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Attrition of Symmetricality in the Austronesian Voice System:

Insights from Indonesia's Barrier Island Languages and beyond

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Outline of the talk

- **Introduction: what & why?**
  - An overview of Austronesian (AN) voice symmetricality.
  - Why voice symmetricality?
- **Barrier Islands languages & types of attrition in AN voice symmetricality**.
  - Critical Questions regarding the primary or initial triggering factor.
- **Findings & Discussion**
- **Final remarks & future research**

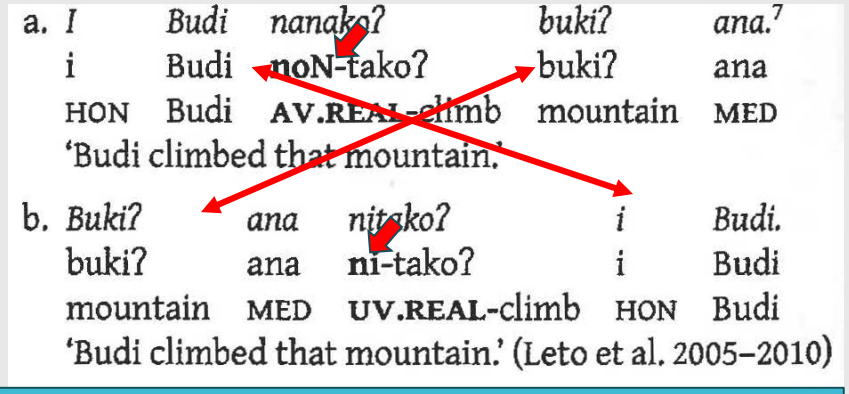
Austronesian Voice System & symmetricality: an overview

Languages with a robust AV-UV alternation

Voice symmetricality & transitivity in Austronesian (AN) (Foley 1998/2008, Arka 2003, Himmelmann 2005, Riesberg 2014, among others):

- SUBJ/PIVOT selection with **no demotion** of A/P in the **AV/UV alternation**:
- AV and UV are typically equ… morphologically marked

Totoli (Kroeger & Riesberg 2024:798)



a.	*I*	*Budi*	*nanako?*	*buki?*	*ana.*[7]
	i	Budi	**noN**-tako?	buki?	ana
	HON	Budi	**AV.REAL**-climb	mountain	MED
	'Budi climbed that mountain.'				
b.	*Buki?*	*ana*	*nitako?*	*i*	*Budi.*
	buki?	ana	**ni**-tako?	i	Budi
	mountain	MED	**UV.REAL**-climb	HON	Budi
	'Budi climbed that mountain.' (Leto et al. 2005–2010)				

- Voice symmetricality is of typological and theoretical interest.
- Its instability, attrition and ultimate demise in the Austronesian (AN) languages of Indonesia's peripheral regions are not well understood.

Austronesian Voice System & symmetric

Languages with a robust AV-UV alternation

Balinese

a. *m-(p)alu (<N-palu)* 'AV-collide'
b. *Ø-palu* 'UV-collide'
c. *ka-palu* 'PASS-collide'
d. *ma-palu* 'MID-collide' (Arka 2009b: 247)

Voice symmetricality & transitivity in Austronesian (AN) (Foley 1998/2008, Arka 2003, Himmelmann 2005, Riesberg 2014, among others):

- SUBJ/PIVOT selection with **no demotion** of A/P in the **AV/UV alternation**:
- AV and UV are typically equally morphologically marked

Balinese (Arka 2019:261)

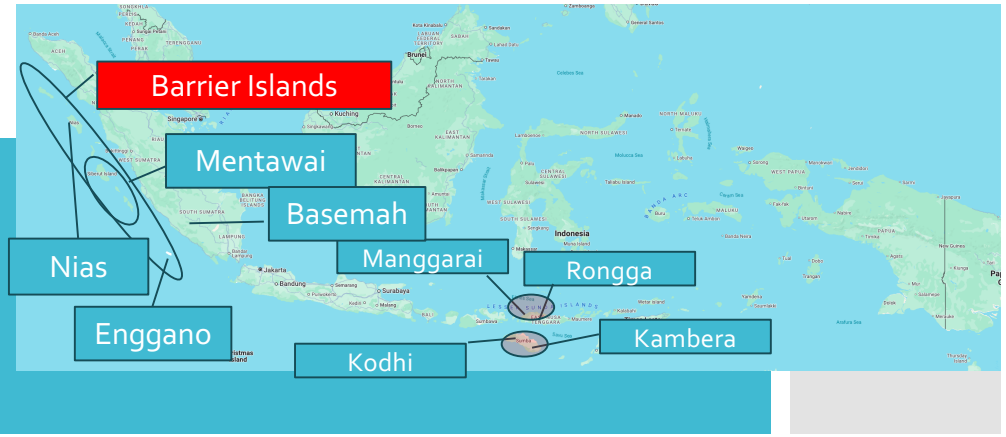
a. *Tiang ng-adep siap-e*
1 AV-sell chicken-DEF
PIV:A P
'I sold the chicken.'

b. *Siap-e Ø-adep tiang*
chicken-DEF UV-sell 1
PIV:P A
'I sold the chicken.'

- The presence/absence of voice symmetricality = The presence/absence of UV
- It is presence is a matter of gradience in both forms and functions

Attrition of voice symmetricality

The typology of the AN languages of Indonesia with no or restricted UV alternation



- **Type 1, Barrier Islands**: e.g. Enggano and Mentawai:
  - Multiple 'active' voice constructions
  - No SUBJ-only constraint
  - Pron indexing & possibly with a 'passive-like' construction
- **Type 2, western Flores**; e.g. Manggarai and Rongga:
  - Active voice without AV morphology
  - Still showing SUBJ-only constraint
  - No pron indexing but with a clear analytical active-passive alternation
- **Type 3, Sumba Island**; e.g. Kodhi and Kamberra:
  - No syntactic SUBJ
  - Pron indexing, non-alternating, no passive constr.

- **Relevant properties in the attrition of UV/voice symmetricality:**
  - (i) Attrition/loss of AV morphological marking
  - (ii) Emergence of systematic pronominal indexing affixes/clitics
  - (iii) Clausal word order: V-initial → V-medial
  - (iv) PIVOT: attrition of the SUBJ-only Constraint
- Questions:
  - How are properties in (i)-(iv) interrelated?
  - Which one is the main trigger or the most contributing variable?

Types of Attrition of Austronesian Voice Symmetricality

The collapse of the AV-UV distinction in Type 1 languages:

- **Multiple Active Voice Constructions**, e.g., as seen in **Enggano** and **Mentawai**

The AV Const. with pronominal indexing prefix

Type 1: Enggano (Hemmings, to appear)

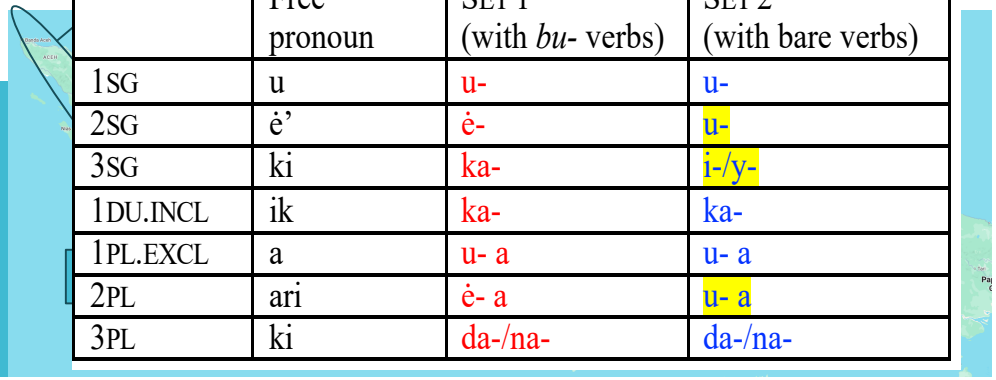
a.	The Transitive BARE Verb Construction: **SET2** Pronominal Prefix, typically IRREALIS			
	Ke'	**i**-no	yũ'	k-abùh.
		3-eat	food	KI-cooked
	'It doesn't eat cooked food.' (Burung Hantu, 99)			

b.	The BU- Verb Construction: **SET 1** Pronominal Prefix, typically REALIS, PERF				
	Ka e'anaha	**ka**-bu-kEi=xa	honã=nĩã	e'ana.	
	then	3- BU-catch=EMPH	wife=3SG.POSS	DEM	
	'Then he grabbed his wife.' (Kähler 1957, 9.4)				

c.	The ki- Construction: **No Pron** Prefix, SVO, general/default, IMPERF, Relative Clause					
	U	ki-no	arkih.			
	1SG	KI-eat	rice			
	'I eat rice.' (Basic Structures, 544)					

d.	**kir- passive with agent**						
	Engga	ki-r-kakarai	(o	kak	mėk).		
	Engga	KI-PASS-chase	OBL	person	many		
	'Engga was chased (by the crowd).' (Relative Clauses & Similatives, 140)						

Types of Attrition of Austronesian Voice Symmetricality



	Free pronoun	SET 1 (with *bu-* verbs)	SET 2 (with bare verbs)
1SG	u	u-	u-
2SG	ė’	ė-	u-
3SG	ki	ka-	i-/y-
1DU.INCL	ik	ka-	ka-
1PL.EXCL	a	u- a	u- a
2PL	ari	ė- a	u- a
3PL	ki	da-/na-	da-/na-

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Types of Attr
Austronesian

	Enggano	Mentawai	Nias (typically IRR, embedded)
1s	*u-*	*ku-*	*gu-*
2s	*ė-*	*nu-*	*gö-*
3s	*ka-*	*i-*	*ya-*
1pe	*u- -a*	*ku- -kai*	*ga-*
1pi	*ka-*	*ta-*	*da-*
2p	*ė- -a*	*nu- -kam*	*gi-*
3p	*da/na-*	*ra-*	*ndra-*

The collapse of the AV-UV distinction in Type 1 languages:

- **Multiple Active Voice Constructions**, e.g., as seen in **Enggano** and **Mentawai**

The AV Const. with pronominal indexing prefix

Type 1: Mentawai (my fieldwork data)

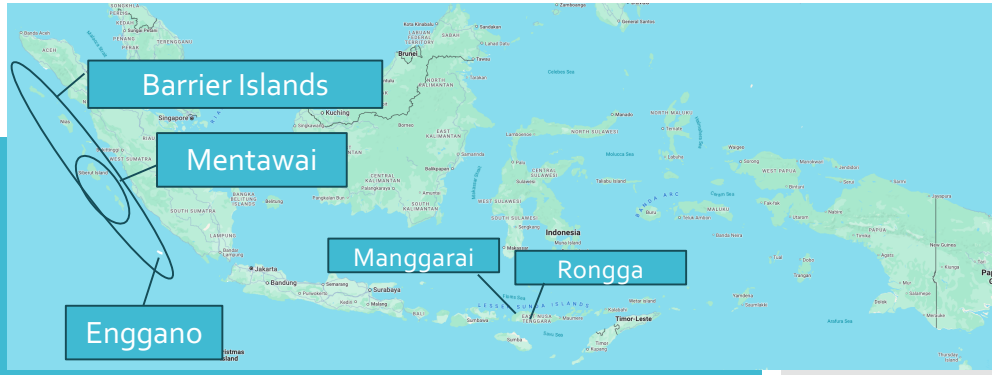
a. *Ekeu* ***nu-saki*** *sokkit*
2SG 2SG-buy pants
'You (will) buy pants.'

b. *Aku* ***saki*** *sokat* *niate* *leppei,* *tak* *tutu*
1SG buy yesterday COP shirt NEG hat
'The thing I bought yesterday is a shirt, not a hat.'

c. *Sokat* ***a-masi-saki*** *leppei* *niate* *aku*
yesterday PST-AV-buy shirt COP 1SG
'Yesterday the person who bought the/a shirt was me.'

d. *Kasei* *a-**i**-kukru* [*jojok* *nera*]_i?
who PST-3_i-chase dog that
i) 'Who was chased by the dog?/Who did the dog chase?'
ii) ?* 'Who chased the dog.'

Types of Attrition of Austronesian Voice Symmetricality



The collapse of the AV-UV distinction in Type 2 languages:

- Single AV Construction **without verbal voice** morphology as in **Manggarai and Rongga (Type 2)**.
- Types 1 & 2 languages are still classifiable as having **alternating systems**.

Type 2: Manggarai & Rongga (Arka & Wouk 2014:317)

(1)

a. *Aku* *cero* *latung=k* (Manggarai)
1s fry corn=1s
'I fry/am frying corn'

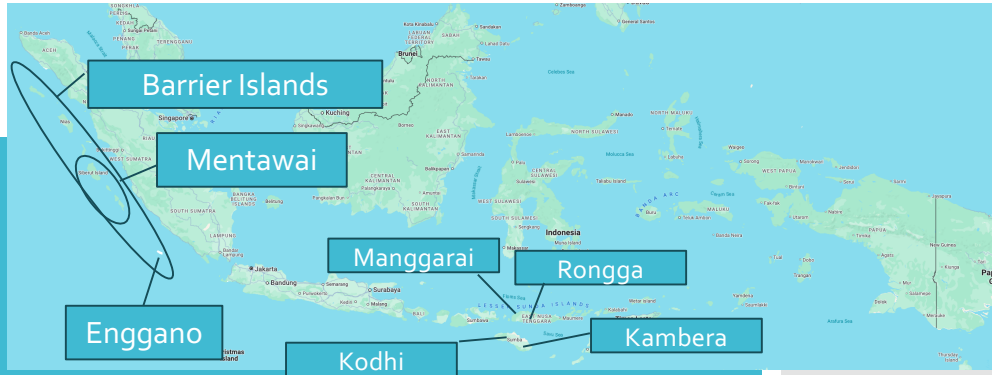
b. *Latung* *hitu* *cero* *l=aku=i*
corn that fry by=1s=3s
'The corn is (being) fried by me'

(2)

a. *Ardi* *pongga* *ana* *ndau* (Rongga)
A hit child that
'Ardi hit the child'

b. *Ana* *ndau* *pongga* *ne* *Ardi*
child that hit by A
'The child was hit by Ardi'

Types of Attrition of Austronesian Voice Symmetricality



The complete demise of AN voice system in Type 3 languages:

- The emergence of fully **systematic indexing bound pronouns** (e.g., the NOM and DAT pronouns), as in **Kodhi and Kambera (Type 3)**.
- **Type 3** languages show **no voice alternations**: they are **non-alternating**

Type 3: Kambera & Kodhi

(1) Kambera (Klamer 1996:13)

a. Ka nyuna$_j$ na$_j$-tinu-nya$_k$ na lau$_k$.
CNJ she 3SG.NOM-weave-3SG.DAT ART sarong
'So that she weaves the sarong.' (Lit. 'she she-weaves-it the sarong.')

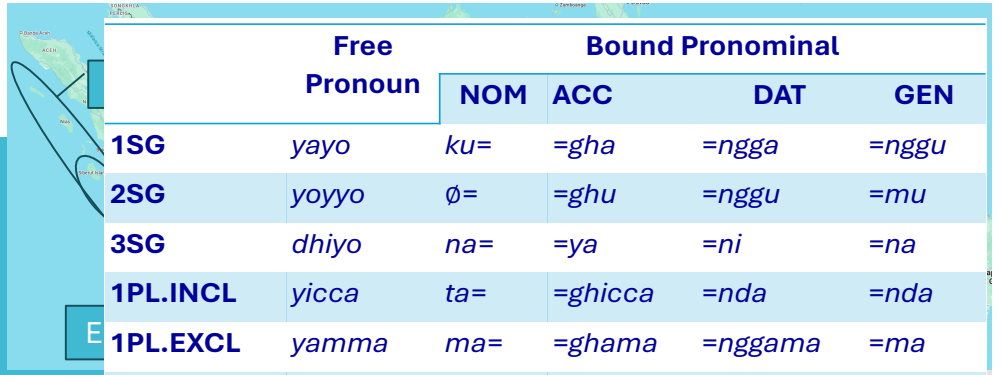
b. Ka na lau$_k$ na$_j$-tinu-nya$_k$ nyuna$_j$.
CNJ ART sarong 3SG.NOM-weave-3SG.DAT she
'So that the sarong was woven (by her).' (Lit. 'the sarong she-weaves-it she.')

(2) Kodhi (Ghanggo Ate & Arka 2024)

Ayiyo	*alkedhe*	***na*kmbohin**	*a*	*mni*
ayiyo	alakedha_*i*	na_*i*=kambohi=ni_*j*	a	maniyo_*j*
PROX.SG	child	3SG.NOM=afraid=3SG.DAT	DEF	owl

'**This child** was afraid of the **owl.**' [KOD59-OM Frog Story]

Types of Attrition of Austronesian Voice Symmetricality



	Free Pronoun	Bound Pronominal			
		NOM	ACC	DAT	GEN
1SG	*yayo*	*ku=*	*=gha*	*=ngga*	*=nggu*
2SG	*yoyyo*	*ø=*	*=ghu*	*=nggu*	*=mu*
3SG	*dhiyo*	*na=*	*=ya*	*=ni*	*=na*
1PL.INCL	*yicca*	*ta=*	*=ghicca*	*=nda*	*=nda*
1PL.EXCL	*yamma*	*ma=*	*=ghama*	*=nggama*	*=ma*
2PL	*yemmi*	*mi=*	*=ghumi*	*=nggumi*	*=mi*
3PL	*dhiyo*	*a=*	*=hi*	*=ndi*	*=dha*

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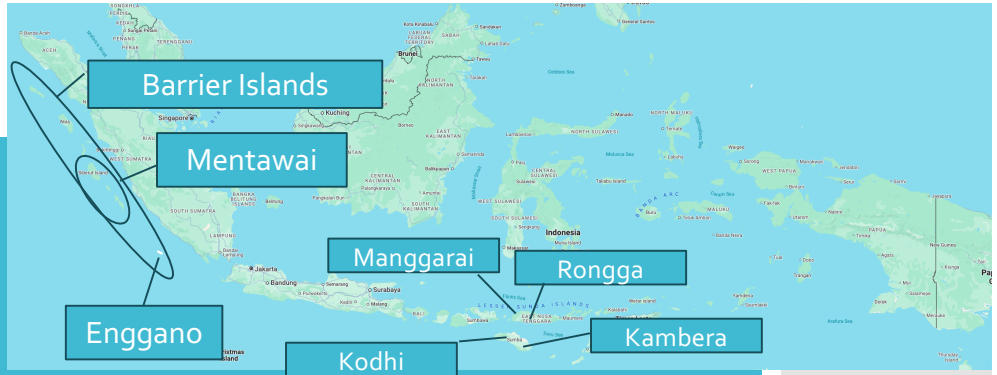
(2) Kodhi (Ghanggo Ate & Arka 2024)

*Ayiyo alkedhe **na**kmbohi**n** a mni*
ayiyo alakedha_i na_i=kambohi=ni_j a maniyo_j
PROX.SG child 3SG.NOM=afraid=3SG.DAT DEF owl
'**This child** was afraid of the **owl.**' [KOD59-OM Frog Story]

Less alternating or non-alternating: no SUBJ-only constraint



- Type 1:
  Enggano, Mentawai, …
  No SUBJ-only constraint

Unlike Indonesian-type languages such as Balinese, which exhibit the SUBJ-only constraint in relativization, **OBJ can be relativized in Enggano, Mentawai, and Nias.**

- Enggano (Hemmings & Dalrymple, to appear):

Relativizing on A

Tapi	[mė’	ki-p-a’a’	e-ya-k]	ẽ’,	ẽ'	da	arim	ah.
but	REL	KI-CAUS-show	DIR-exist-1PL.INCL.POSS	DEM	DEM	PRED	five	PT

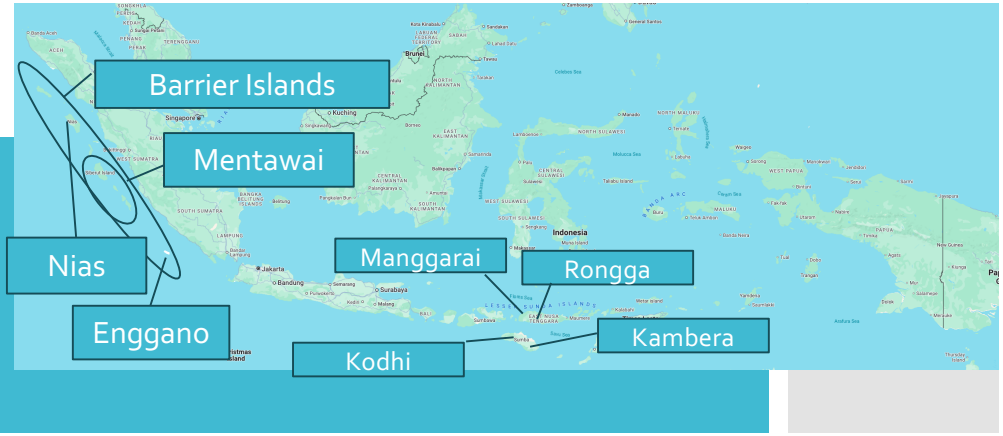
‘But the ones that reflect our daily life are only five.’ (Mahkota Adat, 29-30)

Relativizing on P

Anah	[mė’	u	ki-’iu]	ẽ’.
thus	REL	1SG	KI-say	DEM

‘That’s what I’m saying.’ (Cerita Enggano, 140)

Less alternating or non-alternating, no SUBJ-only constraint



- Type 1:
  Enggano, Mentawai, Nias
  No SUBJ-only constraint

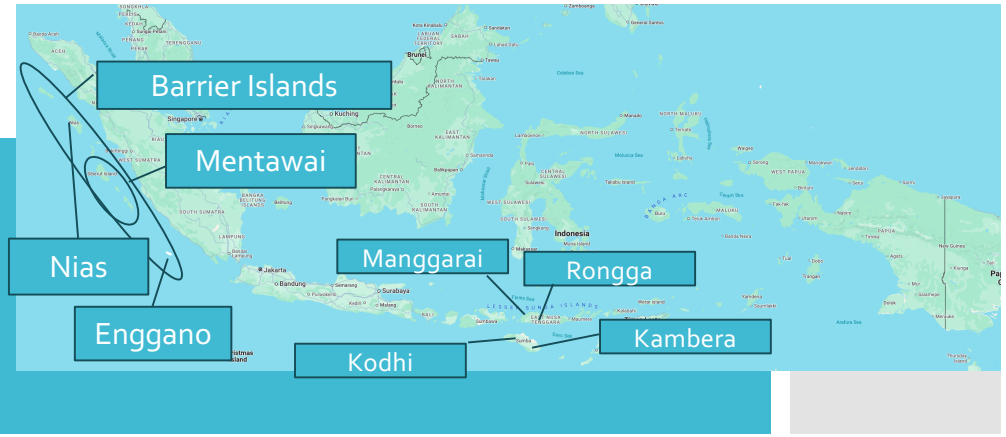
OBJ can also be relativized in Nias. The relativiser *si=* is the cognate of the Enggano ki-.

- The following shows G is relativised in Nias (Brown 2001:417).

Niha	*si=ma=u-βaβalö*	*kefe*	|| *sibaya-gu*
person	REL=PERF=1sRLS-borrow	money		uncle-1s.POSS

'The person I borrow money from is my uncle."

Less alternating or non-alternating, co-indexing system



- Types 1 & 3:
  - coindexed & backgrounded arguments: passive-like

- Type 1: Coindexing and backgrounding of A in Mentawai: passive-like

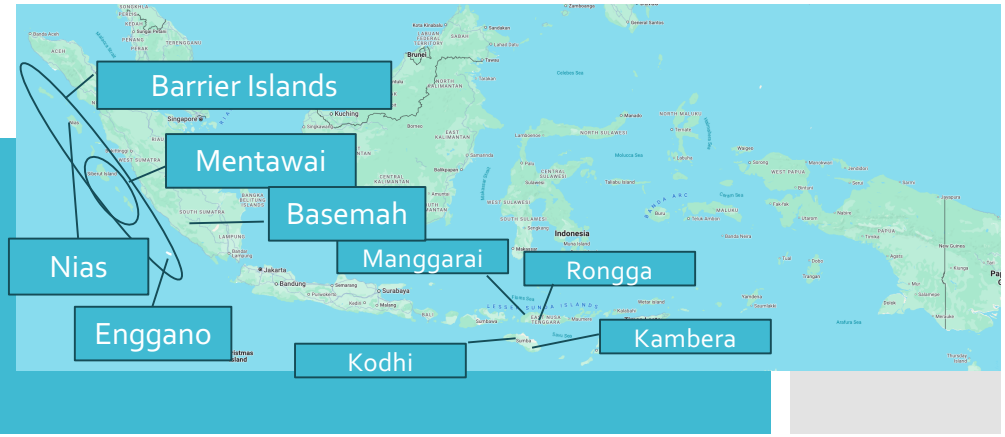
[toga nera]	[a-i-sot	nia	jojo']
child DEM.DIST	PERF-3.TR.FOC-bite	3SG	dog
TOP_j	3.A_i	pro_j	NP_i

Lit. "The child, s/he was bit by the dog".

- Type 3: A similar strategy is observed in non-alternating languages like Kambera (Klamer 1996):

Ka na lau_k na_j-tinu-nya_k $nyuna_j$.
CNJ ART sarong 3SG.NOM-weave-3SG.DAT she
'So that the sarong was woven (by her).' (Lit. 'the sarong she-weaves-it she.')

Less alternating or non-alternating, co-indexing system



Type 1: Basemah

- Coindexing/backgrounding of A: **Ambiguity between UV & PASS**
- (But this is also seen Balinese, a language with robust UV/voice symmetricality.)

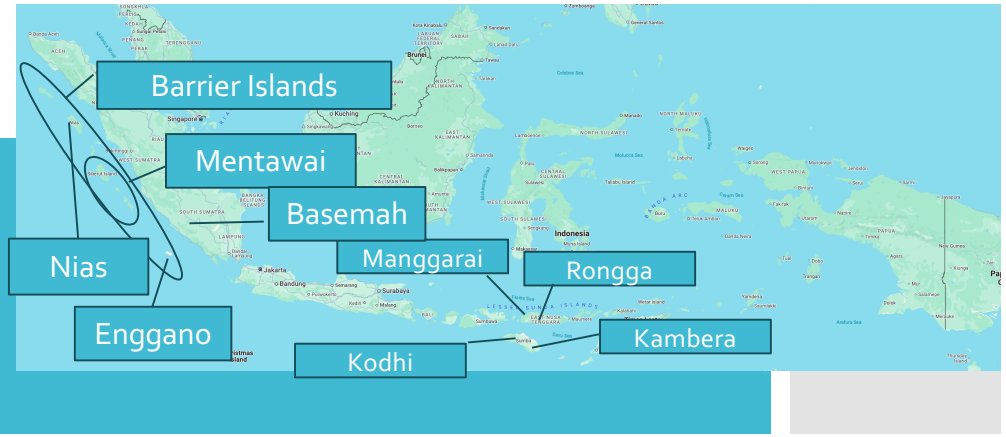
Basemah (McDonnell and Truong 2024):
ambiguity of ***(di-)tetak-i*** as UV/PASS verb

a. *Puntung* *la=udim* ***(di-)tetak-i=(ny)e*** *(li/nga Rafles).*
firewood PFV=finish UV-chop-LOC.APPL=3 by/with Rafles
'He/(Rafles) already chopped the firewood.'

b. *Puntung* *la=udim* ***(di-)tetak-i*** *(li/nga Rafles).*
firewood PFV=finish PASS-chop-LOC.APPL by/with Rafles
'The firewood was already chopped (by Rafles).'

Attrition of AN UV/voice symmetricality

Interim Summary & Questions



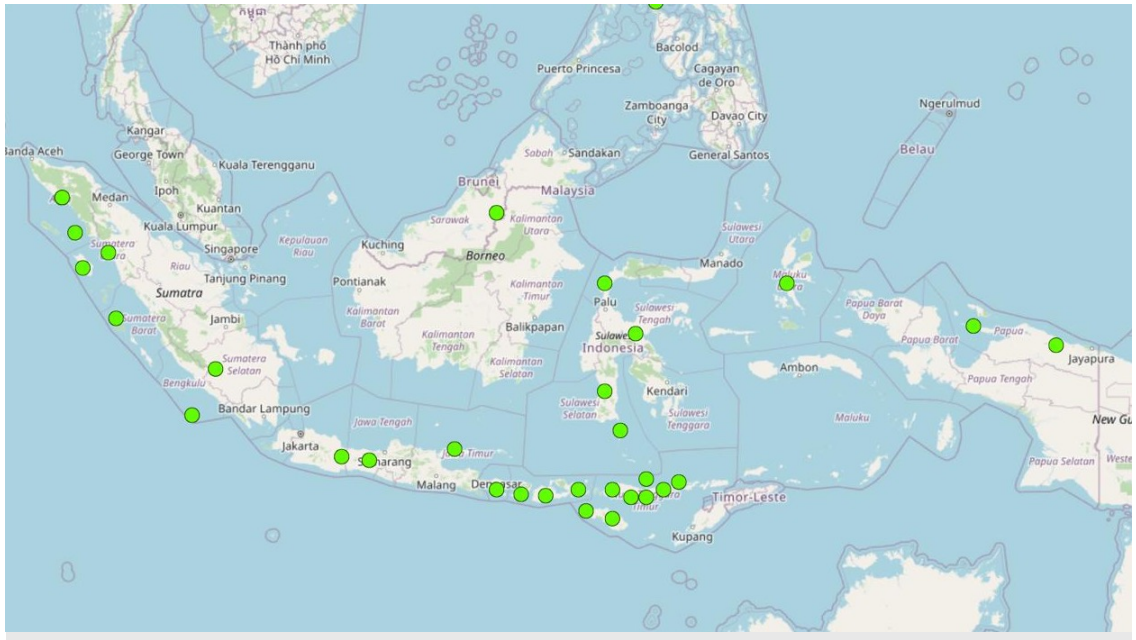
- **Type 1, Barrier Island**s; e.g. Enggano and Mentawai
- **Type 2, western Flores**; e.g. Manggarai and Rongga
- **Type 3, Sumba Island**; e.g. Kodhi and Kamberra

- **Relevant properties in the gradual demise of UV/voice symmetricality:**
  - (i) Attrition/loss of AV morphological marking
  - (ii) Emergence of systematic pronominal indexing affixes/clitics
  - (iii) Clausal word order: V-initial → V-medial
  - (iv) PIVOT: attrition of the SUBJ-only Constraint
- Questions:
  - How are properties in (i)-(iv) interrelated?
  - Which one is the main trigger or the most contributing variable?
- **Examine more AN languages of Indonesia and test the correlation of the properties (i)-(iv).**

Investigating properties responsible for the attrition of the voice alternation/symmetricality

Developing a simple database:

- Currently, it consists of 31 AN languages of Indonesia showing relevant voice-related properties, scaled with different values (indicated by their presence, absence or degrees of richness).
- Reflecting different AN types (e.g., Philippine type, Indonesian Type, etc.)
  - Tagalog is included to represent the Philippine-type, and more AN languages to be added for future studies.



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Overall Gradience of Voice Alternations:

- **4: Maximally alternating**, involving more than 4 voice types: AV, PT, GV, … (the Philippine-type lgs; e.g. Tagalog)
- 3: **Alternating**, typically 4 voice types: AV, UV (>1), PASS, APPL (transitional-type, Sulawesi languages)
- 2: **Alternating**, 3 voice types: AV, (single) UV, PASS APPL, (Indo-type lgs)
- 1: **Alternating**, 2 voice types: AV, PASS; **no UV** (in the matrix clause).
- **0: Non-alternating**: no voice alternation, no UV and no PASS (in the matrix clause).

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Overall Gradience of Functionality of AV Morphology:
Is the AN morphological AV marking (i.e., the reflex of the homorganic nasal substitution PMP * *maN-*) present and functional (for voice-related SUBJ selection)?

3: Yes, highly functional

2: Yes, (semi-)functional, but not the only marker to express 'active' voice; its presence may express MOOD)

1 Yes, but remnants (i.e., not functional)

0: No

Gradience of richness of AN voice system:
Degrees of overall voice alternation and functionality of AV/UV marking

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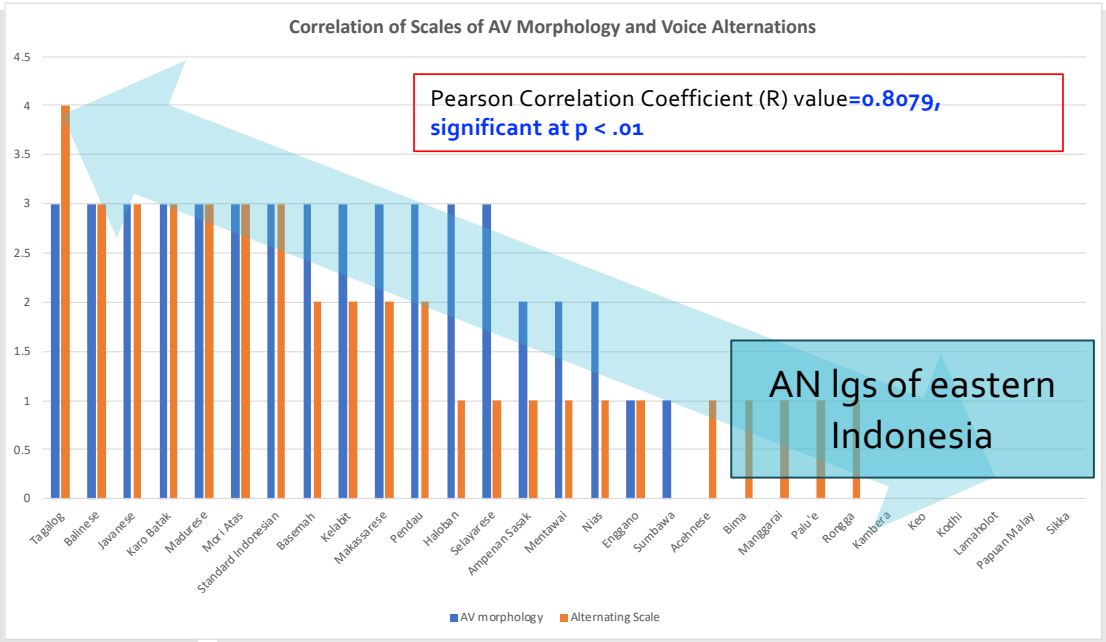


FINDING 1:

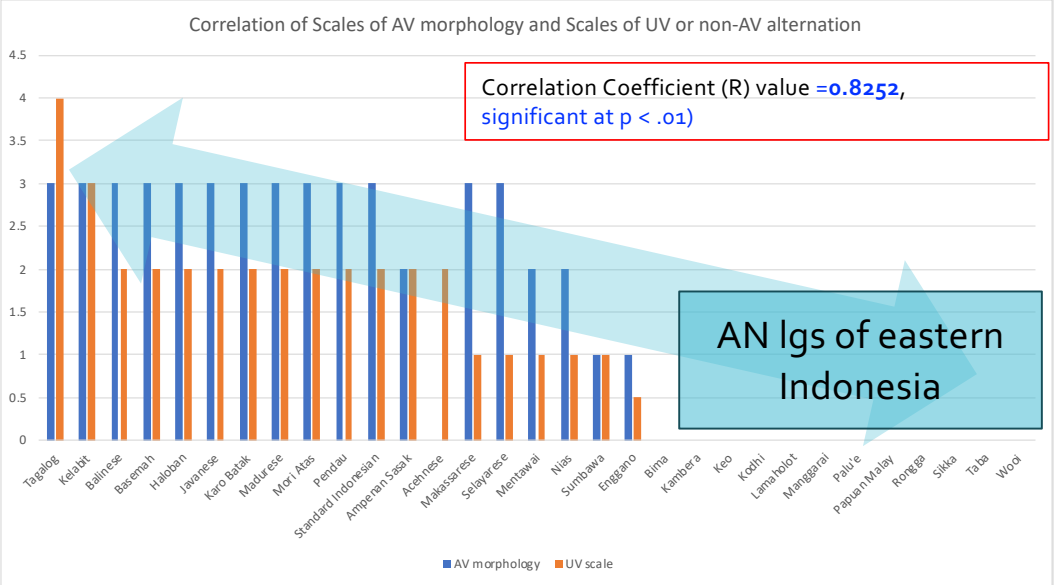
- This is **a strong positive correlation** between **the scale of AV morphology** and **the scale of the alternating system**
- **Analysis**: The presence of **functional AV morphology as an argument selector marking** is critical for a vibrant AN voice alternation system.

Gradience of richness of AN voice system:

Degrees of UV alternation (i.e. voice symmetricality) and AV marking

FINDING 2:

- There is also **a strong positive correlation** between **the scale of AV morphology** and **the scale of the UV or Voice symmetricality.**
- **Analysis: the paradigmatic contrast of AV/UV marking distinct argument selector of A/P as SUBJ is critical**



Gradience of richness of AN voice system:
Degrees of UV alternation (i.e. voice symmetricality) and AV marking

Gradience of UV (Undergoer Voice) or voice symmetricality:

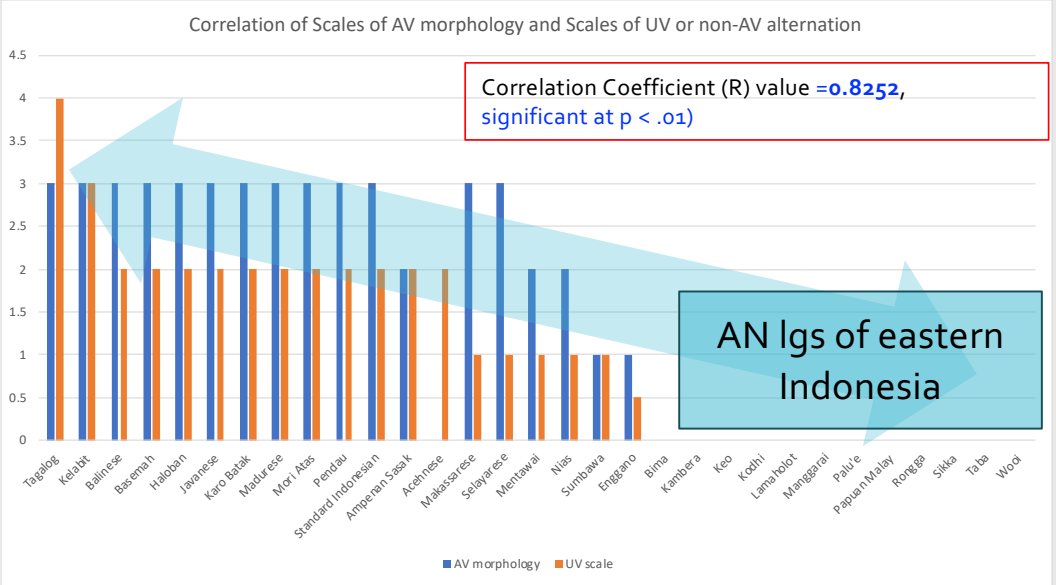
4: Multiple (three or more) UV Constructions with distinct morphology (e.g., as in Tagalog PV, LV, …);

3: Two UV Constrs with distinct morphology (as in Kelabit: PV, LV, etc.);

2: Single (robust) UV Constr across all PERS (as in Indonesian & Balinese);

1: Remnant of UV (e.g., ni-/i- only in embedded structure possibly with GEN NOM as in Nias, or prefixed active bare-Verb constructions possibly with co-indexation and backgrounding with PP/NP as in Sumbawa and Selayarese);

0: No UV (i.e., possibly multiple active types as in Enggano, single AV as in Manggarai, or no AV-nonAV opposition as in Keo)



Gradience of richness of AN voice system:

Degrees of UV (or symmetricality) and verbal pronominal affix/clitic

Gradience of Richness of Prefix/Proclitic

- 3: NOM (S/A) pronominal prefixes across all PERS
- 2: Split (e.g. 1 or 2 vs. 3; active A/Sa, as in Achenese)
- 1: Only A prefix (i.e. ergative-like)
- 0: Absence of A/ S

Gradience of Richness of Suffix/Enclitic

- 4: Very Rich, distinct multiway markings for P/S/G/T/A like Kodhi and Sumba languages;
- 3: NOM or ABS across all PERS for S/(A)/P;
- 2: Split (e.g. 1 or 2 vs. 3 ; P/Sp, as in Achenese);
- 1: only P or A (i.e. accusative- or ergative-like);
- 0: Absence of any verbal pronominal enclitic/suffix

Gradience of richness of AN voice system:

Degrees of UV (or symmetricality) and verbal pronominal affix/clitic

Gradience of Richness of Prefix/Proclitic

- 3: NOM (S/A) pronominal prefixes acr
- 2: Spl as i
- 1: On
- 0: Abs

Gradience of Richness of Suffix/Enclitic

- 4: Very Rich, distinct multiway markings for uages;
- P;
- nese);
- -like);

Gradience of Richness of Both Pronominal Prefix/proclitic and Suffix/Enclitic

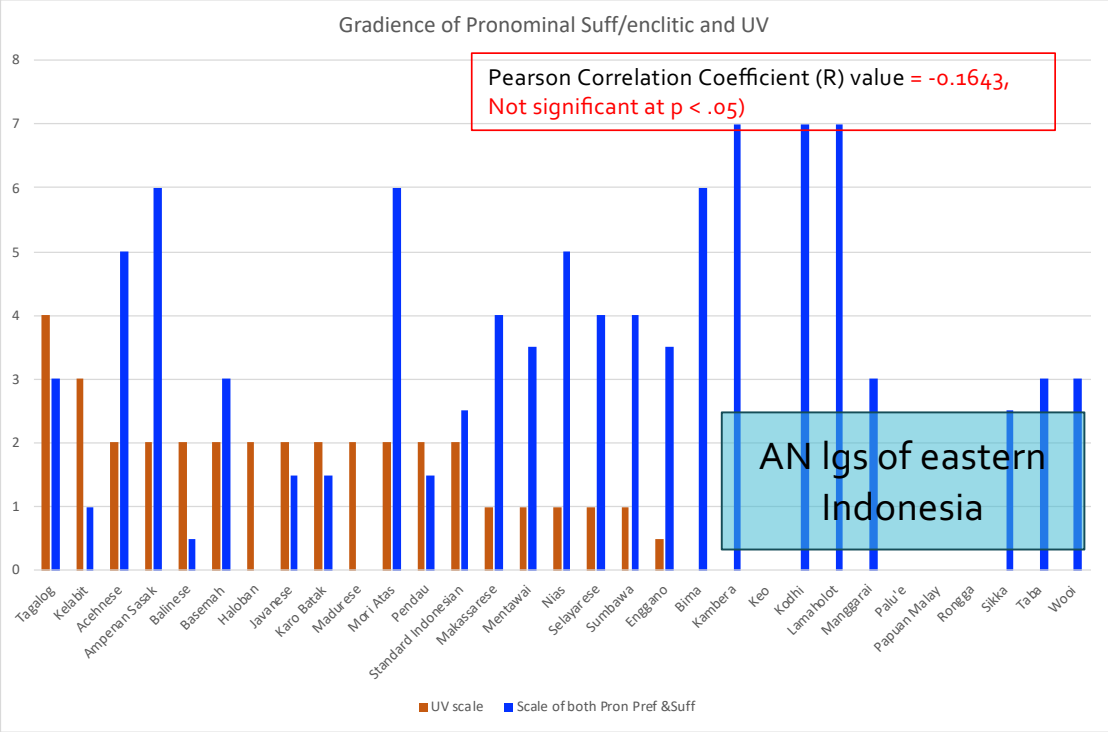
- 7 (i.e. max of 3+4): Rich NOM (S/A)+ Rich Post verbal S/A/G/T/A
- 5: Relatively rich preverbal NOM (S/A) NOM + Relatively rich postverbal ABS across all PERS for S/(A)/P;
- 3: Not so rich, showing Split
- 0: Absence of any verbal pronominal clitic/affix

Gradience of richness of AN voice system:

Degrees of UV (or symmetricality) and verbal pronominal affix/clitic

Gradience of Richness of Both Pronominal Prefix/proclitic and Suffix/Enclitic

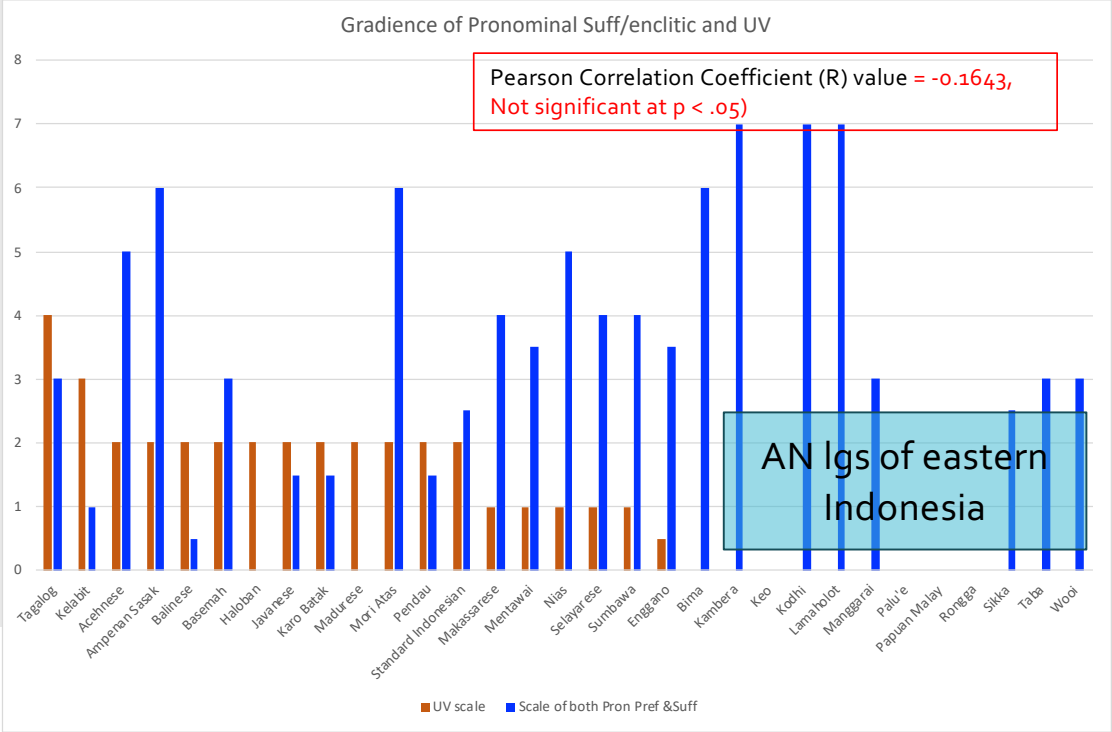
- 7 (i.e. max of 3+4):
  Rich NOM (S/A)+ Rich Post verbal S/A/G/T/A
- 5: Relatively rich preverbal NOM (S/A) NOM +
  Relatively rich postverbal ABS across all PERS
  for S/(A)/P;
- 3: Not so rich, showing Split
- 0: Absence of any verbal pronominal
  clitic/affix



Gradience of richness of AN voice system:
Degrees of UV (or symmetricality) and verbal pronominal affix/clitic

FINDING 3:

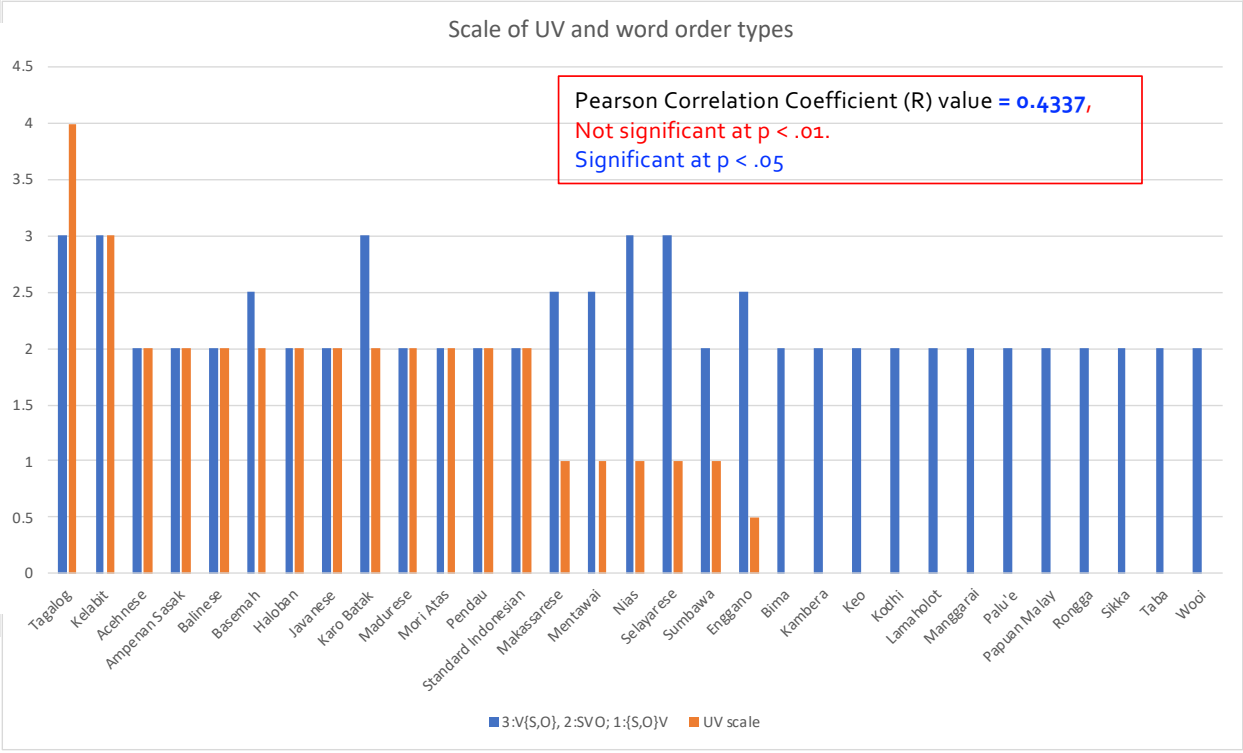
- While there is a **negative correlation** between the presence of pronominal affixes/clitic and voice symmetricality, and
  the correlation is **not significant**



Gradience of richness of AN voice system:
Degrees of UV (or symmetricality) and clausal word order

Clausal Word Order

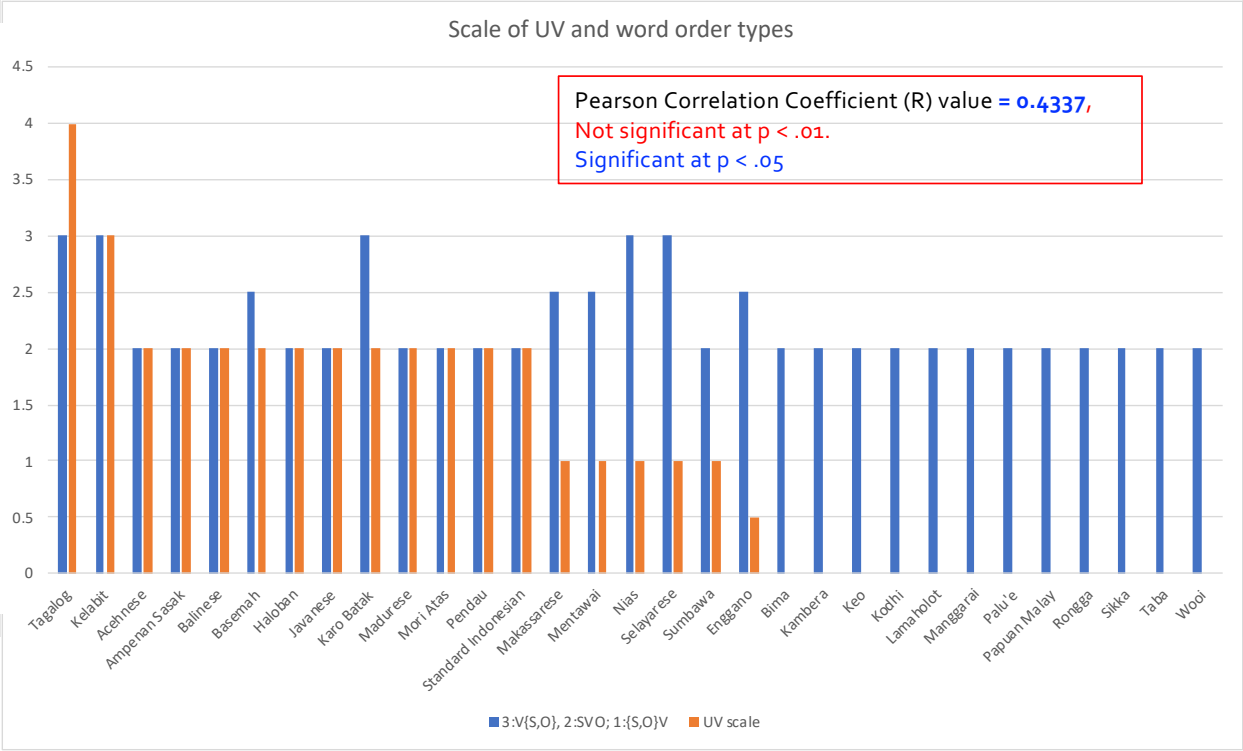
- 3: V{S,O},
- 2: SVO;
- 1: {S,O}V



Gradience of richness of AN voice system:
Degrees of UV (or symmetricality) and clausal word order

FINDING 4:

- There is a **moderate positive correlation** between **clausal word order** and **Undergoer Voice (or voice symmetricality)**:
  - **significant** at the 5% level of confidence ($p < .05$)
- **Intriguing: the more SVO (or A-V-P), the less UV/less symmetrical**
  - **Ultimately non.symmetrical [pron.A-VERB-pron.P]**

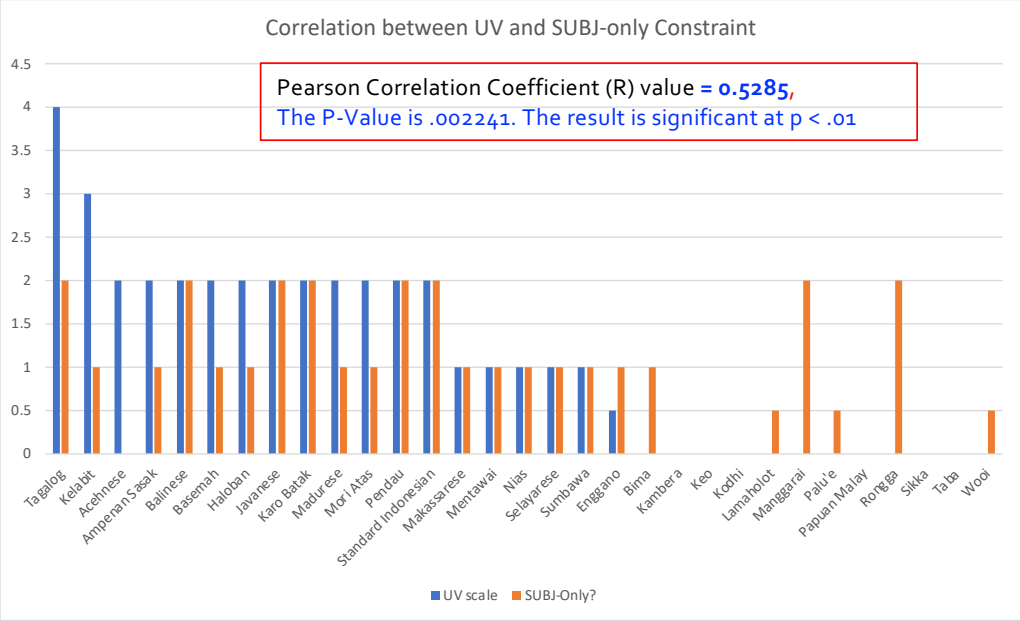


Gradience of richness of AN voice system:

Degrees of UV (or voice symmetricality) and SUBJ-only Constraint

Is there syntactic PIVOT, and does it show a SUBJ-only constraint?

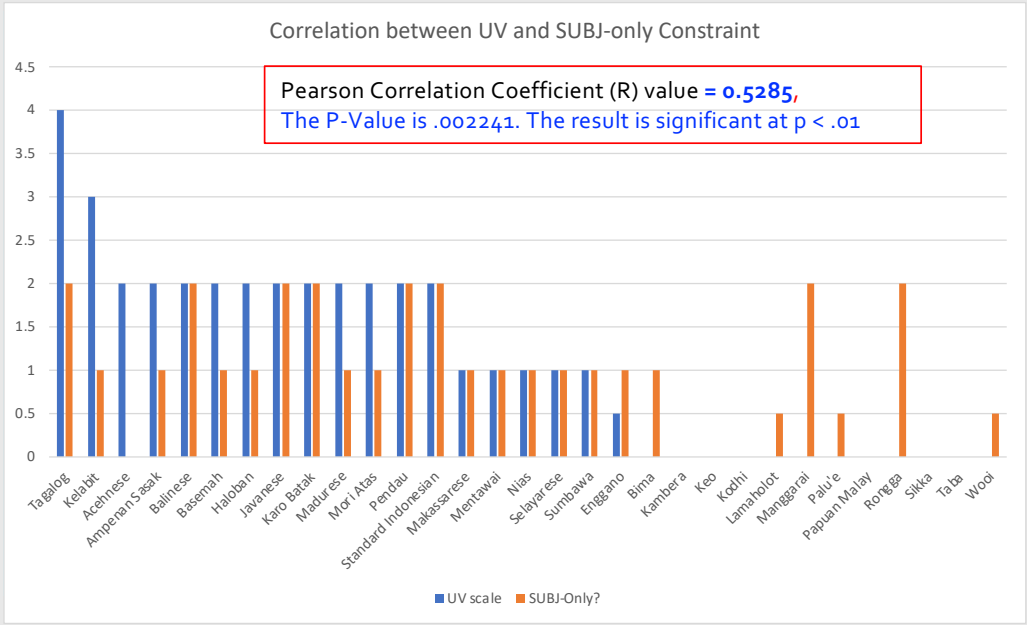
- 2: YES: strong evidence for PIVOT and SUBJ-only constraint (as seen in Balinese)
- 1: YES: there is (some) evidence for PIVOT, but it is not restricted to SUBJ (e.g. OBJ can be relativised)
- 0: No PIVOT and NO SUBJ-only constraint



Gradience of richness of AN voice system:
Degrees of UV (or voice symmetricality) and SUBJ-only Constraint

FINDING 5:

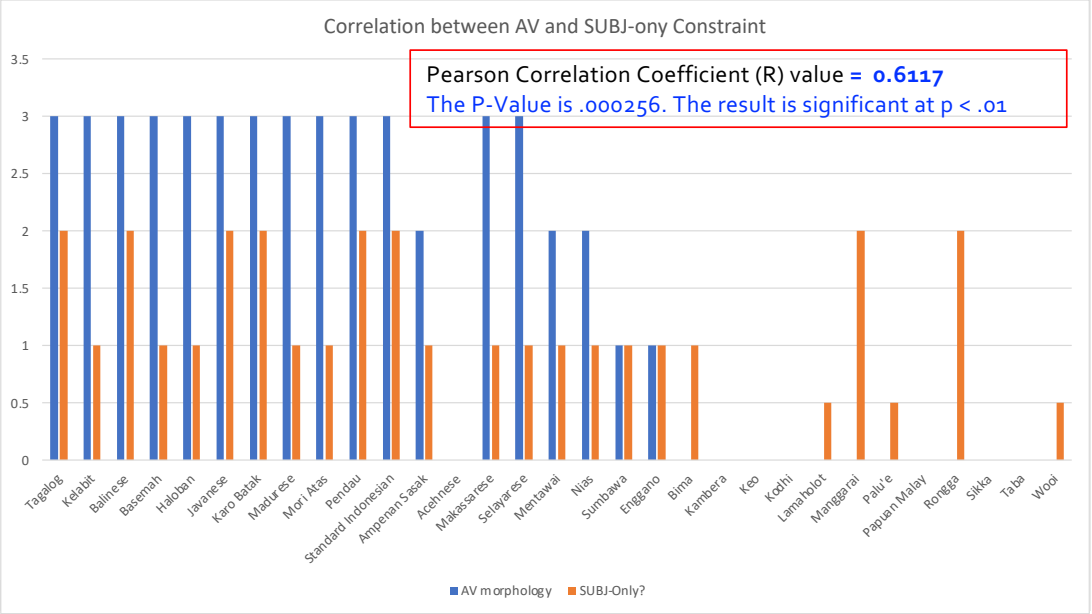
- There is a **strong positive correlation** between UV/voice symmetricality and SUBJ-only constraint



Gradience of richness of AN voice system:
Degrees of AV and SUBJ-only Constraint

Is there syntactic PIVOT, and does it show a SUBJ-only constraint?

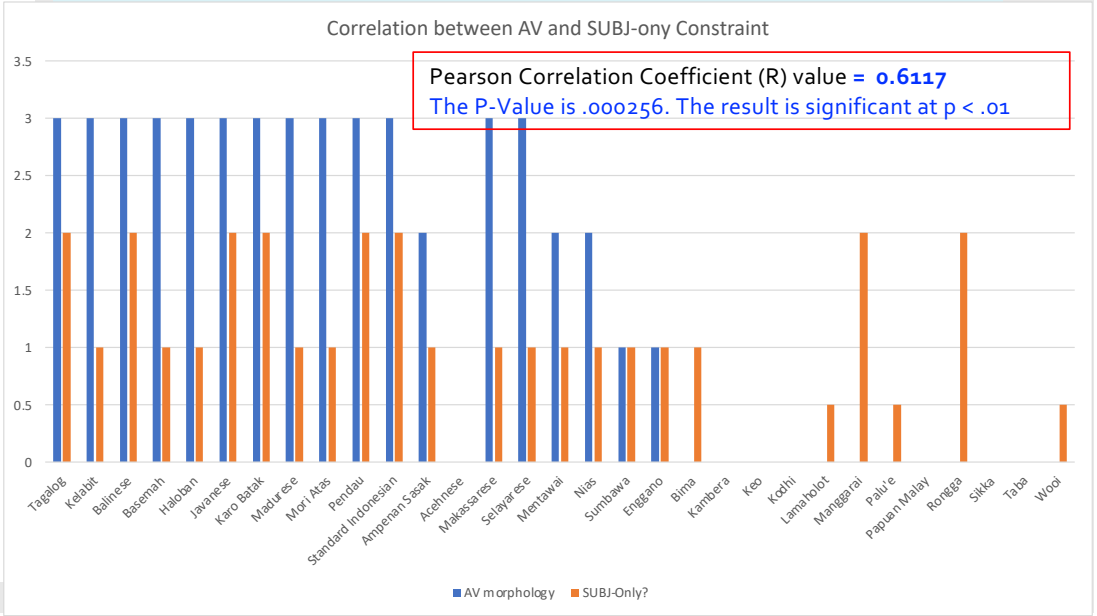
- 2: YES: strong evidence for PIVOT and SUBJ-only constraint (as seen in Balinese)
- 1: YES: there is (some) evidence for PIVOT, but it is not restricted to SUBJ (e.g. OBJ can be relativised)
- 0: No PIVOT and NO SUBJ-only constraint



Gradience of richness of AN voice system:
Degrees of AV and SUBJ-only Constraint

FINDING 6:

- There is a **strong positive correlation** between AV and SUBJ-only constraint



What do we learn?

The attrition of AV/UV/voice symmetricality can occur at either of the following levels:

- FORMAL LEVEL: morphological forms; e.g., *aH-* and *bu~/mu-* in Enggano & Mentawai
- FUNCTIONAL LEVEL: The loss of one or all of the following functions:
  (a) as an argument-role SUBJ/PIV selector (i.e. semantic-syntactic function)
  (b) as a prominence marker (i.e. discourse-pragmatic i-str function)
  (c) as a TAM encoder (i.e. semantic function)

Voice Symmetricality Variables	Pearson R value	Confidence level	Result
AV and UV (Voice Symmetricality)	**0.8252**	p < .01	significant
AV and Overall Voice Alternations	**0.8079**	p < .01	significant
AV annd SUBJ-only constraint	**0.6117**	p < .01	significant
UV and SUBJ-only constraint	**0.5285**	p < .01	significant
UV and Clausal Word Order	**0.4337**	p < .05	significant
UV and Pronominal Affixes	**-0.1643**	p < .05	not significant

1. **AV retention/attrition**
2. **SUBJ-only retention/attrition**
3. **UV retention/attrition**
4. **Clausal word order to SVO**
5. **Pronominal coindexing**

The most critical/significant property for a vibrant AN voice alternation/symmetricality

Not a significant trigger for the attrition/demise of voice symmetricality

Not a morphological resource for voice alternation

The findings highlight two distinct AV/UV functions:

A. AV/UV markers are **primarily semantic role selectors** for syntactic SUBJ/PIVOT:
   - ❑ AV selects the most A-like as SUBJ/PIV vs.
   - ❑ UV selects most P-like as SUBJ/PIV
   - ❑ **SUBJ/PIV** is a grammatically privileged function in the formation of certain structures in the grammar, e.g. being gapped and bearing contrastive FOCUS/TOPIC in relative clauses.

B. They also have TAM functions broadly:
   - ❑ AV: durative/imperfective, REALIS
   - ❑ UV: perfective, or IRR

Conclusion & Final Remarks

- Austronesian languages in the Barrier Islands and other peripheral regions of Indonesia exhibit **varying lower degrees of voice alternation and voice symmetricality**.
- The present study identifies the **formal-functional contrast of Actor Voice (AV) as a semantic role selector (marking A as SUBJ/PIV) as the most critical variable** influencing the retention, attrition, or loss of AN voice symmetry.
  - A partial/complete loss of AV morphological material has a consequential impact on the distinction of AV/UV; hence partial/full loss of AN voice symmetricality.

Conclusion & Final Remarks

- While the indexing pronominal system shows **a negative correlation** with the attrition or loss of the symmetrical voice system, this correlation is **not statistically significant**. (Future research: add more languages to the database to verify this.)
  - From a historical perspective, the extensive development of pronominal **indexing systems likely occurred after the total loss of AV-related morphological material**, as observed in Sumba languages such as Kodhi and Kambera.

Conclusion & Final Remarks

- In the **highly isolating Flores languages** (Manggarai and Rongga), the SUBJ-only constraint is retained despite the total loss of AV morphological material.
  - This seems to be linked to a shift to **strict SVO word order** with the possible post-verbal **backgrounding or downgrading of A to Oblique**. This shift results in a nominative (NOM) pattern: [S/A - V - P/Obl], permitting a passive

Conclusion & Final Remarks

- The findings in the present study are in line with Ge & Comrie's (2022) regarding **alignment between valency (or voice) alternation strategies and the morphological typology** (and therefore **typological constraint**) of a language:
  - a universal/strong tendency to shift **rightward** on the following scale, indicating less bound morphology: **Fusional** → **Agglutinative** → **Isolating**.
    - Isolating languages rarely use agglutinative or fusional techniques.
    - Agglutinative languages use both agglutinative and isolating techniques, with minimal fusional use.
    - Fusional languages utilize all three techniques, though isolating techniques dominate.
- The present study of the AN voice attrition shows there is a **correlation** between the richness of AV/UV-related morphological resources and the diversity or richness of AV/UV alternations (i.e. voice symmetricality) it can exhibit.

Further Research

- Adding more AN languages to the database to be representative of the many faces of the AN voice (sub)systems)
  - The V-final AN languages are not yet represented in the database
  - No Formosan AN languages are so far included in the current database

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References

- Adelaar, Alexander. (2005). The Austronesian languages of Asia and Madagascar: A historical perspective. In A. Adelaar & N. Himmelmann (Eds.), *The Austronesian languages of Asia and Madagascar* (pp. 1-41). London & New York: Routledge.
- Arka, I Wayan. (2003). Voice systems in the Austronesian languages of Nusantara: Typology, symmetricality and Undergoer orientation. *Linguistik Indonesia, 21*(1), 113-139.
- Arka, I Wayan. (2008). Voice and the syntax of =a/-a verbs in Balinese. In P.K. Austin & S. Musgrave (Eds.), *Voice and grammatical relations in Austronesian languages* (pp. 70-89). Stanford: CSLI.
- Arka, I Wayan. (2009). On the zero (voice) prefix and bare verbs in Austronesian languages of Nusa Tenggara, Indonesia. In Beth Evans (Ed.), *Discovering history through language: papers in honour of Malcolm Ross* (pp. 247-270). Canberra: Pacific Linguistics.
- Arka, I Wayan, & Wouk, Fay. (2014). Voice-related constructions in the Austronesian languages of Flores. In *Argument realisations and related constructions in Austronesian languages: papers from 12-ICAL, Volume 2* (pp. 313-333). Canberra: Asia-Pacific Linguistics.
- Ate, Ganggho Yustinus, & Arka, I Wayan. (2024). *Affectedness in Kodhi: The Dynamic Interplay between Lexical and Grammatical Aspect*. Paper presented at the the 2024 ALS conference, Canberra.
- Brown, Lea. (2001). *A grammar of Nias Selatan.* (PhD Thesis), the University of Sydney,
- Foley, William A. (2008). The Place of Philippine languages in a typology of voice systems. In P.K. Austin & S. Musgrave (Eds.), *Voice and grammatical relations in Austronesian languages* (pp. 22-44). Stanford: CLSI.

References

- Ge, Pingping, & Comrie, Bernard. (2022). Correlations of valency alternations and morphological types: A typological perspective. *Lingua 273* 1-20.
- Hemmings, Charlotte, & Dalrymple, Mary. (to appear). Relative clauses in Enggano. In I Wayan Arka, Mary Dalrymple, & Charlotte Hemmings (Eds.), *Enggano: Historical and Contemporary Perspectives*. Canberra: Asia-Pacific linguistics.
- Klamer, Marian. (1996). Kambera has no passive. *NUSA, 39*, 12-30.
- Kroeger, Paul, & Riesberg, Sonja. (2024). Voice and transitivity,. In Alexander Adelaar & Antoinette Schapper (Eds.), *The Oxford Guide to the Malayo-Polynesian Languages of Southeast Asia*. Oxford: Oxford University Press.
- McDonnell, Bradley, & Truong, Christina L (2024). Non-Malayic languages of Sumatra and the Barrier Islands. In Alexander Adelaar and Antoinette Schapper (Ed.), *The Oxford Guide to the Malayo-Polynesian Languages of Southeast Asia*: Oxford University Press.
- Riesberg, Sonja. (2014). *Symmetrical Voice and Linking in Western Austronesian (Pacific Linguistics 646)*. Berlin: Mouton De Gruyter
- Ross, Malcolm D. (2002). The history and transitivity of Western Austronesian voice and voice marking. In Fay Wouk & Malcolm D. Ross (Eds.), *The history and typology of Western Austronesian Voice Systems* (pp. 17-62). Canberra: Pacific Linguistics.