Alternating Person Indexing in Kamang

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UNIVERSITY OF AMSTERDAM

NWO project:
Lexical conditions on grammatical structure
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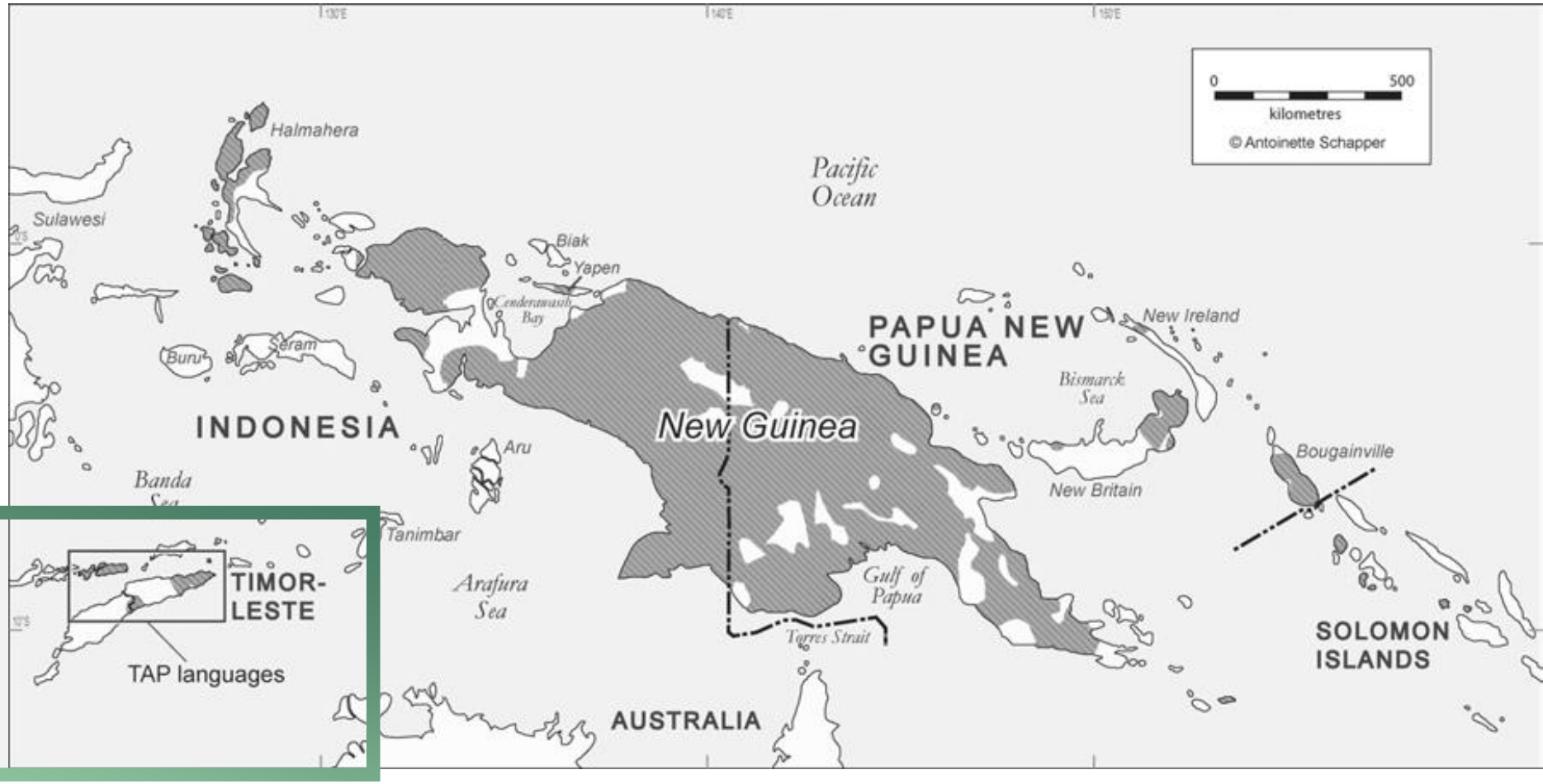
Person indexing in Timor-Alor-Pantar

- Family of approx. 30 Papuan languages
- Known for diverse morphological alignment systems



Schapper 2014a: 2

Person indexing in Timor-Alor-Pantar

- Verb prefix indexing person/number

WERSING

(1) *Naida ira gidir.*

naida	ira	**g-** dir
1SG.TOP	water	**3-** see

'I saw water.'

(Schapper & Hendery 2014:484)

Person indexing in Timor-Alor-Pantar

- Verb prefix indexing person/number
- Variation among languages:
  - Number of prefix series (1-7)

KAMANG

(2) *Leon nataksi.*
Leon **na**-tak-si
Leon **1SG./a/**-see-IPFV
'Leon sees me.'

(3) *Leon nefaneesi.*
Leon **ne-**fanee-si
Leon **1SG./e/**-shoot-IPFV
'Leon shoots at me.'

(Schapper 2014b)

Person indexing in Timor-Alor-Pantar

- Verb prefix indexing person/number
- Variation among languages:
  - Number of prefix series (1-7)
  - Verb classes

KAMANG

(2) *Leon nataksi.*
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(3) *Leon nefaneesi.*
Leon **ne-**fanee-si
Leon **1SG./e/**-shoot-IPFV
'Leon shoots at me.'

(4) *Markus nal bo'na*
Markus nal **ø-**bo'na
Markus 1SG **ø-**hit
'Markus hits me'

(Schapper 2014b)

Person indexing in Timor-Alor-Pantar

- Verb prefix indexing person/number
- Variation among languages:
  - Number of prefix series (1-7)
  - Verb classes
  - Alternation

KAMANG

(5) … *koo gedumma gafaafa*

koo	*ge-dum=a*	**ga-***faafa*
continuously	3.AL-child=SPEC	**3./a/-**search.for

'(She) kept looking for the child.'

(6) *Male uh ok taweng tebini faafa*

Male	*uh*	*ok*	*taweng*	*te-bini*	**ø-***faafa.*
Woman	CLF	two	in.turns	DIST-lice	**ø-**search.for

'Two women search for each other's lice in turns.'

Person indexing in Timor-Alor-Pantar

- Verb prefix indexing person/number
- Variation among languages:
  - Number of prefix series
  - Verb classes
  - Alternation
  - Alignment

Person indexing: alignment

Syntactic alignment ⟷ Semantic alignment

Blagar (Alor)

Accusative alignment

S	No index
P	May be indexed

(Steinhauer 2014)

Person indexing: alignment

Syntactic alignment ⟷ Semantic alignment

Abui (Alor)

	Actor	Undergoer
S	*na ø-furai* 1SG ø-run.CNT 'I run'	*no-lil-a* 1SG.REC-hot-be.at 'I feel hot'
P	May be indexed	

(Kratochvíl 2007:14, 200)

Person indexing: alignment

Syntactic alignment ⟷ Semantic alignment

Kaera (Pantar)

"Leaky" accusativity: S-marking does not correlate with agentivity

	Majority pattern	Minority pattern
S	*Nang ekeng.* 1SG climb.up 'I go up.'	*Ang a-lagur.* (*A-lagur.) 2SG 2SG-jump.up 'You jump up.'
P	May be indexed	

(Klamer 2014)

Person indexing: alignment

Syntactic alignment ⟷ Semantic alignment

Kamang (Alor)

	Actor	Undergoer
S	*Dum kiding tak suee gepaa gat.* dum kiding **ø-**tak ø-sue ge-paa g-at child small **ø-**run ø-arrive.IPFV 3.AL-father 3./a/-to 'The child runs to his father'	*Namaitansi.* **na-**maitan-si **1SG./a/-**hunger-IPFV 'I'm hungry.'
P	May be indexed	

Person indexing: alignment

Syntactic alignment ⟷ Semantic alignment

"Leaky" semantic alignment?

Kamang (Alor)

	Actor	Undergoer
S	*Ingkou getak buk piaara lai.* Ingkou **ge-**tak buk piaa-da lai earlier **3./e/-**run mountain different-aux finish 'Earlier they had run away to another land'	*Namaitansi.* **na-**maitan-si **1SG./a/-**hunger-IPFV 'I'm hungry.'
P	May be indexed	

Alternating person indexing in Kamang

S	P
ge-*tak* 'run'	**ga-***faafa* 'search.for[anim]'
ø-*tak* 'run'	**ø-***faafa.* 'search.for[inan]'

Alternating person indexing in Kamang

Which factors play a role in choosing which prefix (or zero marking) on alternating verbs?

A quantitative corpus study

Kamang person indexing: what we know so far

Factor	Video stimuli elicitation (Fedden et al. 2013)	Video stimuli elicitation + corpus data (Fedden et al. 2014)
Animacy	Important	Marginal at best
Argument role: S + animacy	Generally animate if indexed	Can be animate or inanimate
/o/-series	Almost always P, favours inanimates, most frequent	more affected S
/e/-series	Favours animates, P and S	Can index (affected) S on motion & posture verbs
/a/-series	Favours animates, P and S	-
Lexical stipulation	Plays a role	High degree of lexical stipulation
Affectedness, Volitionality, Telicity	Play a role	Affectedness plays an important role

Kamang person indexing: another look

Factor	Video stimuli elicitation (Fedden et al. 2013)	Video stimuli elicitation + corpus data (Fedden et al. 2014)	Quantitative corpus study: Alternation in discourse
Animacy	Important	Marginal at best	?
Argument role: S + animacy	Generally animate if indexed	Can be animate or inanimate	?
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/a/-series	Favours animates, P and S	-	?
Lexical stipulation	Plays a role	High degree of lexical stipulation	?
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/a/-series	Favours animates, P and S	-	?
Lexical stipulation	Plays a role	High degree of lexical stipulation	?
Discourse factors	-	-	**Topicality** **Co-occurrence with independent arguments**

Kamang person indexing in discourse

- Quantitative corpus study
- Approx. 1 hour of spoken Kamang
  - 10 monologues (traditional narratives, personal histories, picture-book elicitation)
  - 3 speakers (male, 44–86)
  - Recorded & transcribed by: Antoinette Schapper (2010-11), George Saad (2020)
- Annotated with GRAID (Haig & Schnell 2014): Grammatical Relations and Animacy in Discourse
  - RefIND (Schiborr et al. 2018): tracking of discourse referents
  - Numerous languages in the MultiCAST collection (Haig & Schnell, n.d.)

GRAID annotations

Arguments:

- Role: S, A, P (obl, location, goal)
- Animacy: 1, 2, human, animate, inanimate
- Form:
  - Independent: NP, pronoun, null
  - Indexed: prefix series (incl. zero)
- RefIND: numeric ID

Predicates:

- Form: verb (NP, etc.)

Kamang: Indexing strategies

prefix series

	/a/-series	/o/-series	/e/-series					Zero
	(PAT)	(LOC)	(GEN)	DAT	DIR	COM/AST	SBEN	
1SG	*na-*	*no-*	*ne-*	*nee-*	*nao-*	*noo-*	*ne'-*	
2SG	*a-*	*o-*	*e-*	*ee-*	*ao-*	*oo-*	*e'-*	
3	*ga-*	*wo-*	*ge-*	*gee-*	*gao-*	*woo-*	*ge'-*	
CMN	*ta-*	*to-*	*te-*	*tee-*	*tao-*	*too-*	*te'-*	**ø-**
1PL.EXCL	*ni-*	*nio-*	*ni-*	*nii-*	*nioo-*	*nioo-*	*ni'-*	
1PL.INCL	*si-*	*sio-*	*si-*	*sii-*	*sioo-*	*sioo-*	*si'-*	
2PL	*i-*	*io-*	*i-*	*ii-*	*ioo-*	*ioo-*	*i'-*	

(Schapper 2014: 322)

Results

- 164 verb types
  - 39 alternating (i.e., occurs with >1 marking strategy) : 24%

Alternating vs. non-alternating verbs

Verb class: Alternating
Marking: Flexible

(7) … *koo gedumma gafaafa*

koo	*ge-dum=a*	**ga-** *faafa*
continuously	3.ALIEN-child=SPEC	**3./a/-**search.for

'(She) kept looking for the child.'

(8) *Male uh ok taweng tebini faafa*

male	*uh*	*ok*	*taweng*	*te-bini*	**ø-** *faafa.*
woman	CLF	two	in.turns	DIST-lice	**ø-** search.for

'Two women search for each other's lice in turns.'

Alternating vs. non-alternating verbs

Verb class: non-alternating
Marking: fixed

(9) *Leon nataksi.*

Leon **na**-tak-si

Leon **1SG./a/**-see-IPFV

'Leon sees me.'

(10) *gekere gataksi naa*

ge-kere **ga-**tak-si naa

3.INAL-shirt **3./a/**-see-IPFV NEG

'[he] didn't see his shirt'

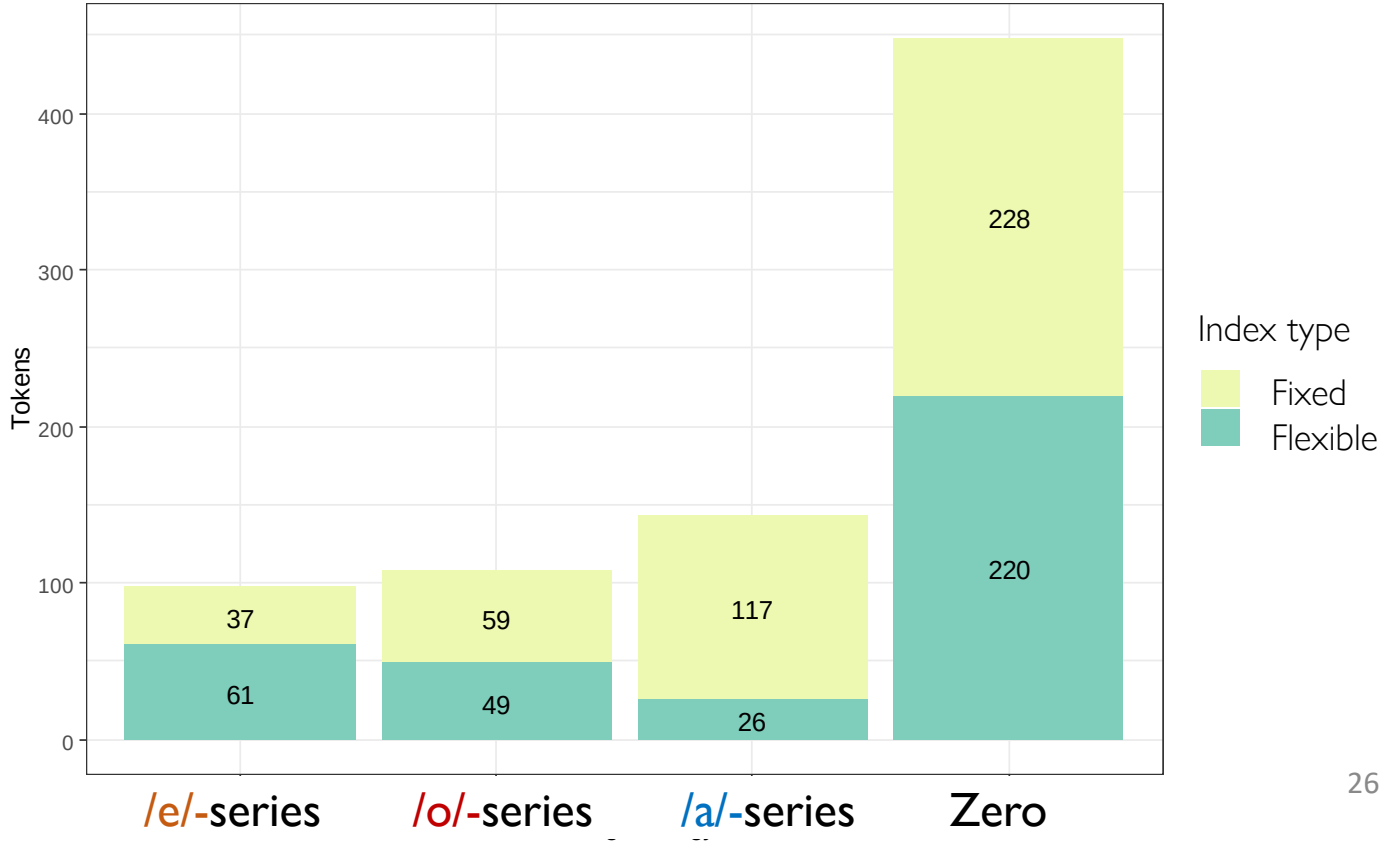
Results

- 164 verb types
  - 39 alternating (i.e., occurs with >1 marking strategy) : 24%
- 797 verb tokens (excl. minority prefix series)
  - 380 index P: 48%
  - 417 index S: 52%

	% P indexed by prefix	
	Video stimuli elicitation (Fedden et al. 2013)	GRAID corpus
Animate	85%	82%
Inanimate	70%	50%
Total	*78%*	*60%*

Results

- 164 verb types
  - 39 alternating (i.e., occurs with >1 marking strategy) : 24%
- 797 verb tokens (excl. minority prefix series)
  - 380 index P: 48%
  - 417 index S: 52%
  - 356 flexible: 44%



Verb types: alternation with zero

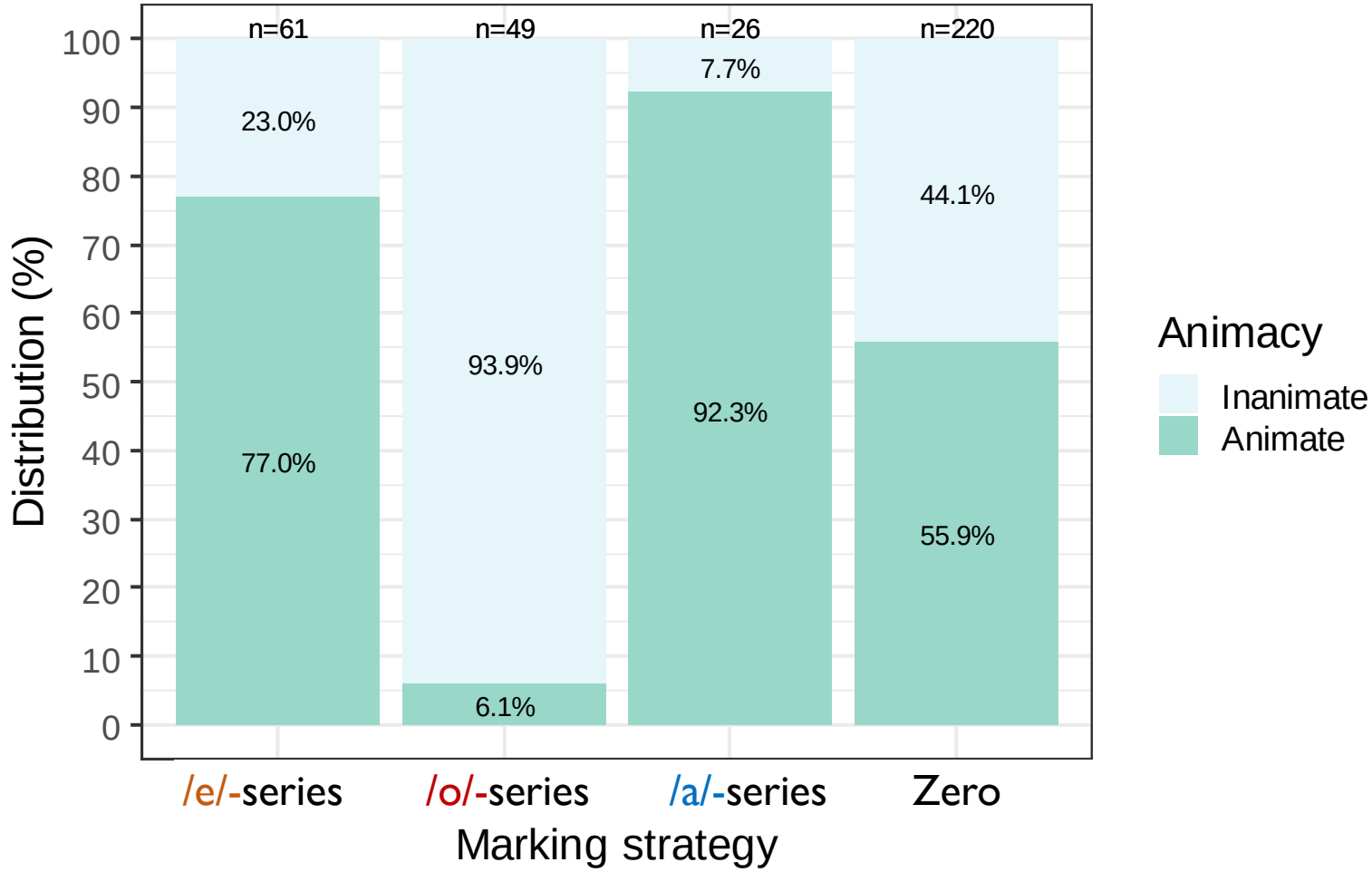
- Alternating verb TYPES = 39
  - 32 alternate with **Zero** - 82%
  - 17 alternate with /e/-**series** - 44%
  - 17 alternate with /o/-**series** - 44%
  - 8 alternate with /a/-**series** - 21%

Alternation profiles:
generally **Prefix + Zero**

Results: Alternating verb tokens

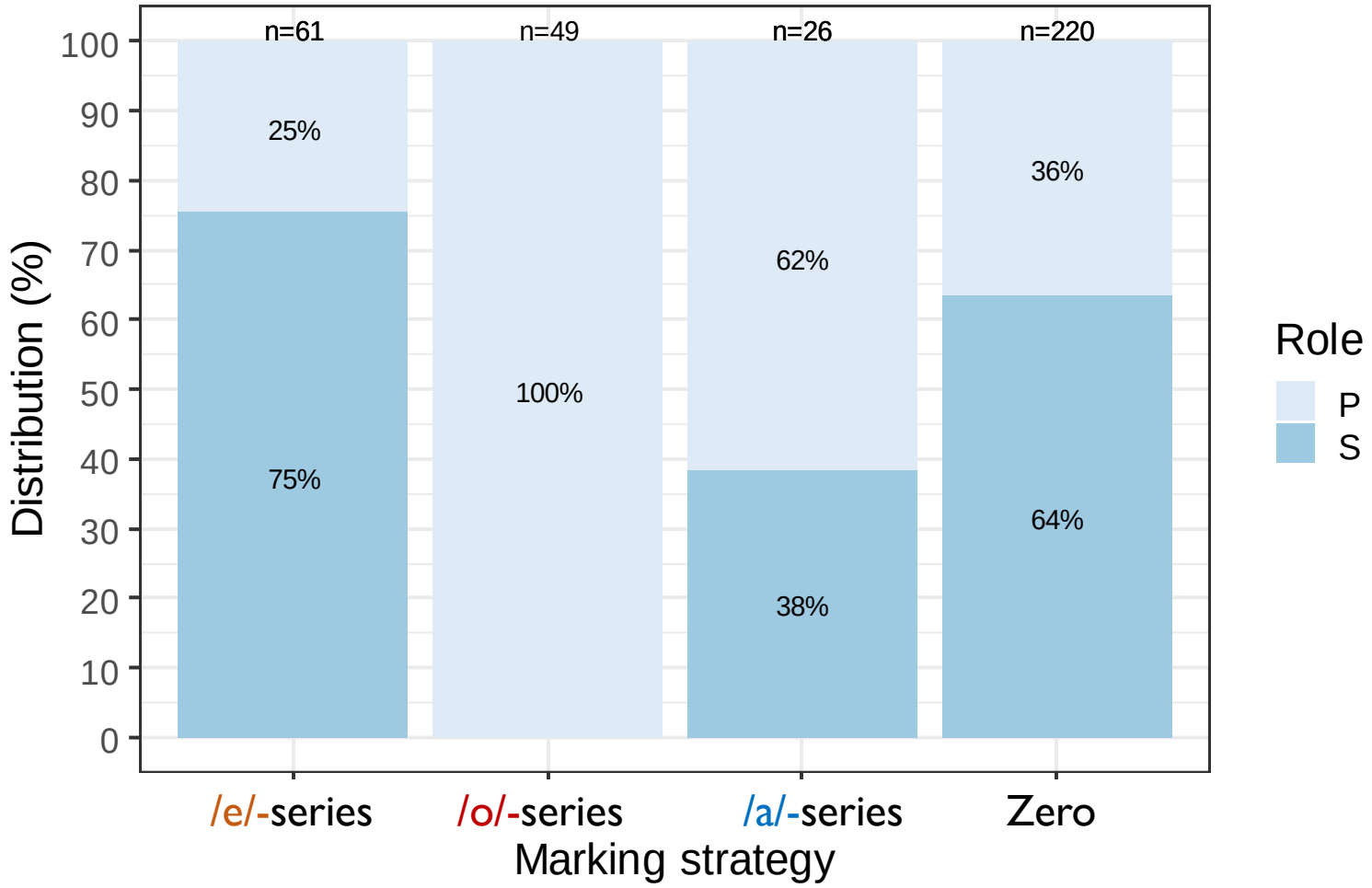
Factor	Quantitative corpus study
Animacy	
Argument role: S + animacy	
/o/-series	
/e/-series	
/a/-series	
Lexical stipulation	
Discourse factors	Topicality Co-occurrence with independent arguments

Animacy in alternation



Tokens = 356

Argument role in alternation



Tokens = 356

Valency-increasing alternation: /o/-series

S

(11)…*laawang talewuibo laka pang ge'gamaung.*

laawang	talewui=bo	**ø-**laka	pang	ge'-**ga-**maung
bee	hive=REL	**ø-**hang	DEM	SBEN-**3./a/-**want

'[the dog] wants the beehive that hangs there'

P

(12)…*me koo bongak wolakasi.*

me	koo	bong=ak	**wo-**laka-si
come	stay	tree=DEF	**3./o/-**hang-IPFV

'…and [the bees] are hanging in the tree.'

Valency-maintaining alternation: /o/-series

P

(13) *Sumuilee wati gannok busei geenak ge'wokawaai.*

sumui-lee	wati	gannok	busei	geen=ak
sun-ASSOC	wind	3.DU	strength	POSS=DEF

'the sun and the wind are discussing their strengths'

ge'-**wo-**kawaai
SBEN-**3./o/-**speak

P

(14) *Nou, a yaa male nok kawaai...*

nou	a	yaa	male	nok	**ø-**kawaai
mum	2SG.AGT	go	woman	one	**ø-**speak

'Mum, you go and speak to a woman...'

Summary: animacy & argument role

Comparison with previous findings

	/o/-series	/a/-series	/e/-series	Zero
Argument role	P ✓	Slight preference for P ?	Preference for S ✗	Slight preference for S ?
Animacy	Inanimate ✓	Animate ✓	Animate ✓	No preference ?

Fedden et al. 2013

Beyond animacy and argument role

latsi 'stand': total = 6

- 3 **/e/-series** → animate
- 3 zero → inanimate

S (15) *Woi taa yelatsi*

woi taa **ge-**latsi.
stone upon **3./e/-**stand
'[he] stood on top of the stone'

S (16) *Nal see nepaa ela yeat latsia*

nal	see	ne-paa	ela	ge-at	**ø-**latsi=a
1SG	arrive.IPFV	1SG.AL-father	maternal.relative	3./e/-to	**ø-**stand=LNK

'I went to stand at my maternal father's place'

Beyond animacy and argument role

	Profile:
latsi 'stand': total = 6	- Alternating verb
• 3 **/e/-series**	- Favours S
• 3 zero	- Favours animates

S (15) *Woi taa yelatsi*

woi taa **ge-**latsi.
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'I went to stand at my maternal father's place'

Beyond animacy and argument role

latsi 'stand': total = 6
- 3 **/e/-series**
- 3 zero

Profile:
- Alternating verb
- Favours S
- Favours animates
- Sensitive to co-occurring independent pronoun

S (15) *Woi taa yelatsi*

ø	woi	taa	**ge-**latsi.
ø	stone	upon	**3./e/-**stand

'[he] stood on top of the stone'

S (16) *Nal see nepaa ela yeat latsia*

nal	see	ne-paa	ela	ge-at	**ø-**latsi=a
1SG	arrive.IPFV	1SG.AL-father	maternal.relative	3./e/-to	**ø-**stand=LNK

'I went to stand at my maternal father's place'

Beyond animacy and argument role

- Alternation is sensitive to animacy or argument role
- Other factors also play a role:
  - Co-occurrence with independent arguments
  - Topicality

→Analysing the effect of different factors, taking into account lexical bias for animacy and argument role:

Argument role profiles:
- P
- S
- split S/P

Animacy profiles:
- animate
- inanimate
- split animate/inanimate

Beyond animacy and argument role

- Alternation is sensitive to animacy or argument role
- Other factors also play a role:
  - Co-occurrence with independent arguments
  - Topicality

→Analysing the effect of different factors, taking into account lexical bias for animacy and argument role:

- Logistic regression modelling
- Multinomial model with a 4-level response variable
  - Zero as the baseline

Zero
/e/-series
/o/-series
/a/-series

Beyond animacy and argument role

- Alternation is sensitive to animacy or argument role
- Other factors also play a role:
  - Co-occurrence with independent arguments
  - Topicality

→Analysing the effect of different factors, taking into account lexical bias for animacy and argument role:
  - Logistic regression modelling
  - Multinomial model with a 4-level response variable
    - Zero as the baseline
    - Two grouping factors to capture verbal bias
    - (via nnet package in R)

Zero
/e/-series
/o/-series
/a/-series

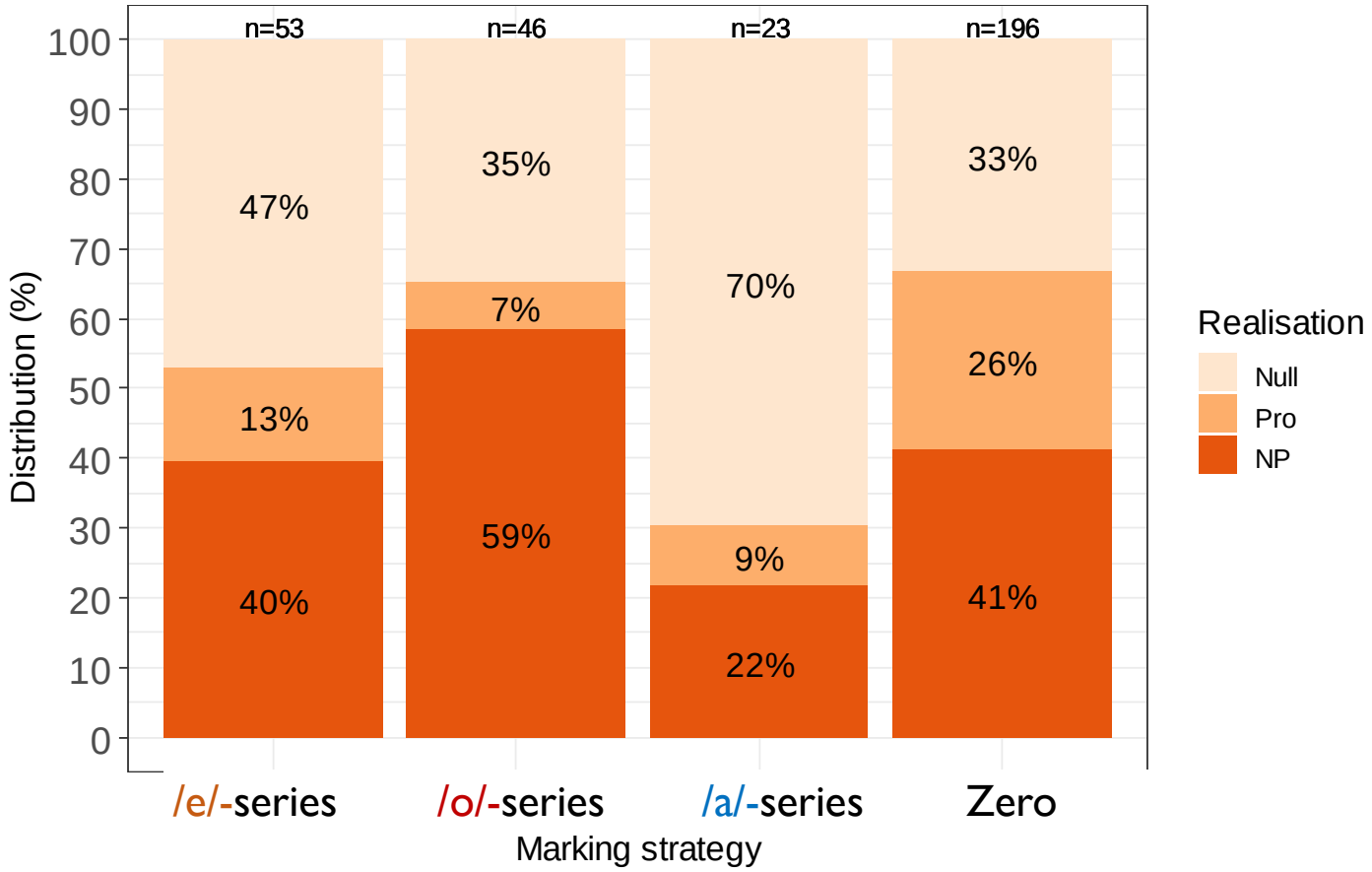
Argument role profiles:
- P
- S
- split S/P

Animacy profiles:
- animate
- inanimate
- split animate/inanimate

Co-occurrence with independent arguments

Has a significant effect:

- All prefix series differ compared to **Zero**

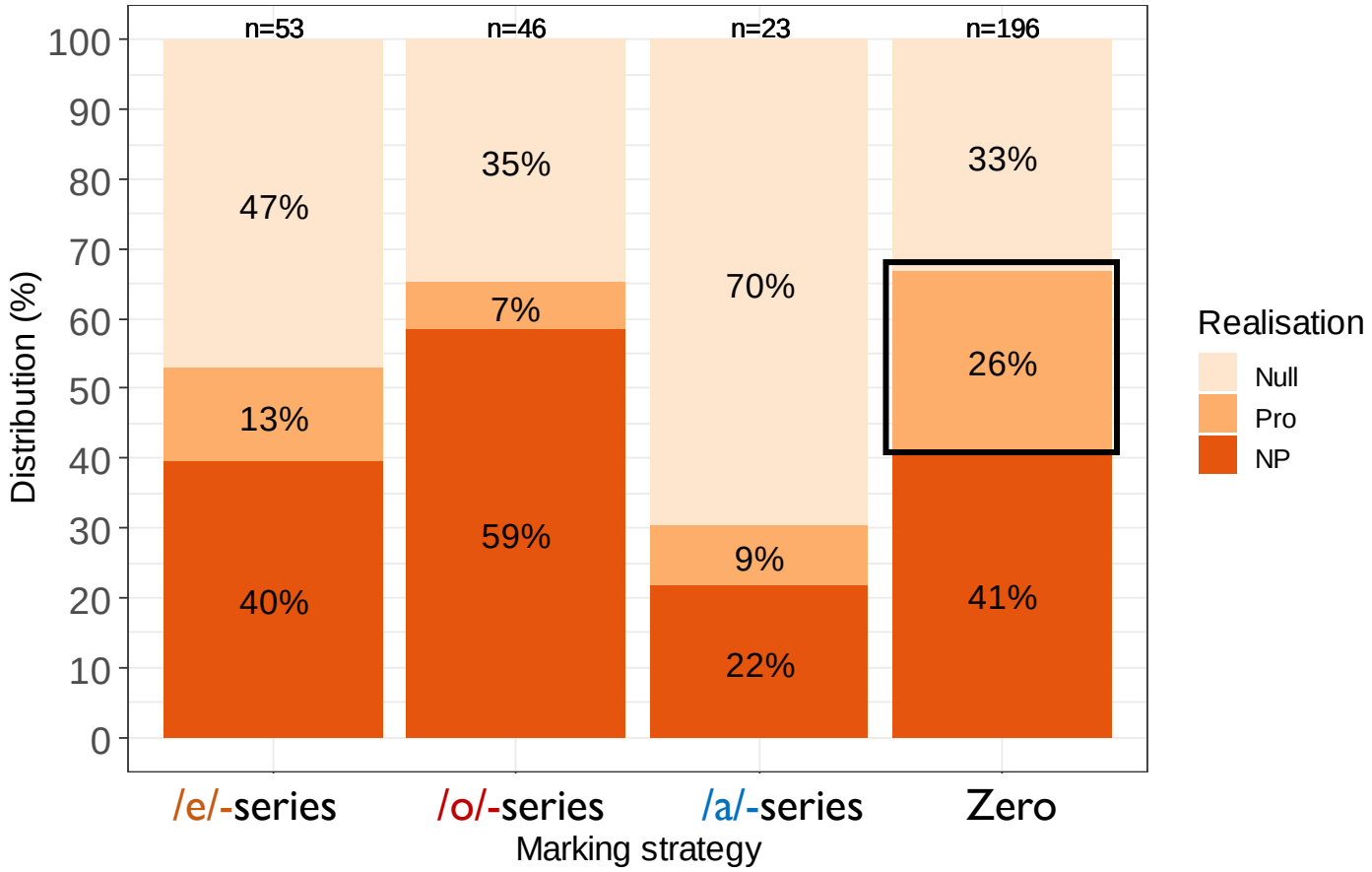


n = 318

Co-occurrence with independent arguments

All prefixes: negative effect with independent pronouns

- Significant decrease in the rate of independent pronouns for all prefixes compared to **Zero**.
- **Zero** is more likely with independent pronouns.

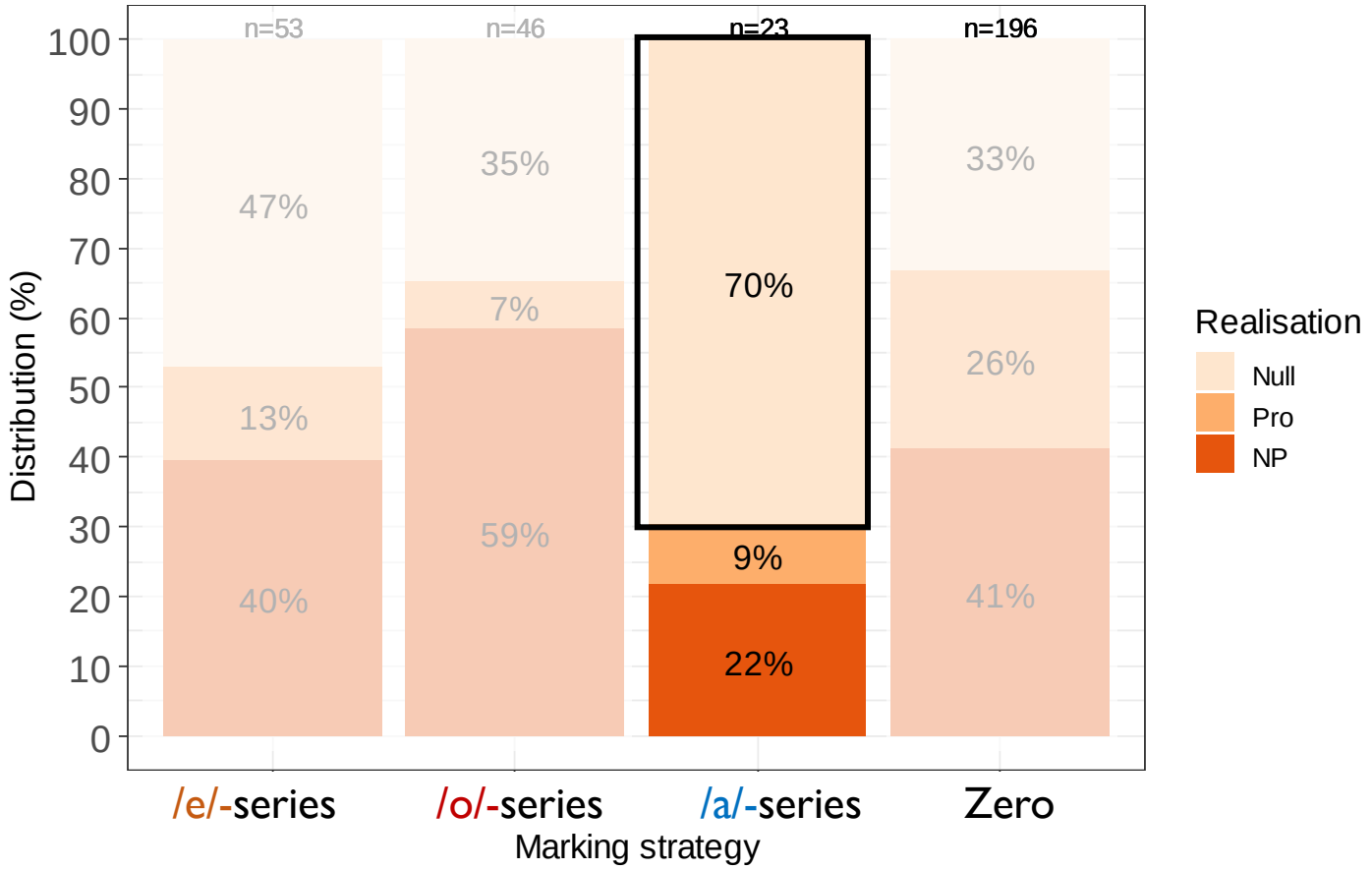


n = 318

Co-occurrence with independent arguments

/a/-series: positive effect with null independent argument

- Significant increase in the rate of null independent arguments:
  - compared to **Zero** index
  - compared to other prefixes



n = 318

Topicality

- Various proxy measures for topicality exist
- Most significant for our data: Topic Persistence
  - How many times the referent occurs in the next 10 clauses (Givón 1994; Payne 1994)
  - A score of 0 = low, 10 = high (very topical)

Topicality

Has a significant effect:

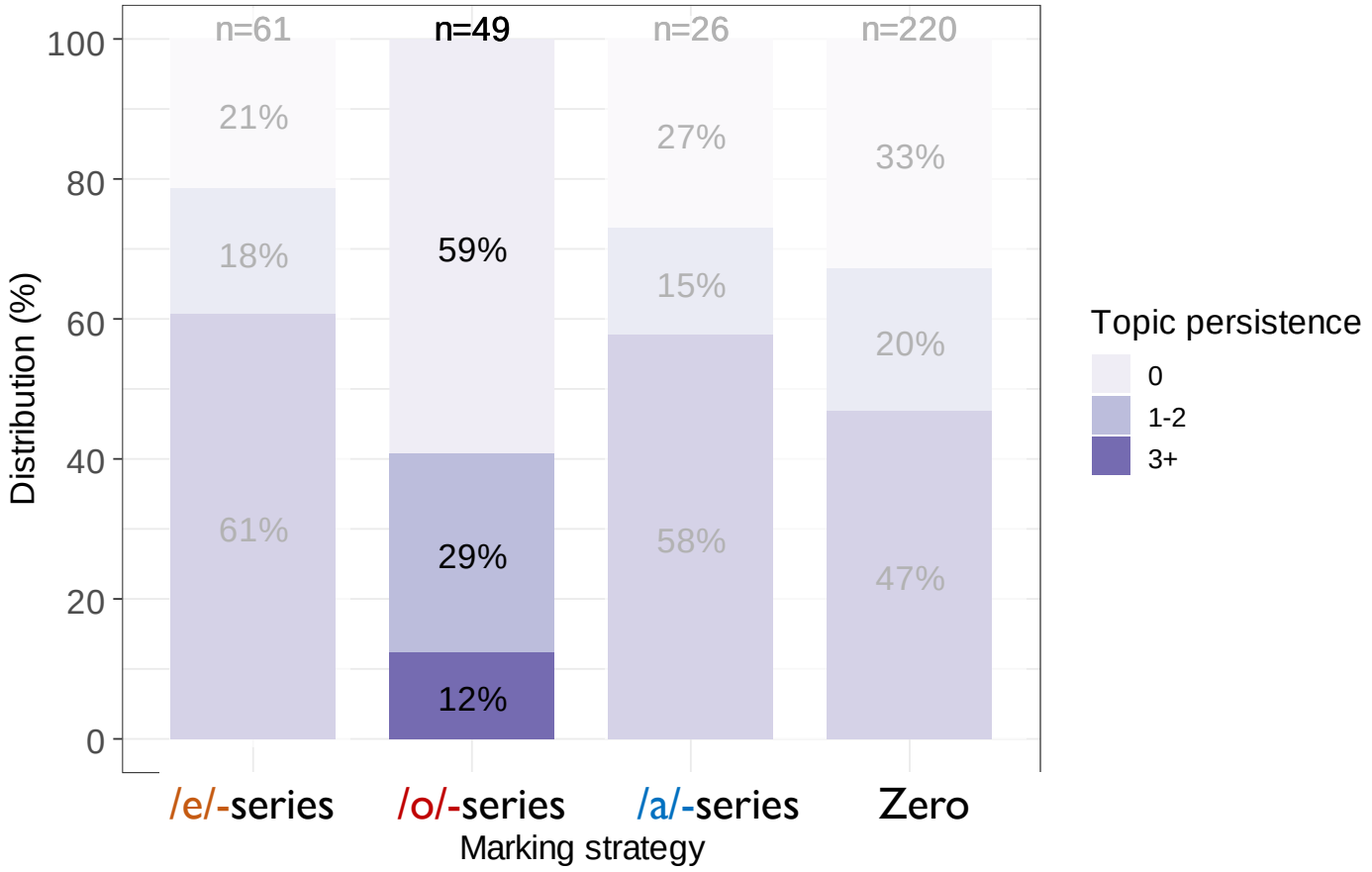
- All series differ compared to **Zero**

n = 356

Topicality

/o/-series: negative effect:

- Significant increase in the rate of 0, compared to all other strategies
- **/o/-series** index more likely with lower topicality

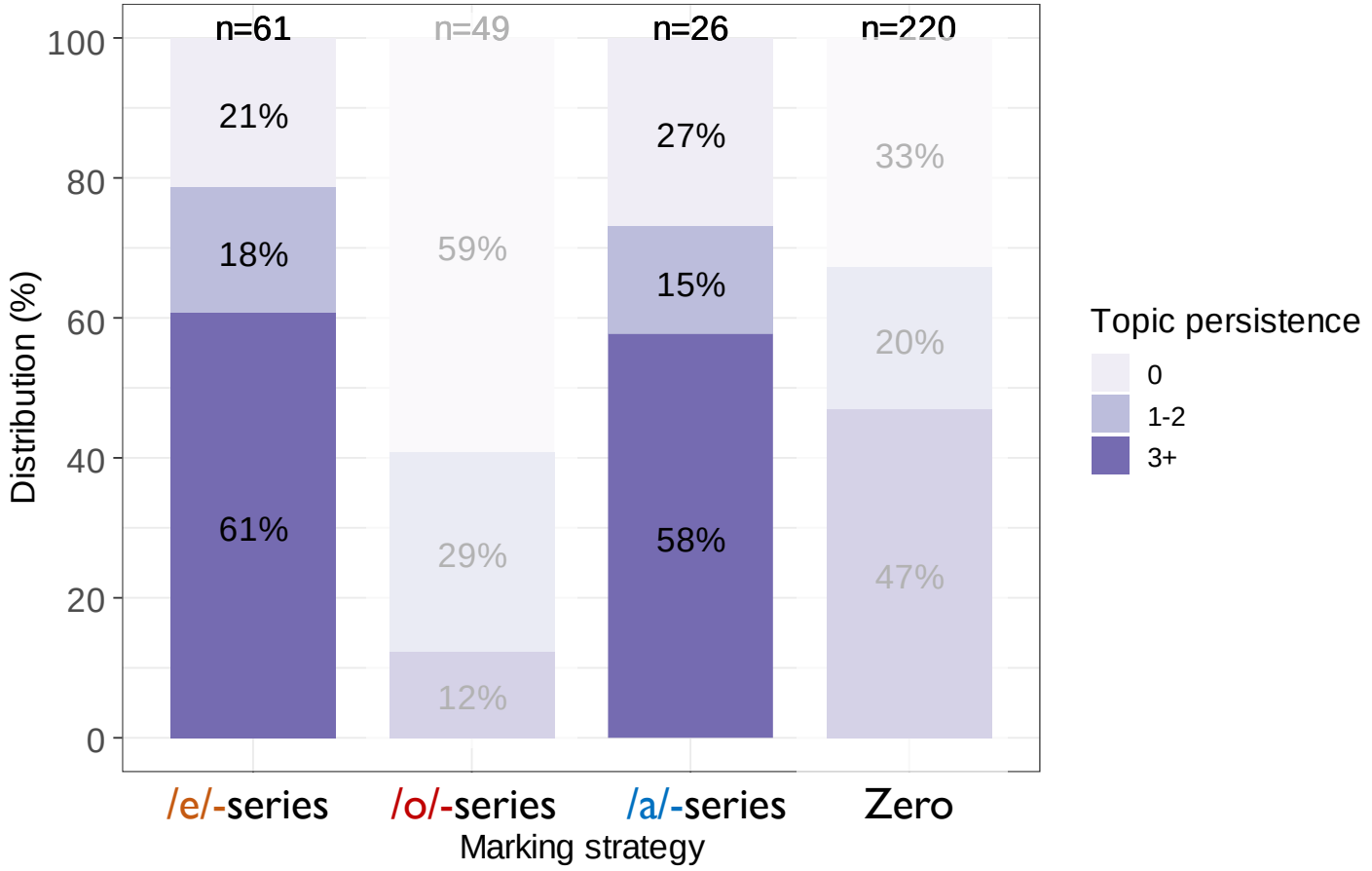


n = 356

Topicality

/e/-series and **/a/-series:** positive effect.

- Increase in the rate of 3+, compared to all other strategies
- **/e/-series** and **/a/-series** more likely with higher topicality



n = 356

Further discourse measures

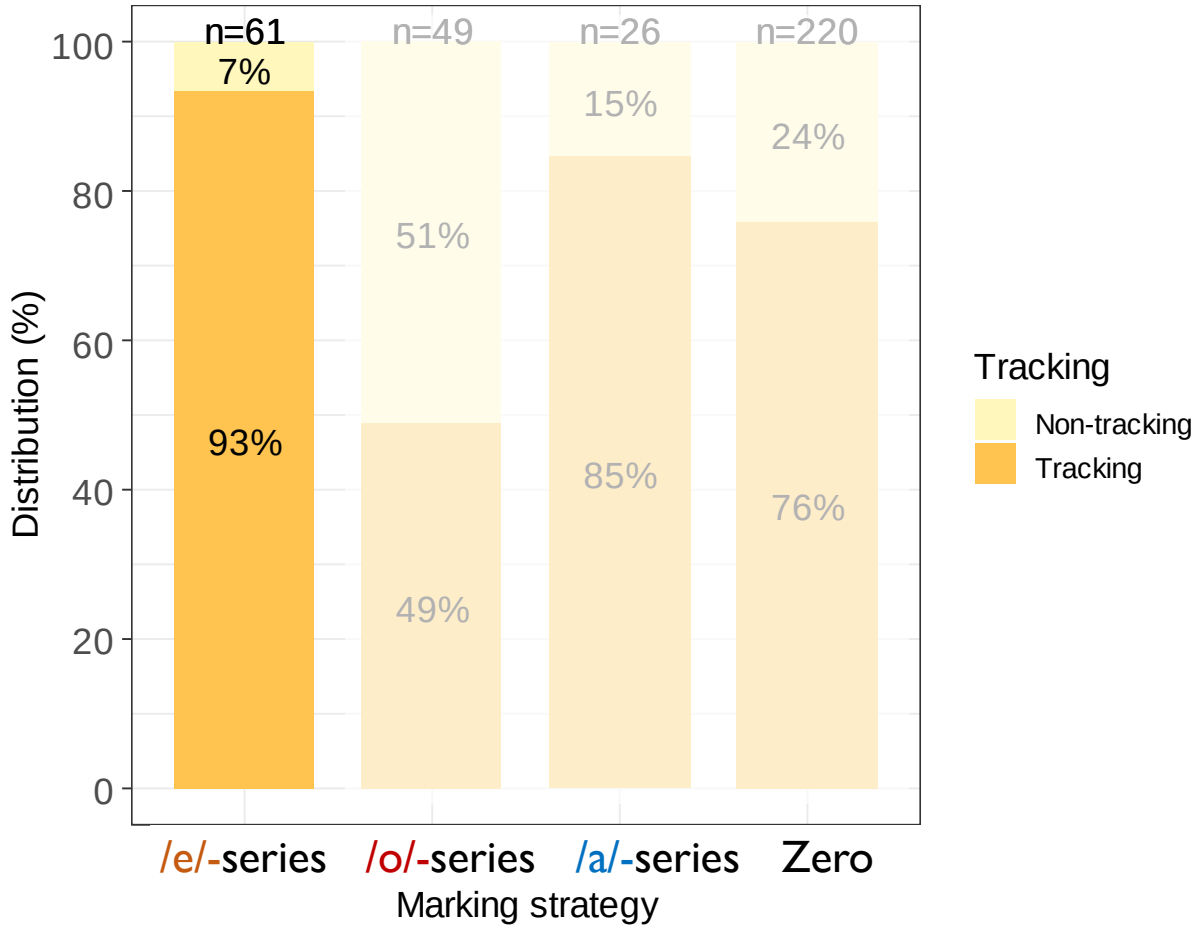
Tracking function:

- Use of referential expressions to track referents through discourse (Riesberg et al. in print)
- Similar to topic persistence, but removes distance constraint:
  - Topic persistence: number of mentions in next 10 clauses
  - Tracking function: at least one further mention in the rest of the text

Tracking function

/e/-series

- Significant positive effect with tracked referents
- **/e/-series** is significantly more likely to index a referent that is mentioned again



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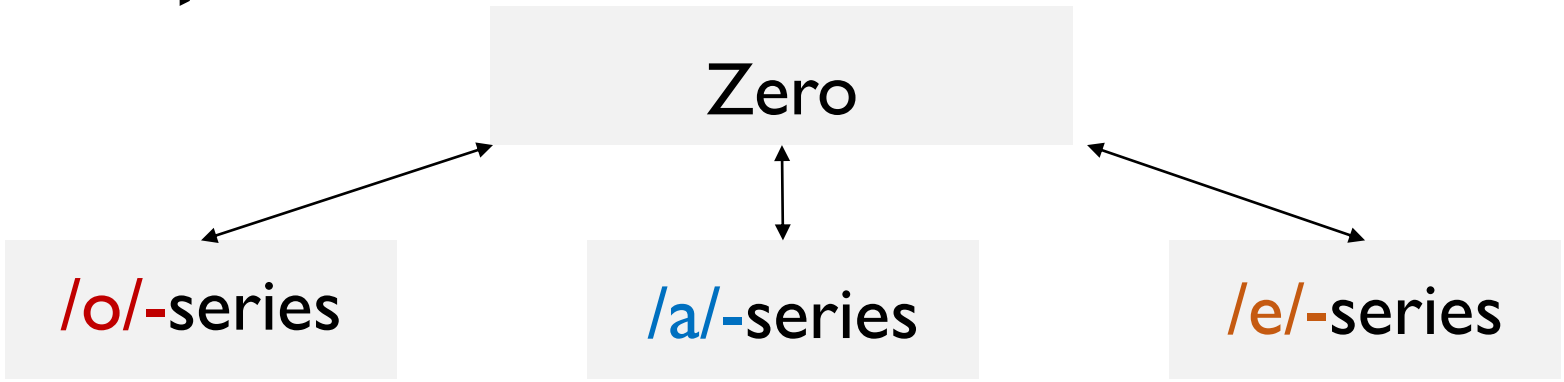
Comparison with previous research

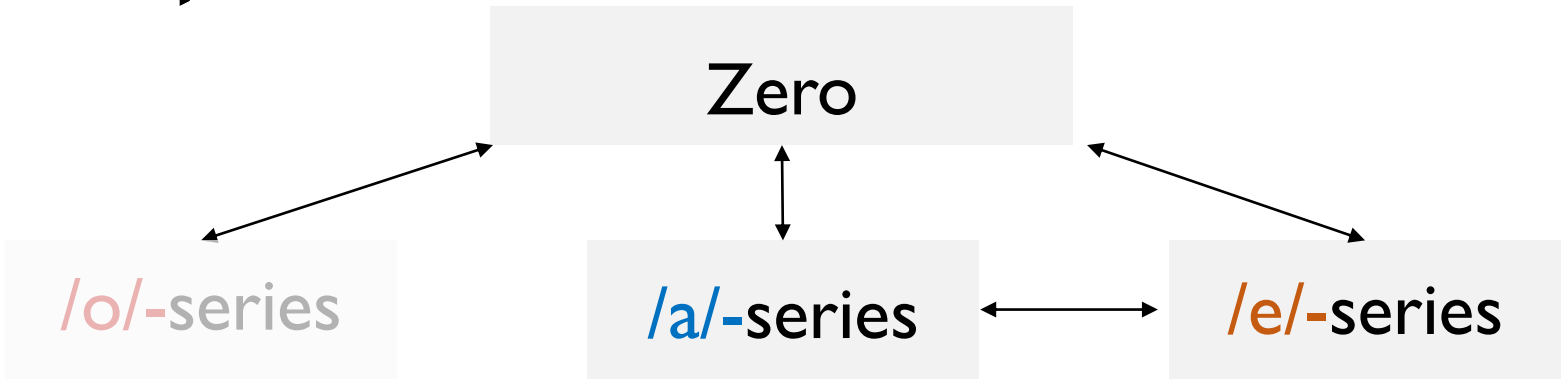
Factor	Video stimuli elicitation (Fedden et al. 2013)	Video stimuli elicitation + corpus data (Fedden et al. 2014)	Quantitative corpus study: Alternation in discourse
Animacy	Important	Marginal at best	Important for prefix choice
Argument role: S + animacy	Generally animate if indexed	Can be animate or inanimate	Almost always animate if indexed with a prefix
/o/-series	Almost always P, favours inanimates, most frequent	more affected S	Always P, favours inanimates, quite frequent
/e/-series	Favours animates, P and S	Can index (affected) S on motion & posture verbs	Favours animates, favours S, most frequent flexible prefix, not just affected S
/a/-series	Favours animates, P and S	-	Favours animates, slight preference for P. Generally fixed
Lexical stipulation	Plays a role	High degree of lexical stipulation	High degree of lexical stipulation
Frequency of non-zero P prefixes	78% (animate 85%, inanimate 70%)	-	60% (animate 82%, inanimate 50%)

Alternation patterns



- Verbs in the corpus generally enter into one of the patterns (zero + prefix)
- Some enter into more than one

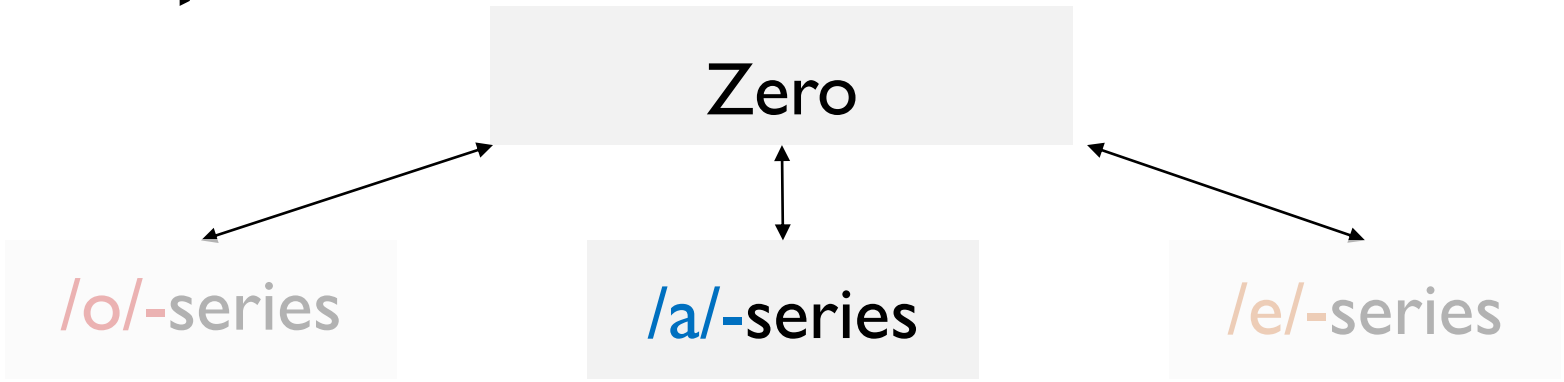
Alternation patterns



- High degree of lexical stipulation

ø-*kailang*	**ga-***kailang*	**ge-***kailang*
'be lazy'	'be sorry'	'be angry'

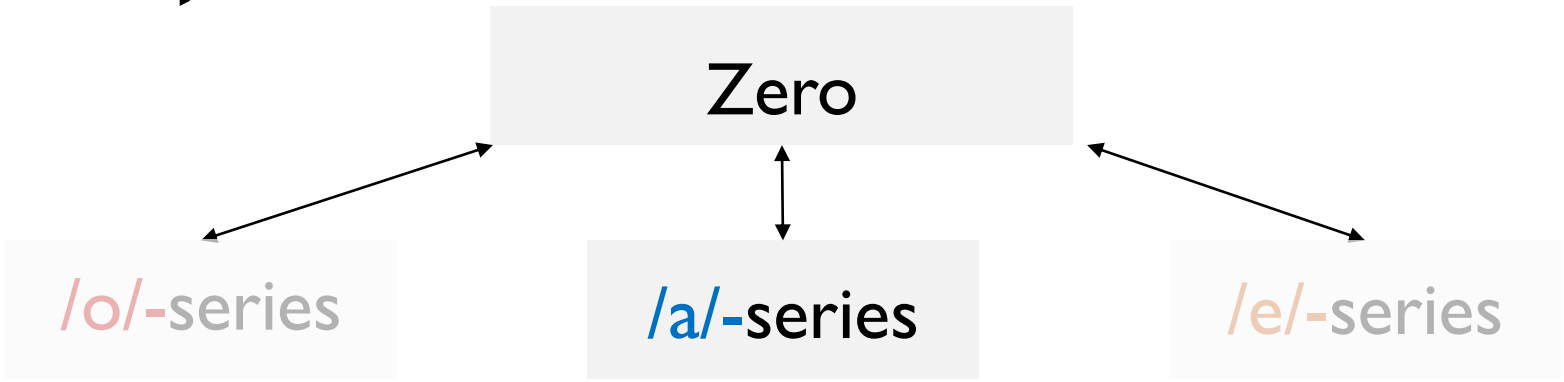
Alternation patterns



- Less productive: 5 verb types
- Some animacy-triggered DOM

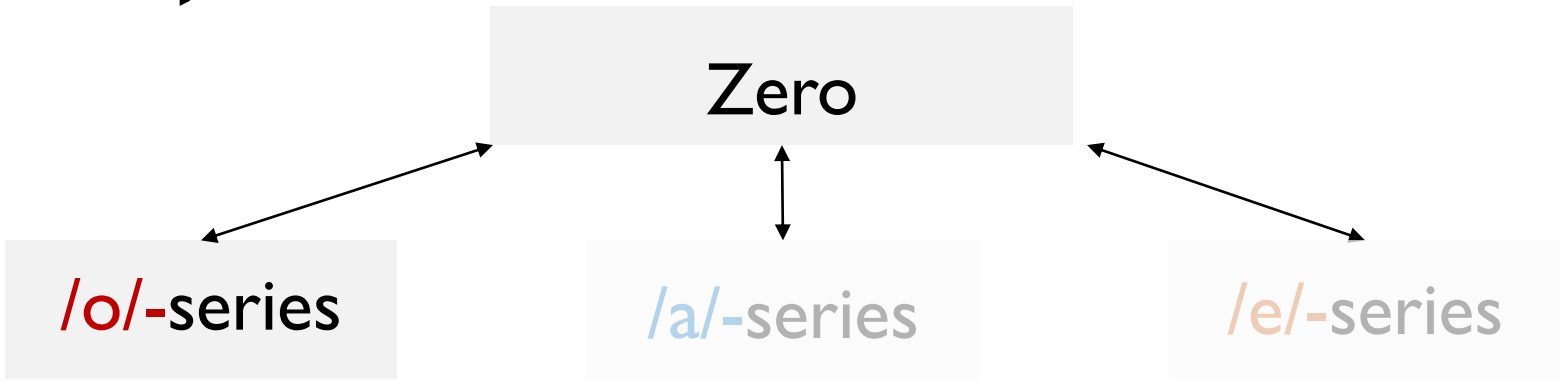
Animate P	Inanimate P
ga-*buh*	ø-*buh*
'lift up'	'lift up'

Alternation patterns



- Less productive: 5 verb types
- Some animacy-triggered DOM
- Prefix profile:
  - Preference for more topical referents
  - Preference for null independent argument

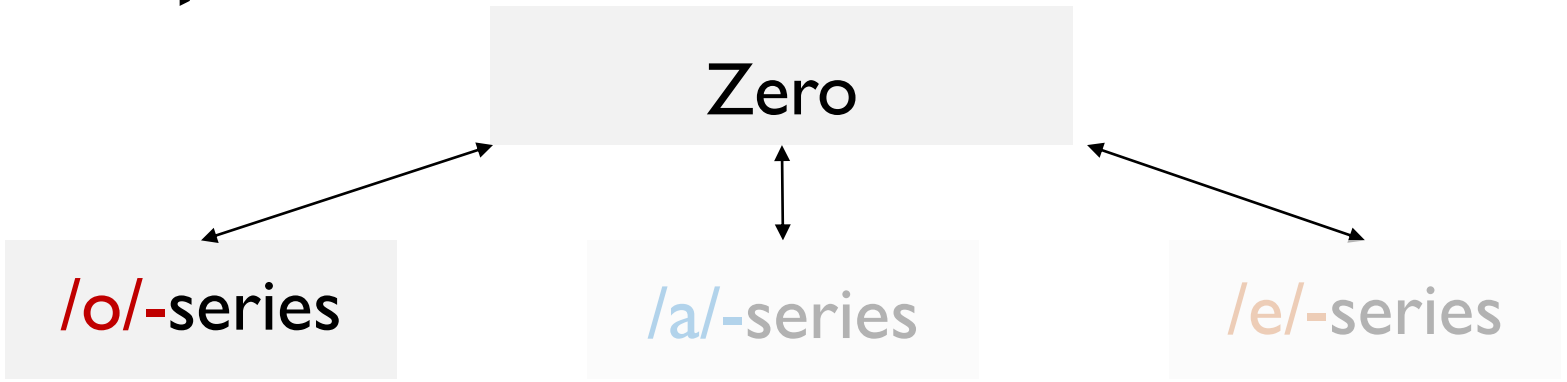
Alternation patterns



- More productive: 12 verb types
- Some valency-increasing

S		P
ø-*laka*	→	*wo-laka*
'hang'		'hang on sthg'
ø-*katee*	→	*wo-katee*
'eat'		'eat with s.o.'

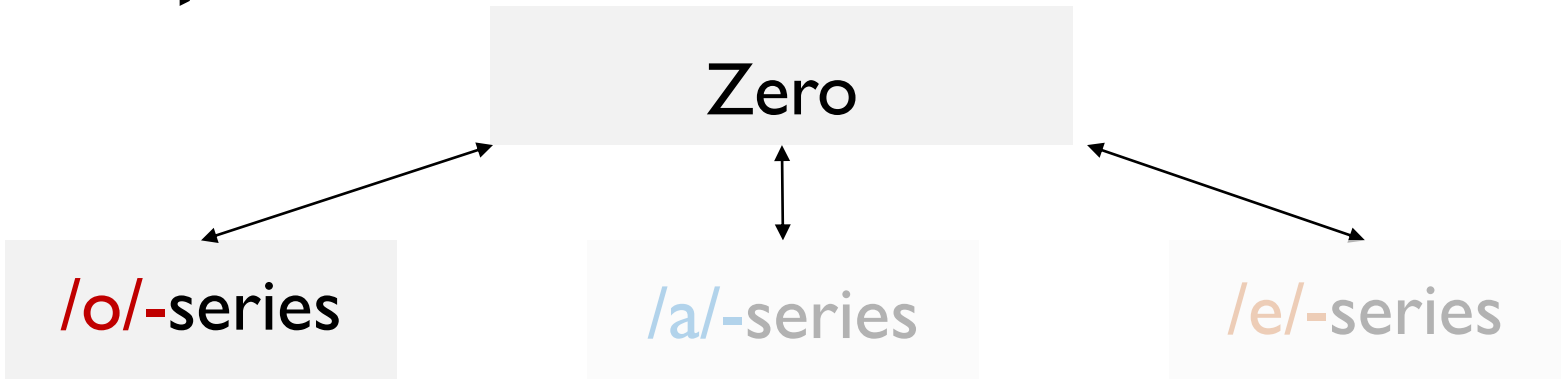
Alternation patterns



- More productive: 12 verb types
- Some valency-increasing
- Some animacy-triggered DOM

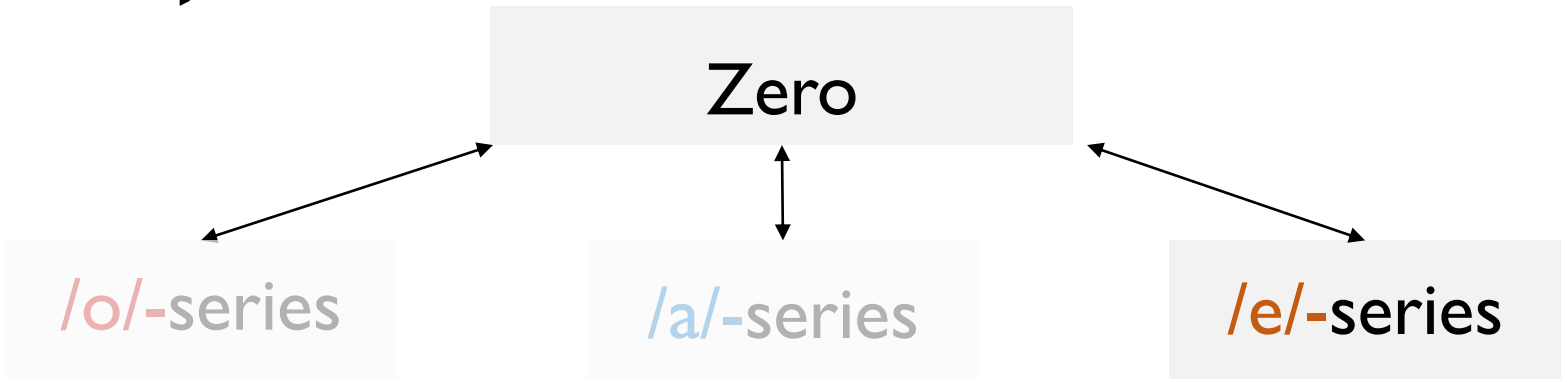
Animate P	Inanimate P
ø-*kawaai*	***wo-****kawaai*
‘discuss with s.o.’	‘discuss sthg’

Alternation patterns



- More productive: 12 verb types
- Some valency-increasing
- Some animacy-triggered DOM
- Prefix profile:
  - Preference for less topical referents
  - Dispreference for independent pronouns

Alternation patterns



- More productive: 12 verb types
- Alternating S marking
- No animacy-triggered DAM
- Prefix profile:
  - Preference for more topical referents
  - Preference for tracking referents
  - Dispreference for independent pronouns

Summary

- **Zero** is the most common strategy for alternating verbs in discourse
- Confirmed importance of animacy in alternation
- Confirmed importance of lexical stipulation
- Small pockets of systematic alternation (with **Zero**)
  - Animacy-triggered DOM
  - Valency-increase
- Prefixes less likely when independent pronouns are present
- Prefixes are split in terms of topicality preferences
  - /e/, /a/: more topical
  - /o/: less topical

Thanks to the rest of the team:

Corpus consultation: **George Saad**

Annotation: **Clemens Meyer**

Statistical analysis: **Pegah Faghiri**

Thank you!

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