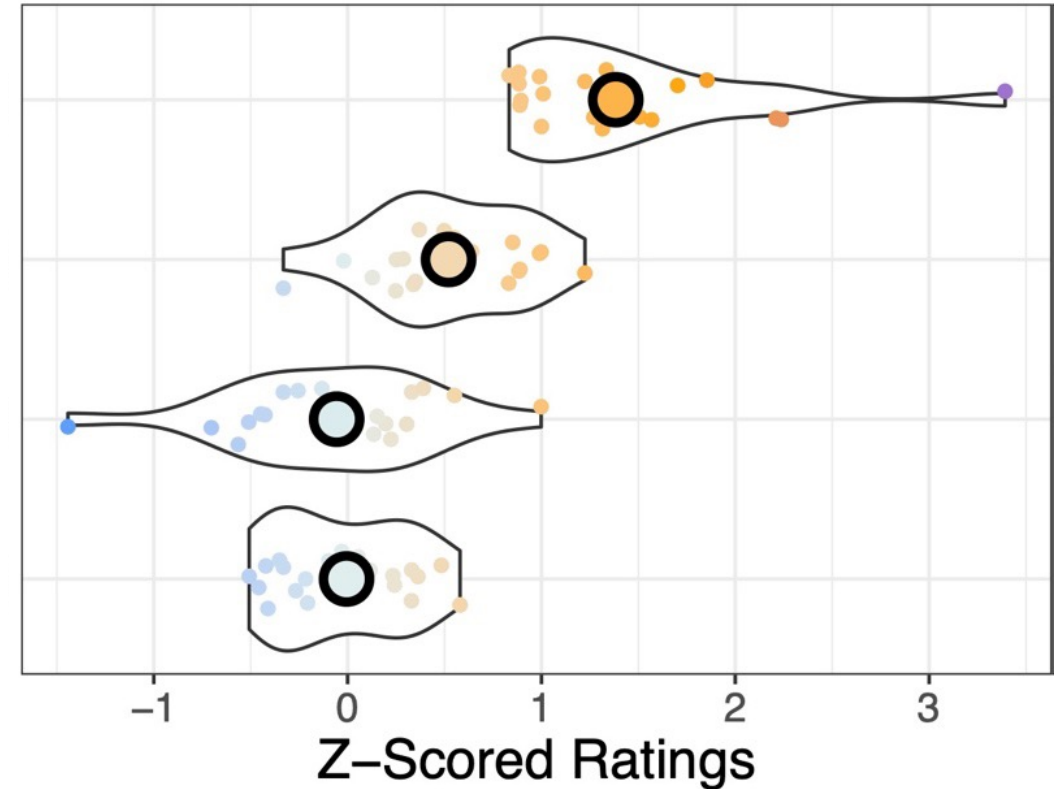


Clustering analysis



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

PHV Variant	Compound Analysis	Cluster B grammar	Novel F ⁰ Analysis	Cluster A grammar
		PVB Analysis		Anaphor Analysis
Simple <i>imas-v-k^henit^h</i>	✓	✓	✓	✓
Complex/Inner <i>ga=imas-v-k^henit^h</i>	✗	✓	✓	✓
Complex/Outer <i>ga=v-imas-k^henit^h</i>	✓	✗	✓	✗
Complex/Double <i>ga=v-imas-v-k^henit^h</i>	✗	✗	✗	✓

~~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=tf^her-d-a*** ~ ***ga=i-ts'vrt^hn-a***
PVB=stop-INCH-PST PVB=REFL-train-PST
“S/he was stopped ~ trained.”

Conceivable PHVs

- (21) a. ***ga=imas-k^hn-a***
PVB=DEM-do-PST
- b. ***ga=imas-k^hn-d-a***
PVB=DEM-do-INCH-PST
- c. ***ga=imas-i-k^hn-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!

Special thanks

To our research assistants in Georgia:



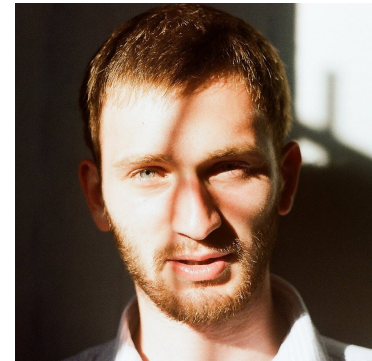
Lizi Baramidze
(Independent scholar)



Tamar Kalkhitashvili
(Ilia State University)



Natia Poniava
(Tbilisi State University)



Irakli Salia
(Tbilisi State University)

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