

What agrees, why and how? Austronesian-type voice and its variation beyond Austronesian*

Victoria Chen

(victoria.chen@vuw.ac.nz / www.victoria-chen.com)

Te Herenga Waka | Victoria University of Wellington

This talk . . .

- is about Austronesian-type voice (and the various debates associated with it)
- reconsiders the syntactic typology of \bar{A} -agreement, in particular:
 - an understudied type of verbal morphology known as ‘symmetrical voice’
- provides new evidence for the accusative view of Philippine-type languages
- reconsiders the commonly assumed dichotomy of topic- vs. subject-prominence

- **Object agreement.** Agree with the ϕ -probe on Voice/ v may also trigger overt ϕ -feature agreement. This is known as *object agreement* (Chomsky 2000, 2001, Baker 2008, 2012).

- Nahuatl (Uto-Aztecan), for example, employs ϕ -feature agreement with both subject and direct object (2):

(2) Nahuatl

Ni-k-te:moa šo:čitl.

1S.S-3S.O-seek flower

‘I seek a flower.’ (Stiebels 1999:790)

1 A- vs. \bar{A} -agreement: overview

1.1 Two types of ϕ -agreement

- As is well-known, the Agree relation between the ϕ -probe and its goal is commonly indicated by ϕ -feature agreement.

- **Subject agreement.** Agree with the ϕ -probe on T is commonly indicated by ϕ -feature agreement with the goal. This morphology is known as *subject agreement* (Chomsky 2001; Miyagawa 2009):

(1) a. Arabic

Al-ʔawlaadu qadim-**uu**/*-**a**.

the-boys-**3MP** came-**3MP**/***3MS**

‘The boys came.’ (Bahloul & Harbert 1993:15)

b. English

John seem-**s**/* \emptyset to have drunk too much coffee.

- ⊗ But how are \bar{A} -agree relations (i.e. Agree with an \bar{A} -probe, such as [uTOP], [uREL], or [uFOC]) realized in narrow syntax?

- Recent work has revealed two distinct strategies: ϕ -feature agreement (§1.1) and what is known as ‘symmetrical voice’ (§1.2).

1.2 Two types of \bar{A} -agreement morphology

1.2.1 Type I morphology: ϕ -feature agreement

- Much recent work has reported that ϕ -feature agreement is not tied specifically to Agree with [u ϕ]. Agree with an \bar{A} -probe may also trigger ϕ -feature agreement (van Urk 2015; Ostrove 2018; D’Alessandro 2020; a.o.). For example:

*This project is sponsored by a Marsden Fast Start Grant (#MFP-VUW2012) from the Royal Society of New Zealand. I am grateful to the following speakers for sharing their language: Atrung Kagi, Sawagu Kagi, Lisin Kalitang, Dakis Pawan, Ikung Chu, Aki Dai, and Hana Dai, as well as Awaludin Rusiandi, Bhakti Prasetya, Purnama Indra Cahyono, Mustafa Nur Fathoni, Anang Santosa, Maria Anunsiata M.I., Marie Angelique, Abdullah Sani, Anita Bachtiar, Nyoman Sutrisna Novsa Dewi, Murhaban, Cut Ida Agustina, Zainun, and Munzir. Thanks also to Edith Aldridge, Robert Blust, TC Chen, Brad McDonnell, William O’Grady, Hero Patrianto, Ileana Paul, Masha Polinsky, Lisa Travis, and Jozina van der Klok, especially Shin Fukuda, as well as the audiences at NELS53 and AFLA30 for useful feedback.

(3) San Martin Peras Mixtec: ϕ -feature agreement indexing topic

- a. **Rà**_i-xá'antsya rà **Juan**_i chikí.
he-cut.PRES he **Juan** tuna
 'Juan is cutting tunas.' (subject topic)
- b. **Ri**_i-xá'antsya rà Juan **chikí**.
it.AML-cut.PRES he Juan **tuna**
 'Juan is cutting *tunas*.' (Ostrove 2018:vii, viii) (object topic)

(4) Gujarati: ϕ -feature agreement indexing focus

- a. **Shahrukh** bakri **nho-to** laav-yo.
Shahrukh.M.SG-NOM goat.F.SG NEG-**M.SG** bring-PFV.M.SG
 'S. did not bring a goat, but someone else did.' (subject focus)
- b. Shahrukh **bakri-ne** **nho-ti** laav-yo.
 Shahrukh.M.SG-NOM **goat.F.SG-ACC** NEG-**F.SG** bring-PFV.M.SG
 'S. did not bring *the goat* but something else.' (object focus)
 (Joshi 2022:1)

*Cases of ϕ -feature agreement triggered by *wh*- and REL-phrases also attested (e.g. Henderson 2006; van Urk 2015).

→ In both languages, ϕ -feature agreement targets an \bar{A} -element, showing a key feature of *discourse configurationality* (É. Kiss 1995; see also Li & Thompspon 1976, Miyagawa 2010, 2017, and D'Alessandro 2020).

(5) *Discourse configurational languages*

In a topic-prominent language, the topic is, in a way, an alternative to the subject [in a subject-prominent language]. (É. Kiss. 1995:4)

This definition reflects a common assumption in the literature, that languages are either subject-prominent or topic-prominent in agreement morphology (6) (e.g. Li & Thompspon 1976; É. Kiss 1995; Miyagawa 2010, 2017; D'Alessandro 2020; a.o.):

(6) Two-way typology assumed in previous work

| | Subject-prominent | Topic-prominent |
|--|-------------------|-----------------|
| Agree with [u ϕ] realized in narrow syntax | X | 7 |
| Agree with [uTOP] realized in narrow syntax | 7 | X |

- Implicit assumption behind (7) ϕ -feature agreement in a given language is either A-oriented or \bar{A} -oriented. This raises the underexplored question (7):

(7) Are there languages where the Agree relations with [u ϕ] and [u \bar{A}] are both indexed in narrow syntax?

- ⊗ Such a design is not only logically possible but also attested in natural languages – although the type of agreement that manifests this design has received scant attention in the literature.

- The group of languages that I argue manifests this pattern is western Austronesian languages known as the Philippine-type:

- Consider the example below from Seediq (ISO 639-3 *trv*):

(8) Seediq (Austronesian)

Maha-**ku_k-na_j** bbe-**un** [na pawan]_j [ka yaku]_k.
 FUT-**I SG.TOP-3 SG.SUBJ** hit-**PV** [NOM Pawan] [PIVOT 1SG]

'Pawan will hit *me*.' (Chang 1997:99) (patient voice)

→ The affix (-*un*) on the verb – known in literature as the Patient Voice – indicates that the topic of the sentence is the direct object ('me').

→ Both the grammatical subject ('Pawan') and the object topic ('me') are cross-referenced by a person/number-indexing morpheme that matches the ϕ -features of the full DP:

- *ku* for the first-person singular topic 'I'
- *na* for the third-person singular subject 'Pawan'

→ Such morphemes are traditionally labeled as pronominal clitics in the literature, although their precise syntactic status has remained underexplored.

- ⊗ I will argue that these morphemes are agreement affixes – namely, ϕ -feature agreement with the topic and the subject.

→ Seediq demonstrates a typologically rare system where Agree with [u ϕ] and [uTOP] are both spelled out as ϕ -feature agreement.

1.2.2 Type II morphology: ‘symmetrical voice’ tracking \bar{A} -elements

- There’s yet a second type of morphology that indexes \bar{A} -agree relations. Descriptively, it inflects for the grammatical relations of certain \bar{A} -elements (e.g. topic, focus, relativized phrase). In other words, it indexes the A-relation of \bar{A} -elements.

- ▷ It is known as ‘symmetrical voice’ in the literature (e.g. Himmelmann 2002).
- ▷ Kurmuk and Abaza, for example, both exhibit this type of morphology (Anderson 2015:510; Arkadiev & Caponigro 2020:6,7):

(9) a. *Kurmuk (Nilotic)*

táarák ⁴bóor-**ú** dʒel kà ɲír.
person skin-PST.**SUBJ.T** goat PREP knife

‘The man skinned a goat with a knife.’ (subject topic)

b. dʒel bóor-ú**ṽ**-**I** ɲà táarák kà ɲír.
goat skin-PST-**OBJ.T** NOM person PREP knife

‘The man skinned *the* goat with a knife.’ (object topic)

c. ɲír bóor-ú**ṽ**-**”I** dʒel ɲà táarák
knife skin-PST-**OBL.T** goat NOM person

‘The man skinned a goat with *the* knife.’ (oblique topic)

(10) *Abaza (Caucasian)*

a. [awaʔa **j**-ʃa-ta-χa-k^wa-z] abaza-k^wa
[there **REL.SUBJ**-CSL-LOC-remain-PL-PST.NFIN] Abaza-PL
r-aḵ^wa-p̄
3PL.IO-COP-NPST-DCL

‘Those who remain there are the Abaza’ (Subject RC (S))

b. [a-ph^wəspa ça lə-z-tə-z] a-č^wḵ^wən
[DEF-girl apple 3SG.F.IO-**REL.NSUBJ**-give-PST.NFIN] DEF-boy
‘the boy who gave an apple to the girl’ (Non-subject RC (A))

c. [a-karbəʒ^ʔ-k^wa **Pa**-də-r-baχ-wa-z]
[DEF-brick-PL **REL.LOC**-3PL.ERG-CAUS-dry-IPF-PST.NFIN]
a-baḵ
DEF-shed

‘the shed where bricks are made’

(Locative RC)

• Shared traits of symmetrical voice (Type II morphology)

- It’s formally distinct from ϕ -feature agreement employed in the same language (if any) and may co-occur with it.
- The exact types of grammatical relations distinguished by this morphology vary across languages.
- In many languages, more than one type of \bar{A} -operations (e.g. topicalization, relativization, *wh*-extraction) trigger this morphology.

⊗ I will argue that what is known as ‘Philippine-type voice’ is also an instance of Type II morphology.

- For example, the Patient Voice affix (*-un*) in Seediq indicates that the grammatical relation of the topic is the direct object:

(11) *Seediq (Austronesian)*

Maha-ku_k-na_j bbe-**un** [na pawan]_j [ka yaku]_k.
FUT-1SG.TOP-3SG.SUBJ hit-**PV** [NOM Pawan] [PIVOT 1SG]

‘Pawan will hit *me*.’ (Chang 1997:99) (patient voice)

⊗ A closer look at Philippine-type voice and its variation would thus enrich our understanding of the syntactic typology of \bar{A} -agreement, in particular that of Type II morphology (symmetrical voice).

1.3 Goal of this talk

The key questions

- 1 What’s the nature of symmetrical voice, which functions to index the A-relation of certain \bar{A} -elements?
- 2 Are topic-prominence and subject-prominence a dichotomy? If not, how does symmetrical voice vary and evolve?
- 3 What type of case alignment is associated with the presence of symmetrical voice?

Main claims

- 1 Symmetrical voice is best viewed as the arbitrary spell-out of parallel chains (Chomsky 2005; Kandybowicz 2008, Kandybowicz & Torrence 2016; Aboh & Dyakonova 2009).
- 2 Topic- vs. subject-prominence is not a binary choice; however, the former tends to evolve into the latter over time.
- 3 Symmetrical voice is independent of case alignment. In the case of Philippine-type Austronesian languages, this morphology co-occurs with accusative case alignment (contra previous ergative views).

Roadmap

- §2 Austronesian voice: facts and debates
- §3 Two probes, one goal: AN-type voice as the spell-out of parallel chain
- §4 Austronesian-type voice and its external variation
- §5 Austronesian-type voice and its demise
- §6 Conclusion and implication

* * * * *

2 Austronesian-type voice: facts and debates

- Many western Austronesian languages display a typologically unusual voice system known as **Austronesian-type voice** or **Philippine-type voice**.
- In these languages, the \bar{A} -extraction constraint of a given clause is subject to the form of voice morphology:

(12) Tagalog relativization¹

- a. **Sino** ang [RC **b<um>ili**/*-in/*-an/*i- ng keyk]?
who PIVOT [RC **buy<AV>**/*PV/*LV/*CV ID.CM₂ cake]
 ‘Who is the one that bought cakes?’ (Actor Voice)
- b. **Ano** ang [RC **bi-bilih-in**/*<um>/*-an/*i- ni AJ]?
what PIVOT [RC CONT-**buy-PV**/*AV/*LV/*CV PN.CM₁ AJ]
 ‘What is the thing that AJ will buy?’ (Patient Voice)

- c. **Nasaan** ang [RC **bi-bilih-an**/*<um>/*-in/*i- ni AJ ng
where PIVOT [RC CONT-**buy-LV**/*AV/*PV/*C PN.CM₁ AJ ID.CM₂
 keyk]?
 cake]
 ‘Where will be the place where AJ bought cakes?’ (Locative Voice)
- d. **Sino** ang [RC **i-bi-bili**/*<um>/*-in/*-an ni AJ ng keyk]?
who PIV [RC **CV-buy**/*AV/*PV/*LV PN.CM₁ AJ ID.CM₂ cake]
 ‘Who is the one that AJ will buy cakes for?’ (Circumstantial Voice)

- In simple transitives like (12):

- Actor Voice (AV) is obligatory for **EA** extraction (12a).
- Patient Voice (PV) is obligatory for **IA** extraction (12b).
- Locative Voice (LV) is obligatory for **locative** extraction (12c).
- Circumstantial Voice (CV) is obligatory for **benefactive** extraction.
- ▷ Extraction of other types of adjuncts (e.g. instrument, purpose) or DPs that are structurally low (e.g. theme in causatives, ditransitives, or controls) also take this affix (12d).

- ▷ The same set of verbal morphology is also obligatory in finite declaratives:

(13) Tagalog

- a. **B<um>ili** **si** AJ ng keyk mula kay Lia para
 buy<AV> PN.PIVOT AJ ID.CM₂ cake P₁ PN.CM₂ Lia P₂
 kay Joy.
 PN.CM₂ Joy
 ‘AJ bought cake from Lia for Joy.’ (AV)
- b. **Bi-bilih-in** ni AJ ang keyk mula kay Li para
 CONT-buy-PV PN.CM₁ AJ PIVOT cake P₁ PN.CM₂ Li P₂
 kay Joy.
 PN.CM₂ Joy
 ‘AJ will buy cake from Li for Joy.’ (PV)

¹CM: case marker; CONT: contemplated aspect; ID: indefinite; P: preposition; PN: personal name

- c. Bi-bilih-an ni AJ ng keyk si Li para
 CONT-buy-LV PN.CM1 AJ ID.CM1 cake PN.PIVOT Li P2
 kay Joy.
 PN.CM2 Joy
 ‘AJ will buy cake from Li for Joy.’ (LV)
- d. I-bi-bili ni AJ ng keyk mula kay Li
 CV CONT-buy PN.CM1 AJ ID.CM2 cake P1 PN.CM2 Li
 si Joy.
 PN.PIVOT Joy
 ‘AJ will buy cake from Li for Joy.’ (CV)

▷ Analogous to the mapping seen in relativization (13),

- ▷ In AV, the EA is marked in a special marker labeled as ‘pivot’ (13a).
- ▷ In PV: the IA bears the marker (13b).
- ▷ In LV: the locative bears the marker (13c).
- ▷ In CV: the benefactor bears the marker (13d).

(14) *Philippine-type alignment*

| | a. AV | b. PV | c. LV | d. CV |
|-------------------|-----------------|-----------------|-----------------|-----------------|
| external argument | Pivot | CM ₁ | CM ₁ | CM ₁ |
| internal argument | CM ₂ | Pivot | CM ₂ | CM ₂ |
| locative | P ₁ | P ₁ | Pivot | P ₁ |
| benefactor | P ₂ | P ₂ | P ₂ | Pivot |

- (15) a. **Pivot**: the morphological marking on the sole phrase in a clause eligible for \bar{A} -extraction
 b. **CM₁**: the morphological marking on non-pivot external arguments
 c. **CM₂**: the morphological marking on non-pivot internal arguments
 d. **P₁/P₂**: prepositions marking different types of adjuncts

(16) *Key traits of Philippine-type voice*

- a. **Articulated verbal morphology**: Four-way affixal morphology alternates based on the choice of the pivot, including options for taking non-core phrases as pivots.

- b. **A syntactically pivotal phrase**: In each finite CP, there must be one and only one phrase designated the pivot. Regardless of its grammatical relation or thematic role, the pivot bears a specific morphological marking and/or occupies a specific linear position.
- c. **Status of nonpivot phrases**: Nonpivot phrases are not syntactically demoted and carry a fixed case-marking.
- d. **Fluid extraction restriction**: \bar{A} -extraction (relativization, including pseudo-clefting) is limited to the pivot phrase of a given clause.
- e. **One-to-many mapping between voice and pivot selection**: the mapping between voice choice and pivot designation reflects a mechanism sensitive to both the relative structural height of the pivot compared to other DPs in the clause (see §3 for details).

- **The well-known debate**: How does voice alternation (14a–d) enable pivot-marking to fall on various types of core arguments and adjunct-like phrases?

⊗ The core questions

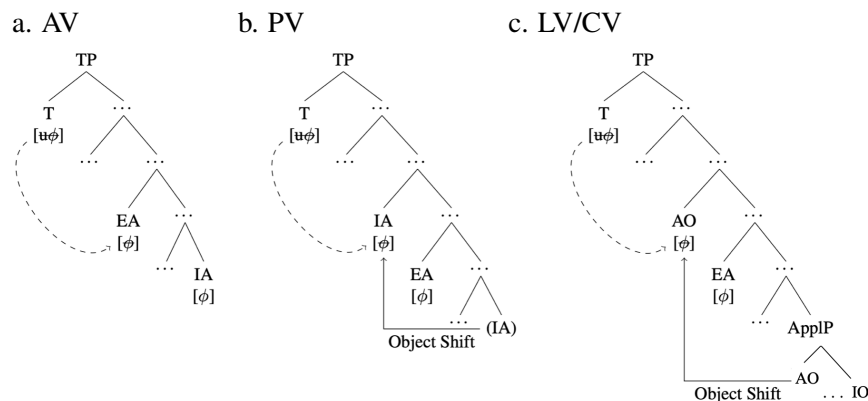
- ▷ What does pivot-marking realize?
- ▷ What’s the nature of the four-way morphology (AV/PV/LV/CV)?
- ▷ What gives rise to the fluid constraint in \bar{A} -extraction (12)?

(17) Geographical distribution of Philippine-type voice

2.1 The A-approach to Philippine-type voice (ergative view)

- ‘Pivot’ marks absolutive case from T, available to the highest DP (Payne 1982; Mithun 1994; Aldridge 2004, 2012, 2017 et seq.)
 - The ‘pivot-only’ constraint in \bar{A} -extraction is an absolutive-only restriction.
 - ‘Philippine-type alignment’ manifests syntactic ergativity.
 - Voice is valency-indicating morphology hosted within VoiceP.
 - AV affix: intransitive voice head (no EPP feature)
 - PV affix: transitive voice head with an EPP feature (driving object shift)
 - LV/CV affix: high applicative head (co-occurring with a null transitive voice head with an EPP feature)

(18) Voice alternation as argument structure alternation



- Voice indexes argument structure alternation, enabling different phrases to render the highest DP:
 - In AV (18a), the highest DP (often the EA) checks ABS case with T.
 - In PV (18b), the theme undergoes object shift and raises across the EA, rendering the highest DP.
 - In LV and CV (18c), an applied object (e.g. locative, locative, benefactive) undergoes object shift and renders the highest DP.
- **Claim:** All nonpivot phrases bear nonstructural case:
 - CM₁:** inherent ergative case from transitive Voice/v;
 - CM₂:** lexical oblique case from V (Aldridge 2004, 2012, 2017; Chang 2011, 2013)

(19) The ergative view of Philippine-type alignment

| | a. AV | b. PV | c. LV | d. CV |
|-----------------------|----------------------------|-------------------|-------------------|-------------------|
| external argument | Pivot: ABS | ERG | ERG | ERG |
| internal argument | OBL | Pivot: ABS | OBL | OBL |
| locative | P ₁ | P ₁ | Pivot: ABS | P ₁ |
| instrument/benefactor | P ₂ | P ₂ | P ₂ | Pivot: ABS |
| | intransitive / antipassive | basic transitive | tran. applicative | ditto |

2.2 The \bar{A} -approach to Philippine-type voice (accusative view)

- ‘Pivot’ is a topic marker that marks the internal topic (obligatory in finite clauses) in an ordinary accusative case system (Richards 2000; Pearson 2001, 2005; Rackowski 2002; Rackowski & Richards 2005; Chen 2017).

- **Assumption:** This marker overrides case (20), similar to topic marking in Japanese and Korean.

(20) The \bar{A} -approach to Philippine-type alignment

| | a. AV | b. PV | c. LV | d. CV |
|-----------------------|-----------------------------|-----------------------------|---------------------------------------|---------------------------------------|
| external argument | NOM Topic | NOM | NOM | NOM |
| internal argument | ACC | ACC Topic | ACC | ACC |
| locative | P ₁ | P ₁ | P_T Topic | P ₁ |
| instrument/benefactor | P ₂ | P ₂ | P ₂ | P₂ Topic |

- ⊗ Voice alternation indexes topicalization.
 - The licensing of pivot-marking is subject to *Relativized Minimality* (RM) (Rizzi 1990 et seq; Starke 2001; van Urk 2015):
 - (21) A probing feature F must Agree with the closest XP that bears F.
 - ▷ Namely, Agree ignores all XPs that do not carry an instance of the probing feature (Chomsky 2001).
 - Given RM, a topic need not render the highest DP to agree with [uTOP], and it can either be a DP or a PP.

- ▷ This is similar to *wh*-agreement: a *wh*-probe will target the closest XP with a *wh*-feature (which may be an adjunct), skipping all intervening DPs without a *wh*-feature.

(22) Wh-agreement need not targets the highest DP

- ▷ **Consensus among this family of analyses:** Philippine-type voice is hosted high in the C domain, indicating the Agree relation with [uTOP].
- ▷ **Does voice track the case of the pivot?:** Previous topic approaches to Philippine-type languages commonly assume that voice morphology inflects for the case status of the topic (Rackowski & Richards 2005; Pearson 2005).

(23) *Ā*-approach to Malagasy voice (Pearson 2005:401)

- AV affix: realization of nominative case feature of the Op
- PV affix: realization of accusative case feature of the Op
- CV affix: realization of applicative morpheme that introduces an applied object

- However, new comparative evidence indicates that Philippine-type voice does not track case.
- A revised analysis to be presented in §3.3.

⊗ **Outstanding questions:** what does the four-way morphology realize?; how does this approach account for the ‘pivot-only’ constraint in relativization?

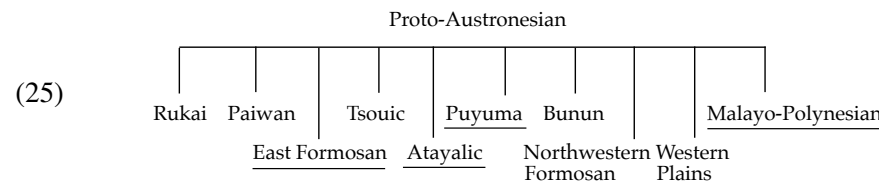
* * * * *

3 Two probes, one goal: Austronesian-type voice as the spell-out of parallel chain in an accusative system

(24) *The competing analyses: the A- vs. Ā-view of Philippine-type voice*

| | a. A-approach to PPT voice | b. Ā-approach to voice |
|--------------------------|---|----------------------------|
| Case alignment | ergative-absolutive | nominative-accusative |
| Locus of voice | within VoiceP | C domain |
| Nature of voice | Voice / applicative head | Agreement morphology |
| Pivot-marking | absolutive case from T | topic-marking |
| CM ₁ | inherent ergative case from tran. Voice | nominative case from T |
| CM ₂ | lexical oblique case from V | accusative case from Voice |
| ‘Pivot-only’ restriction | absolutive-only | topic-only |

- New data from four languages: Puyuma (*iso 639-3 pyu*), Amis (*iso 639-3 ami*), Seediq (*iso 639-3 trv*), Tagalog; each belongs to a distinct Austronesian higher-order branch.



- ▷ An examination of the distribution of CM₁, CM₂, and pivot-marking in understudied constructions lends novel support to the accusative view.

3.1 New evidence for the Ā (accusative) approach to Philippine-type voice (and against the ergative view)

3.1.1 Evidence for CM₂ as accusative (and against the oblique case view)

- Philippine-type Actor Voice clauses contains a CM₂-marked theme.

(26) *Amis*

Mi-lawup kaku **ci-Sawmah-an** inacila.
 AV-chase 1SG.PIVOT PN-Sawmah-CM₂ yesterday

‘I chased *Sawmah* yesterday.’ (Actor Voice)

- ▷ **Ergative approach:** this is an antipassive with a non-structurally case-licensed antipassive object (\Rightarrow CM₂ = lexical oblique case from V).
- ▷ **Accusative approach:** this is a true transitive with an accusative object (\Rightarrow CM₂ = accusative case from Voice).
- ⊗ Accusative and oblique case can be distinguished in three environments.
- ▷ Oblique case is licensed in Head-Comp relation along with θ -assignment

(27)

- ▷ Accusative case may be licensed either via Head-Comp relation or via Head-Spec relation across the VoiceP boundary, i.e. ECM-licensing:

(28)

- ▷ **Environment 1:** CM₂ occurs on ECM subjects in productive causatives, demonstrating a case of Head-Spec licensing across VoiceP boundary:

(29) *Amis*

∅-pa-pi-lawup kaku **ci-Sawmah-an** ci-Panay-an.
AV-CAUS-PI-chase 1SG.PIVOT **PN-Sawmah-CM₂** PN-Panay-CM₂
 ‘I made *Sawmah* chase Panay.’ (AV-marked causative)

- The construction is a biclausal causative, containing two active, independent VoicePs.

- The CM₂-marked causee c-commands the theme and behaves like an agentive EA.
- The causee shows the hallmarks of an ECM subject, located in a structural position (Spec of embedded VoiceP), where only structural accusative (and not lexical oblique case) is available.
- \Rightarrow CM₂ shows the hallmark of structural accusative
- ▷ **Environment 2:** CM₂ also appears on derived objects in raising-to-object constructions, where lexical oblique case should be unavailable.

(30) *Amis*

- a. **Ma**-fana’ kaku [∅ mi-sakilif **ci-Sawmah**
AV-know 1SG.PIVOT [C AV-lie **SG.PIVOT-Sawmah**
 ci-Kulas-an].
 PN-Kulas-CM₂]
 ‘I know that Sawmah lied to Kulas.’
- b. **Ma**-fana’ kaku **ci-Sawmah-an**_i [∅ mi-sakilif (**e.c.**)_i
AV-know 1SG.PIVOT **PN-Sawmah-CM₂** [C AV-lie (**e.c.**)_i
 ci-Kulas-an].
 PN-Kulas-CM₂]
 ‘I know that *Sawmah* lied to Kulas.’ (CM₂ on derived objects)

- Across Philippine-type Austronesian languages, ‘raising’ in RTO like the above is optional.
- The dislocated phrase (XP) in this construction shows no case connectivity.
- Matrix-dependent case marking: the XP must carry CM₂-marking when the matrix verb is in AV.
- Infelicitous to assume the derived object in RTO (either base-generated or derived via \bar{A} -movement) to be θ -licensed by the matrix verb.
- \Rightarrow CM₂ shows one other hallmark of structural accusative case

* * * * *

- ▷ **Environment 3:** CM₂ is obligatorily absent in restructuring infinitives

(31) *Amis*

Tanam-**en** aku [RI **mi**-tangtang { **k-una** / ***t-una** }
try-**PV** 1SG.CM₁ [RI **AV**-cook { **PIVOT-that** / ***CM₂-that** }
titi].
pork]

‘I will try to cook that pork.’

→ Within a restructuring infinitive (RI), the verb must bear AV-marking.

→ Despite the local verb in AV-marking, the embedded theme must carry pivot-marking where the matrix clause is in PV (31).

⇒ The local AV-marked verb is incapable of CM₂-licensing.

⇒ CM₂ must not be lexical oblique case, which is available in the RI

⇒ Its absence follows from the accusative case analysis.

▷ Defective Voice incapable of accusative-licensing (Wurmbrand 2001 et seq.).

▷ Same distribution of CM₂ in 19 other Philippine-type languages.

* * * * *

⊗ **Conclusion:** CM₂ marks accusative (and not oblique) case; AV clauses are true transitives.

→ The baseline assumption of the ergative view – that the AV and the PV are distinguished by transitivity – cannot be maintained.

3.1.2 Evidence for CM₁ as nominative (and against the ergative view)

- Philippine-type Patient Voice clauses contains a CM₁-marked EA:

(32) *Tagalog*

K<in>urot **ni** **AJ** si Lily.
pinch<PV.PRF> **PN.CM₁** **AJ** PN.PIVOT Lily

‘AJ pinched Lily’.

(Patient Voice)

- ▷ **Ergative approach:** the construction is an ergative-aligned transitive; the EA is licensed with inherent ergative case from transitive Voice (CM₁ as inherent ergative case):

(33)

- ▷ **Accusative approach:** this is a transitive clause with a nominative EA (CM₁ as nominative).

⊗ CM₂ shows two hallmarks of nominative case.

- ▷ **Trait 1:** CM₁ is not restricted to EA positions

- Unaccusative themes are accessible to CM₁, as are EAs in unergatives/-transitives:

(34) *Tagalog*

a. Ni-lakar-an **ni** **Ivan** ang daan.
PRF-walk-LV **PN.CM₁** **Ivan** PIVOT road
‘Ivan walked on the road.’ (CM₁ on unergative agent)

b. H<in>ulug-an **ni** **Ivan** ang swimming pool.
fall<PRF>LV **PN.CM₁** **Ivan** PIVOT swimming pool
‘Ivan fell into the swimming pool.’ (CM₁ on unacc. theme)

(35) *Seediq*

a. P-puyas-an **na** **laqi** ka sapah=mu.
IRR-sing-LV **CM₁** **child** PIVOT house-1SG.POSS
‘The children will sing in my house.’ (CM₁ on unerg. agent)

b. H-huqil-an **na** **riso** **nii** ka Paran.
IRR-die-LV **PN.CM₁** **young.man** **this** PIVOT Paran
‘This young man will die in Paran.’ (CM₁ on unacc. theme)

- ▷ **Trait 2:** CM₁ is unique per CP and restricted to the highest DP
 - CM₁ is unique per CP and restricted to the highest DP (36); unlike ergative case in various languages, which may appear on multiple agentive arguments within the same clause (37):

(36) *Ergative case on multiple agents within the same clause*a. *Trumai (Isolate)*

Alaweru-k hai-ts axos-∅ disi-ka.
 Alaweru-ERG 1sg.[ERG]child-ABS hit-CAUS

‘Alaweru made *me* hit the child.’ (Guirardello 1999:302)

b. *Macushi (Cariban)*

Imakui'pî kupî jesus-ya emapu'tî yonpa-'pî makiu-ya teuren.
 bad do Jesus-ERG CAUS try-PST Satan.[ERG]frust

‘S unsuccessfully tried to make *J* do bad.’ (Abbott 1991:40)

(37) *CM₁ as unique per clause and restricted to the highest DP*a. *Amis*

Sa-pa-pi-nengneng aku tu/*nu ising k-una pusi.
 CV-CAUS-PI-see 1SG.CM₁ ACC[*CM₁]doctor PIVOT-that cat

‘I will ask *the doctor* to look at the cat.’

b. *Seediq*

S-p-tinun=mu ∅/*na robo ka lukus.
 CV-CAUS-weave=1SG.CM₁ ACC/*[CM₁]Robo PIVOT clothes

‘I asked *Robo* to sew the clothes.’

c. *Tagalog*

I-p<in>a-nakaw=ko kay/*ni AJ ang kotse.
 CV-CAU<PRF>-steal=1SG.CM₁ PN.ACC/*[PN.CM₁]AJ PIV car

‘I asked *AJ* to steal the car.’

⇒ This locality-sensitive distribution argues against the inherent ergative case view of CM₁, but follows from a nominative analysis.

- Same distribution found across Philippine-type languages (Chen 2017).

3.1.3 ‘Pivot’ as a marker independent of case

- ▷ The observation so far: CM₁ and CM₂ marks nominative and accusative case, respectively.

(38) *Philippine-type alignment*

| | a. AV | b. PV | c. LV | d. CV |
|-------------------|----------------|----------------|----------------|----------------|
| external argument | Pivot | NOM | NOM | NOM |
| internal argument | ACC | Pivot | ACC | ACC |
| locative | P ₁ | P ₁ | Pivot | P ₁ |
| benefactor | P ₂ | P ₂ | P ₂ | Pivot |

- ▷ Given that CM₁ marks the nominative, ‘pivot’ should not realize the same case (i.e. structural case from T or a certain head).

- ▷ This calls into question the traditional view that ‘pivot’ is a subject marker, realizing ABS/NOM case assigned to a derived A-position.

- ⊗ Productive causatives provide an ideal testing ground for examining the absolutive case view of pivot-marking.

(39) *Productive causatives: mapping between voice and case*

| | a. AV | b. PV | c. CV |
|--------|--------------|--------------|--------------|
| Causer | Pivot | NOM | NOM |
| Causee | ACC | Pivot | ACC |
| Theme | ACC | ACC | Pivot |

- ▷ The constructions are morphologically identical except voice-marking.

- ▷ If ‘pivot’ marks the absolutive, there should be argument structure alternation between PV- and CV-marked causatives, so that ‘pivot’ marking skips the causee and mark the theme (alleged applied object).

- ⊗ Binding facts reveal that the alleged argument structure alternation is absent.

- The causee asymmetrically binds the theme regardless of voice (40)–(41):

⇒ Theme pivot bound by an agentive, accusative-marked causee (41)

⇒ The licensing of pivot-marking does not respect locality.

(40) *Tagalog*

- a. I₁-p<in>a-li-linis=ko kay Juan **ang**
 CV₁-CAUS<PRF>RED-clean=1 SG.NOM PN.ACC Juan **CN.PIVOT**
kanya-ng sarili.
3SG-POSS REFL
 ‘I asked Juan_i to clean *himself*_i.’
- b. P<in>a-pa-ligo=ko si AJ **ng**
 CAUS<PV>.PRF>-RED-bathe=1 SG.NOM PN.PIVOT AJ **ID.ACC**
sarili niya.
REFL 3SG
 ‘I am making *AJ* bathe himself.’

(41) *Puyuma*

- a. Ku=pa-saletra’-**anay** kan sawagu **tayta’aw.**
 1 SG.NOM=CAUS-slap-**CV** SG.ACC Sawagu **3SG.REFL.PIVOT**
 ‘I asked Sawagu_i to slap *himself*_i.’
- b. Puyuma
 Ku=pa-saletra’-**aw** i sawagu **kanta’aw.**
 1 SG.NOM=CAUS-slap-**PV** SG.PIVOT Sawagu **3SG.REFL.ACC**
 ‘I asked *Sawagu* to slap himself.’

→ The invariable binding pattern unaffected by voice alternation indicates that pivot is a marker independent of case.

→ ‘Pivot’ does not mark absolutive, and is likely to be a marker for a certain information structure status (e.g. topic).

3.2 Evidence for Philippine-type voice as topic-indicating agreement morphology hosted in the C domain

3.2.1 Voice behaves like agreement morphology

▷ Voice morphology obligatorily appears on the highest verbal head per CP.

▷ All the rest of the verbal heads carry default (DEF) voice marking.

(42) *Puyuma*

- a. Ku=beray-ay na walak kana bu’ir.
 1 S.NOM=**give-LV**DEF.PIVOT child DEF.ACC taro
 ‘I gave the child the taro.’
- b. Ku=talam-ay Ø-beray na walak kana bu’ir.
 1 S.NOM=**try-LV**DEF-give DEF.PIVOT child DEF.ACC taro
 ‘I tried to give the child the taro.’
- c. Ku=trakatrakaw-ay talam Ø-beray na walak
 1 S.NOM=**secretly-LV**DEF-try DEF-give DEF.PIVOT child
 kana bu’ir.
 DEF.ACC taro
 ‘I *secretly* tried to give the child the taro.’

▷ What does this constraint tell us?

▷ Austronesian-type voice is not valency-indicating affixes hosted within individual VoiceP.

3.2.2 The locus of voice is high

▷ Voice morphology is hosted *higher* than Aspect

○ Voice affixes insert into aspect morphology rather than the verbal stem:

(43) a. *Puyuma*

Da-deru i Atrung dra patraka.
 <AV>PROG-cook PN.PIVOT Atrung ID.ACC meat

‘Atrung is cooking meat.’ (AV)

b. *Paiwan* (Chang 2006)

Siu-siup ti Zepul nu Siaw.
 <AV>HAB-suck PN.PIVOT Zepul IRR.TEMP <AV>soup

‘Zepul sucks (it) when she eats soup.’ (AV)

- o Assuming the Mirror Principle (Baker 1985; Harley 2013) holds, this indicates Austronesian-type voice is hosted in a projection *higher* than Aspect.

▷ Since Philippine-type languages are tenseless languages, this insertion fact suggests that voice is hosted high in the left periphery.

Voice morphology inflects for mood

(44) *Puyuma*

- a. Ku=beray-ay i Senten dra paysu.
 1S.NOM=give-[LV.IND]PN.PIVOT Senten ID.ACC money
 ‘I gave *Senten* money.’ (LV indicative)
- b. Beray-i i Senten dra paysu!
 give=[LV.IMP]PN.PIVOT ID.ACC money
 ‘(You) give *Senten* money!’ (LV imperative)

▷ Mood is standardly assumed to be hosted in the C domain (e.g. Rivero & Terzi 1995; Han 2001; Noonan 2007), suggesting voice is hosted high.

3.2.3 Philippine-type voice as topic-indicating morphology

- Old insight in the literature: Pivots behave like *topics* (see, e.g., Shibatani (1998), Richards (2000), Pearson (2001, 2005), Rackowski (2002), Erlewine (2014), Chen (2017), Paul & Massam (2020); a.o.).

⊗ Evidence from discourse: in question-answer sequences with a clear discourse topic, the topic must be placed as pivot in the answer.

(45) *Puyuma*

- a. Makakuta i Pilay uninan?
 AV.what.happen PN.PIVOT Pilay today
 ‘What did *Pilay* do today?’ (⇒ Discourse topic: Pilay)
- b. Deru (pro) dra abay.
 <AV>cook (3SG.PIVOT) ID.ACC rice.ball
 ‘*She* cooked rice balls’. (X topic: pivot-marked)

- c. *Tu=deru-aw na abay.
 3.NOM=cook-PV DEF.PIVOT rice.ball
 (intended: ‘She cooked *rice balls*.’) (7 topic: not pivot-marked)

(46) *Tagalog: four ways to answer (46a)*

- a. Na saan ang kutsara ni Lia?
 NA where PIVOT spoon PN.POSS Lia
 ‘Where is *Lia’s spoon*?’ (⇒ Discourse topic: Lia’s spoon)
 = = = = = = = = = = = =
- b. Gamit ni Lia (ang kutsara).
 use.PV PN.NOM Lia (PIVOT spoon)
 ‘Lia is using (*it/the spoon*).’ (⇒ topic: theme pivot)
- c. I-p<in>ang-ka-kain ni AJ (ang kutsara).
 CV-PANG<PRF>-RED-eat PN.NOM AJ (PIVOT spoon)
 ‘AJ is eating with (*it/the spoon*)’ (⇒ topic: instrument pivot)
- d. Na-kita=ko=[ng k<in>uha ni Ivan (ang kutsara)].
 PRF.PV-see=1SG.NOM=[LK steal<PV.PRF> PN.NOM Ivan (PIVOT spoon)]
 ‘I saw that Ivan stole (*it/the spoon*).’ (⇒ topic: embedded pivot)
- e. Na kay Peter (ang kutsara).
 NA with Peter (PIVOT spoon)
 ‘*The spoon* is with Peter.’ (⇒ topic: existential pivot)

* * * * *

3.3 Proposal: symmetrical voice as the spell-out of parallel chain

- (47) *Main claim: ‘Philippine-type alignment’ is an illusion*
 - a. It is the outcome of prominent topic-marking overriding case
 - b. Philippine-type voice is Type II morphology that indexes the A-relation of topics and REL-phrases.

▷ **The design of Philippine-type languages**

- (a) **[u φ] on T**, probing the highest DP (i.e. subject).
- (b) **[u φ] on matrix Voice**, probing the closest DP (i.e. DO).
- (c) **A specific type of P** that selects only locative phrases.
- (d) **[u \bar{A}] on C**: a flat \bar{A} -probe that can be satisfied by either [TOP] or [REL], sat on a head distinct from T, labelled as C for simplicity.
- (e) **Parallel chains are spelled out**: where any of the two probes form a parallel chain, that chain is spelled out as verbal morphology.

▷ **Proposal**: Where a phrase is probed simultaneously by [u \bar{A}] and by (a), (b), or (c), the parallel chain is spelled out as a voice affix.

(48) *Parallel chain formation*

Two chains α and β are related by parallel chain formation iff:

- i. Tail (α) = Tail (β), and
- ii. Head (α) \neq Head (β) (Kandybowicz 2008:115)

▷ Namely, when a topic/REL-phrase agrees also with [u φ] (either on T or Voice), the parallel chain is spelled out as voice morphology.

▷ Each combination below is spelled out as a specific verbal affix:

| | |
|----|---|
| AV | spell-out of the parallel chain formed by (a) and (d) |
| PV | spell-out of the parallel chain formed by (b) and (d) |
| LV | spell-out of the parallel chain formed by (c) and (d) |
| CV | spell-out of the Agree relation with (d) |

\Leftrightarrow Voice indexes the parallel chains formed by (abstract) **topic agreement** and (a) **subject agreement**, (b) **object agreement**, (c) **locative agreement**, or (d) **nothing else**, respectively.

⊗ **The big picture**

- “AV” occurs when the pivot is the highest DP per CP
- “PV” occurs when the pivot is the 2nd highest DP
- “LV” occurs when the pivot is a locative phrase
- “CV” occurs when the pivot is something else (e.g. low DPs, adjuncts)

(49) *AV: When the topic is also the **subject***

(50) *PV: When the topic is also the **DO (2nd highest DP per CP)***

(51) *LV: When the topic is also the **locative***

(52) A VOICE HIERARCHY

- a. AV > PV > CV
- b. LV is thematic-role oriented (temporal/locative-specific)

(53) Mapping between voice and pivot selection

| | AV | PV | LV | CV |
|-----------------------|-------------------|-------------------|-------------------|------------------------|
| Unergatives | external argument | * | locative phrase | non-locative adjuncts |
| Unaccusatives | internal argument | * | locative phrase | non-locative adjuncts |
| Transitives | external argument | internal argument | locative phrase | non-locative adjuncts |
| Productive causatives | causer | causee | locative phrase | theme |
| Ditransitives | external argument | recipient | goal | theme |
| Control constructions | controler | controllee | n/a | theme |
| SVC | external argument | internal argument | locative phrase | non-locative adjunct |
| Generalization | pivot as subject | pivot as DO | pivot as locative | pivot as anything else |

⊗ **Key generalizations**

- ▷ Voice does not inflect for case (contra Rackowski & Richards 2005).
 - Accusative-marked themes may trigger either PV or CV morphology, depending on its relative structural height.
 - There’s counter-evidence for triggers of LV and CV as always involving applicativization (contra Rackowski & Richards 2005).
- ▷ Voice-marking does *not* change the argument structure of a clause.
- ▷ Instead, it indicates the *relative structural height* of the pivot/topic with other phrases in the same clause.

3.3.1 Actor Voice

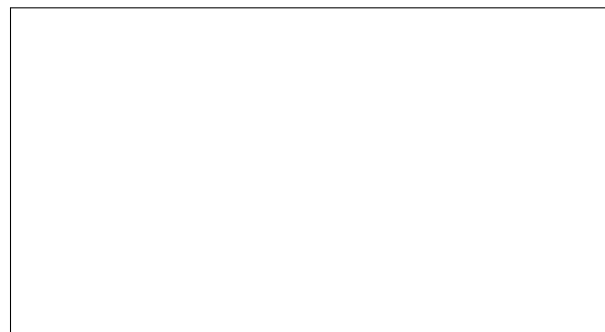
- ⊗ “AV” morphology patterns with abstract subject agreement in distribution
- ⊗ Possible triggers of AV are the highest DP per clause, including:
 - EAs in unergatives, transitives, ditransitives, causatives, and controls
 - IAs in unaccusatives and detransitives

(54) *Puyuma*

- a. M-*u*-arak na walak i arasip.
AV-dance DEF.PIVOT child LOC Arasip
 ‘Atrung danced in Arasip.’ (AV unergative)
- b. M-*e*-kan na bangsaran dra patraka.
AV-eat DEF.PIVOT young.man ID.ACC meat
 ‘The young man ate some meat.’ (AV transitive)
- c. M-*u*-e-kan na patraka.
AV-DETR-eat DEF.PIVOT meat
 ‘The meat was eaten up.’ (AV detransitive)
- d. M-*in*>atray na bangsaran.
AV<PRF> DEF.PIVOT young.man
 ‘That young man died.’ (AV unaccusative)

- ⊗ **Proposal:** “AV” affix is the spell-out of the parallel chain formed by **the Agree relation with [uĀ]** and that with **[uφ] on T**

(55) *AV: When the subject is also the topic*



- ▷ **Consistent with the facts above . . .**
 - ▷ Intransitives of any type can be marked in AV.
 - ▷ Embedded EAs (e.g. causees, controllees) cannot trigger AV agreement (as they are not the highest DP per CP) (see §3.1.3).

3.3.2 Patient Voice

⊗ “PV” morphology patterns with abstract object agreement in distribution

⊗ Possible triggers of PV are the 2nd highest DP per clause, including:

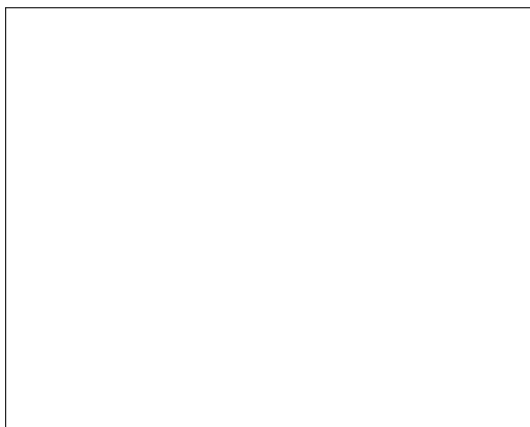
- **IAs** in simple transitives (56a)
- **Causees** (56b), **controllee**, **recipients in DOCs** (56c)
- **But not:** themes in causatives/DOCs/controls (lower DPs)

(56) *Amis*

- a. Tangtang-**en** ni Lisin **k-u** titi.
 cook-**PV** PN.NOM Lisin **PIVOT-that** pork
 ‘Lisin will cook *that* pork.’ (PV transitive)
- b. Pa-pi-takaw-**en** aku **k-una** wawa t-una paysu.
 CAUS-PI-steal-**PV** 1SG.NOM **PIVOT-that** child ACC-that money
 ‘I will ask *that* child to steal that money.’ (PV causative)
- c. Pafeli-**en** aku **k-una** wawa t-una paysu.
 give-**PV** 1SG.NOM **PIVOT-that** child ACC-that money
 ‘I gave *the* child that money.’ (PV ditransitive)

⊗ **Proposal:** “PV” affix is the spell-out of the parallel chain formed by **the Agree relation with [u \bar{A}]** and that with [u φ] **on matrix Voice**

(57) *PV: When the DO is also the topic*



▷ Key evidence

- Intransitives cannot be marked in PV (since they have no *objects*).
- (Abstract) object agreement is also assumed to be **unique per clause** and target only the **2nd highest DP** – i.e. highest DP below matrix Voice – and not any other co-occurring objects (Baker 2012; Deal 2019), e.g.:

(58) *Amharic object agreement*

a. *Ditransitive*

Ləmma **l-Almaz** məs’əhaf-u-n sət’t’-at.
 Lemma **DAT-Almaz** book-DEF-ACC give-(3MS)-**3FO**
 ‘Lemma gave the book to *Almaz*.’ (Baker 2012:258)

b. *Productive causative*

Aster was-a-n as-metaitf-ññ.
 Aster ball-DEF.ACC CAUS-hit-3FEM.S-**1SG.O**
 ‘Aster made *me* kick the ball.’ (Duncan & Aberra 2009)

→ In DOC, object agreement probes the **recipient** and not the theme.

→ In causatives, object agreement probes the **causee** and not the theme.

3.3.3 Locative Voice

⊗ “LV” morphology is linked specifically to temporal/locative pivots.

⊗ Possible triggers of LV are restricted to locative phrases, including:

- Locative adjuncts in any constructions (59a–b)
- Sources/goals in prepositional datives (59d)

(59) *Paiwan* (Ferrell 1969:202; Chang 2006:195, 74)

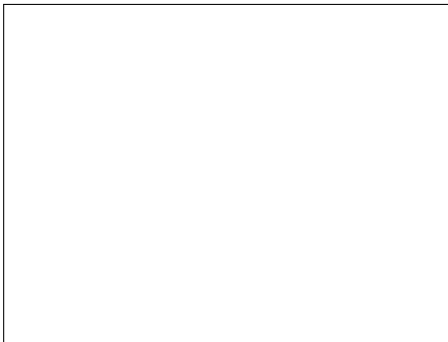
- a. Qalup-**an** nua caucau tua vavuy **a** gadu.
 hunt-**LV** NOM man ACC pig **PIVOT** mountain
 ‘The man hunts while pigs in *the* mountains’ (LV transitive)

- b. P<in>a-pana'-an a icu a i maza ni palang
 CAU<PRF>-shoot-LV PIVOT this LK LOC here PN.NOM Palang
 tay kui ta zua venan.
 PN.ACC Kui ACC that deer
 'Palang made Kui shoot that deer *here*.' (LV causative)
- c. <in>aLap-an ti zepul ta za paysu ni lavakaw.
 <PRF>take-LV PN.PIVOT Zepul ACC that money NOM Lavakaw
 'Lavakaw took money from *Zepul*.' (LV ditransitive)

⊗ **Proposal:** “LV” affix is the spell-out of the parallel chain formed by the Agree relation with [$u\bar{A}$] and that with P_{Loc} (60).

- **Supporting evidence:** Locative phrases in various Philippine-type languages are marked with a specific preposition *i* that does not mark other types of adjuncts.

(60) *LV: When the locative is also the topic*



3.3.4 Circumstantial Voice

- ⊗ “CV” morphology does not pattern with any type of A-agreement in distribution.
- ⊗ Possible triggers of CV are low DP or non-locative adjuncts, including:
 - DPs that are structurally low (61a–c)
 - Non-locative adjuncts (61d–f)

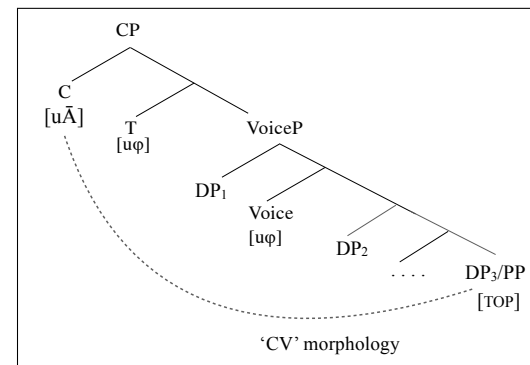
⇒ “CV” functions like a last resort voice that shows one-to-many relation with various types of adjunct.

(61) *Paiwan*

- a. Si-qihul=si' hiya' 'i' Ø-pa-patas ku' ruas.
 CV-force=2SG.NOM 3SG.ACC LK AV-CAUS-write PIVOT book
 'You forced him to read *the book*.' (CV controls)
- b. Ku=s<in>i-pa-'alup tay palang a icu a
 1 SG.NOM=CV<PRF>-CAUS-hunt ACC Palang PIVOT this LK
 vavuy.
 boar
 'I made Palang hunt *this wild pig*.' (CV causatives)
- c. 'u-s<in>i-vaik a qaljup ta vavuy ti Kapi.
 1 S.NOM=CV PRF-GO LK <AV> ACC wild.pig PIVOT Kapi
 'I went hunting wild pigs with *Kapi*.' (CV SVCs)
- d. 'u-s<in>i-patagilj=anga=sun a sapay ta
 1 SG.NOM=CV PRF-begin=COS=2S.PIVOT LK <AV>cultivate ACC
 kaitang.
 field
 'I have started to cultivate the field for *you*.' (CV transitives)

⊗ **Proposal:** “CV” as the last resort voice: it's the spell-out of the Agree relation with [$u\bar{A}$] (when the goal agrees with no other probe).

(62) *CV: When the topic is none of the above*



3.4 Interim conclusion

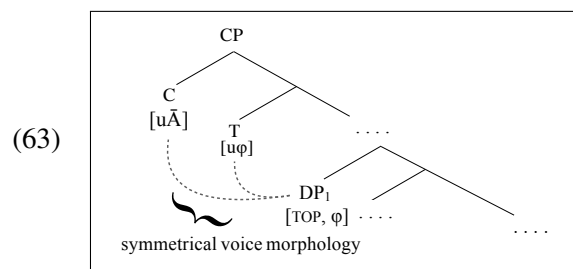
- ⊗ Austronesian-type voice is the spell-out of parallel chains that track the Agree relations probing topics and REL-phrases.
 - “AV” best characterized as **subject topic construction**
 - “PV” best characterized as **object topic construction**
 - “LV” best characterized as **locative topic construction**
 - “CV” best characterized as a **last resort construction**
- ⇒ These languages show the hallmarks of *discourse-configurationality* in the sense of Lee & Thompson (1980), É. Kiss (1995), and Miyagawa (2009, 2017).

4 Austronesian-type voice and its variation beyond Austronesian

▷ How unusual is this design?

- Similar voice systems in western Nilotic and Caucasian
 - Symmetrical voice is the spell-out of parallel chain
 - Symmetrical voice systems show various loci of variation

⊗ If symmetrical voice is indeed the spell-out of parallel chain, as in (63):



Prediction: How would voice behave . . .

- **Variation 1:** Which parallel chains being spelled out as voice
- **Variation 2:** Which type of case alignment co-occurs with voice
- **Variation 3:** Which types of \bar{A} -operation triggers voice morphology
- **Variation 4:** Where the probes triggering the chain are located

* * * * *

4.1 Variations 1–3: Voice distinction, case alignment, and extraction constraints

4.1.1 Number of voice: which chains are spelled out as voice?

Symmetrical voice in Kumuk and Dinka (western Nilotic)

- Three-way verbal morphology indexing the grammatical role of the topic: subject || DO || others
- Nominative-accusative-style case alignment
- A ‘last resort’-type third voice (‘oblique topic construction’)
- Voice morphology present on the highest verbal head with default marking on all lower heads (similar to Austronesian)
- Same set of voice morphology present in several types of \bar{A} -operations.

(64) a. *Kurmuk*

táarák ¹bóor-ú dɛɛl kà ɲiɾ.
 person skin-PST.SUBJ.T goat PREP knife

‘The man skinned a goat with a knife.’ (subject topic)

b. dɛɛl bóor-út-**I** ɲà táarák kà ɲiɾ.
 goat skin-PST-**OBJ.T** NOM person PREP knife

‘The man skinned *the* goat with a knife.’ (object topic)

c. ɲiɾ bóor-út-**”I** dɛɛl ɲà táarák
 knife skin-PST-**OBL.T** goat NOM person

‘The man skinned a goat with *the* knife.’ (oblique topic)

(Anderson 2015: 510)

- ▷ Verbal morphology inflects for the choice of the topic (64)–(65)

(65) *Dinka*

- a. **Áyén** à-càm cuḥin nẹ pǎal.
Ayen 3s-eat.SV food P knife
'Ayen is eating food with a knife.' (subject voice/topic)
- b. **Cuḥin** à-céem Áyèn nẹ pǎal.
food 3s.eat-OV Ayen.GEN P knife
'Ayen is eating *the food* with a knife.' (object voice/topic)
- c. **Pǎal** à-céemè Áyèn cuḥin
knife 3s-eat.OBLV Ayen.GEN food
'Ayen is eating food with *a knife*.' (oblique voice/ (topic)
(van Urk 2015: 61)

- ▷ Genuine voice affix shown on the highest verbal head; all the rest carry default voice (similar to Philippine-type voice)

(66) *Dinka*

- a. Cuḥin à-céem Áyèn nẹ pǎal.
food 3s-**eat.OV** Ayen.GEN P knife
'Ayen is eating *the food* with a knife.' (Object Voice)
- b. Cuḥin à-dóoc Ból câam
food 3s-**do.quickly.OV** Bol.GEN **eat.NF**
'Bol is eating *the food* quickly.' (Object Voice)
- c. Cuḥin a-cíi Áyèn [vP **câam** nẹ pǎal].
food 3s-**PRF.OV** Ayen.GEN **eat.NF** P knife
'Ayen has eaten *the food* with a knife.' (Object Voice)
(van Urk 2015: 61, 84, 96)

- ▷ Voice morphology present in two other types of \bar{A} -operations:

(67) *Dinka*

- a. *Subject wh-question*
Yè ḡà **cé** cuḥin câam?
be who PRF.SV food eat.NF

'Who has eaten the food?' (van Urk 2015:96)

b. *Subject relativization*

tíḡ [CP **cé** Ból tíḡ]
woman.CS [**PERF.SV** Bol see.NF]
'*the woman* that has seen Bol' (van Urk 2015:97)

c. *Object wh-question*

Yè ḡó **cíi** Ból câam?
be what **PRF.OV** Bol.GEN eat.NF
'What has Bol eaten?' (van Urk 2015:98)

d. *Object relativization*

tíḡ [CP **cíi** Ból tíḡ]
woman.CS [**PERF.OV** Bol.GEN see.NF]
'*the woman* that Bol has seen' (van Urk 2015:97)

⇒ This voice morphology shares core traits with Philippine-type voice (van Urk 2015; Erlewine et al. 2017) and may well be the spell-out of parallel chain.

o Symmetrical voice in Abaza (Caucasian)

- o Symmetrical voice co-occurring with **ergative case alignment**
- o At least five-way morphology indexing the grammatical role of *wh*-phrases: subject || non-subject || various types of adjuncts
- o Known as '*wh*-agreement' in the literature
- o A similar "last resort" voice: various types of non-absolutive DP sharing the same voice morphology
- o Relativization sharing the same set of voice morphology

(68) *Abaza*

- a. [awaʔa j-ʕa-ta-ʕa-k^wa-z]
there **REL.SUBJ**-CSL-LOC-remain-PL-PST.NFIN
'those who remained there' (Subject RC (S))

- b. [a-ph^wəspa j-lə-s-tə-z]
 DEF-girl REL.SUBJ-3SG.F.IO-1SG.ERG-give-PST.NFIN
 a-ça
 DEF-apple
 ‘the apple I gave to the girl’ (Subject RC (O))
- c. [a-ph^wəspa ça lə-z-tə-z] a-ç’k^wən
 DEF-girl apple 3SG.F.IO-REL.NSUBJ-give-PST.NFIN DEF-boy
 ‘the boy who gave an apple to the girl’ (Nonsubj RC (A))
- d. [ça z-s-tə-z] a-ph^wəspa
 apple REL.NSUBJ-1SG.ERG-give-PST.NFIN DEF-girl
 ‘the girl whom I gave an apple’ (Nonsubj RC (IO))
- e. d-h^wa
 3SG.H.ABS-say(IMP)
 [jəz-zə-b-χ^wʔa-z]
 3SG.N.ABS-REL.NSUBJ-BEN-2SG.F.ERG-buy-PST.NFIN
 ‘Say whom you bought it for!’ (Nonsubj RC (AO))
- f. [a-karbəʒ’-k^wa ʔa-də-r-baχ-wa-z]
 DEF-brick-PL REL.LOC-3PL-ERG-CAUS-dry-IPF-PST.NFIN
 a-bač
 DEF-shed
 ‘the shed where bricks are made’ (Locative RC)
- g. [l-an d-an-ʔa-j-χ] asqan
 3SG.F.IO-mother 3SG.H.ABS-REL.TMP-CSL-go-RE DEF.time
 ‘at the time when her mother came back’ (Temporal RC)
- h. [d-š’š’ʔa-z] a-pš-ta
 3SG.H.ABS-REL.MNR-lie-PST.NFIN 3SG.N.IO-be.like-ADV
 d-š’ʔalχə-n
 3SG.H.ABS-lie.down-RE-PST.FIN
 ‘He lay down like he lay before.’ (Manner RC)
 (Arkadiev & Caponigro 2020:6,7)

→ The same verbal morphology (*j-*) used for both S and O (i.e. subject) relativization.

→ Relativization of non-subject DPs (A/IO/AO) share a distinct affix (*z-*).

→ Extraction of different types of adjuncts employ different extraction affixes.

⇒ This morphology also shares the key traits with Philippine-type voice (Baier 2018) and may also be analyzed as the spell-out of parallel chain.

⊗ The exact parallel chains that trigger symmetrical voice morphology differ across Dinka, Abaza, and Philippine-type Austronesian languages.

(69) *A mini typology of voice distinctions*

| | Subjects | Direct objects | Lower DPs | Locatives | Other adjuncts |
|--------------|----------|-----------------------------|-----------|-----------|---------------------|
| Austronesian | Voice 1 | Voice 2 | Voice 4 | Voice 3 | Voice 4 |
| Dinka/Kurmuk | Voice 1 | Voice 2 | ? | | Voice 3 |
| Abaza | Voice 1 | Voice 2 (ERG and other DPs) | | Voice 3 | (many other Voices) |

⊗ The exact types of \bar{A} -operation that trigger symmetrical voice morphology differ across Dinka, Abaza, and Philippine-type Austronesian languages (Potsdam 2006, 2009 et seq.; van Urk 2015; Arkadiev & Caponigro 2020).

| | |
|-------------------|--|
| (70) Austronesian | topicalization, relativization (including <i>wh</i> -clefts) |
| Dinka (Nilotic) | topicalization, relativization, <i>wh</i> -questions |
| Abaza (Caucasian) | relativization, <i>wh</i> -extraction |

→ Abaza voice present in both *wh*-extraction and relativization:

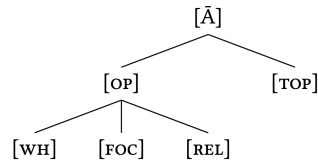
(71) *Abaza* (Arkadiev & Caponigro 2020:70,10)

- a. j-ʔa-ka-šá-da?
 WH.SUBJ-CISL-LOC-fall(AOR)-QH
 ‘Who fell?’ (Subject *wh*-question (ABS S))
- b. j-ʔá-b-g-ja?
 WH.SUBJ-CISL-2SG.F.ERG-bring(AOR)-QN
 ‘What did you bring?’ (Subject *wh*-question (ABS O))
- c. w-ʔa-z-rə-há-ja?
 2SG.M.ABS-CISL-WH.NSUBJ-CAUS-FEAR(AOR)-QN
 ‘What frightened you?’ (Non-subj *wh*-question (ERG A))
- d. ʒca z-la-r-fa-wa-ja?
 soup WH.NSUBJ-ins-3pl.erg-eat-ipf-qn
 ‘What do they eat soup with?’ (Non-subj *wh*-question (AO))

- e. h-an-ba-ta-də-r-č'a-γ-wa-š?
 IPL.ABS-WH.TMP-Q.ADV-REP-3PL.ERG-CAUS-eat.ITR-RE-IPF-FUT
 'When will they feed us again?' (Temporal *wh*-question)

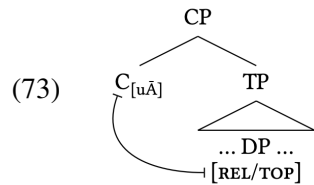
▷ **Existing proposal:** \bar{A} -operations in some languages may be driven by a single, flat \bar{A} -probe – as proposed previously by for Dinka and for several Bantu languages (Kuno 1973; Miyagawa 2010; van Urk 2015).

(72) \bar{A} -feature Geometry
 \bar{A} -features ([WH], [REL], [FOC], [TOP]) are hierarchically arranged. Probes may be relativized to different places on this hierarchy. (Aravind 2018; Baier 2018)



▷ That is, a probe may be satisfied by an \bar{A} -feature (represented [u \bar{A}]), or a feature lower down on the hierarchy, like [REL].

⊗ I argue that the apparent extraction constraint derives from topicalization and relativization as driven by a single, flat, \bar{A} -probe (73).



⇒ In this view, ‘pivot-only’ is essentially not an *extraction constraint*, but the same set of agreement morphology shared by topicalization and relativization.

▷ See van Urk (2015) and Miyagawa (2009) for the same solution for Dinka’s and Kinande’s extraction restriction.

Prediction: how would pivots behave . . .

- **Variation 4:** Whether pivots behave like both an \bar{A} - and A-element

- **Variation 5:** Whether the Agree relations involved also trigger ϕ -feature agreement
- **Variation 6:** Whether pivot \bar{A} -moves (as the outcome of Agree)

Prediction: how would symmetrical voice evolve . . .

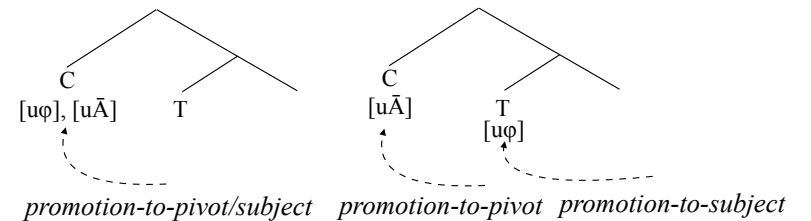
- **Variation 7:** whether the grammaticalization of *topic* > *subject* has taken place

4.2 Variation 4: the locus of [u \bar{A}] and [u ϕ]

▷ Symmetrical voice languages vary regarding the locus of the probes that form parallel chains

(74) *Variation in the locus of the \bar{A} and ϕ -probe*

- a. Dinka
- b. Philippine-type Austronesian languages



- ▷ Dinka has been shown to lack the A/ \bar{A} distinction, where the flat \bar{A} -probe and the ϕ -probe are hosted on the same head.
- ▷ Contra Dinka, Philippine-type Austronesian languages demonstrate a clear A/ \bar{A} -distinction, where promotion-to-pivot shows \bar{A} - and no A-properties:

(75)

| | Dinka | Philippine-type AN languages |
|---|-------|------------------------------|
| a. Reconstruction for Principle C (\bar{A} property) | 7 | X |
| b. New antecedents for anaphors (A-property) | X | 7 |
| c. No Weak Crossover effects (A-property) | 7 | X |

▷ a. Reconstruction for Principle C(76) *Dinka: pivots do not reconstruct**Ròt-dè_i à-nhiéer Bòl_i.
self-SG.3SG 3S-love.OV Bol.GEN(intended: ‘Bol loves *himself*.’) (Object Voice)(77) *Philippine-type AN languages: pivots reconstruct*a. *Amis*Ma-palu ni Kulas cingra tu.
PV-beat PN.NOM Kulas 3SG.PIVOT REFL‘Kulas hit *himself*.’ (Patient Voice)b. *Tagalog*Hindi p<in>igil ni Lia ang sarili niya (na
NEG <PV.PRF>control PN.NOM Lia PIVOT self 3SG.POSS (LK
k<um>ain).
eat<AV>)‘Lia cannot stop *herself* from eating.’ (Patient Voice)c. *Seediq*S<n>pi na Watan ka heya nanaq.
dream<PRF.PV> PN.NOM Watan PIVOT 3SG REFL‘Watan dreamt of *himself*.’ (Patient Voice)d. *Puyuma*Tu=karatr-aw tayta’aw kan Pilay.
3.NOM=bite-PV 3SG.PIVOT.REFL DEF.NOM Pilay‘Pilay hit *herself*.’ (Patient Voice)▷ b. New antecedent for anaphors(78) *Dinka: promotion to pivot creates a new binder for anaphors*Bòl_i à-cí [DP thùrá è ròt-dè_i] nyòth [CP kè cùukù
Bol 3S-PRF.OV picture P self-SG.3SG show.NF C PRF.1PL
tùŋ].
see.NF‘*Bol*, a picture of himself has shown that we have seen.’ (Object
Voice)

(van Urk 2015:111)

(79) *Philippine-type AN languages: promotion-to-pivot creates no new
binder for anaphors*a. *Amis**Ma-palu nira tu ci kulas.
PV-beat 3SG.NOM REFL CN.PIVOT Kulas(intended: *Kulas*, himself has hit.’) (Patient Voice)b. *Puyuma**Tu=karatr-aw kantaaw i pilay.
3.NOM=bite-PV 3SG.NOM.self PN.PIVOT Pilay(intended: ‘*Herself* has hit *Pilay*.’) (Patient Voice)c. *Seediq**S<n>pi na heya nanaq ka Watan.
dream<PRF.PV> NOM 3SG REFL PIVOT Watan(intended: ‘*Himself* dreamt of *Watan*.’) (Patient Voice)d. *Tagalog*Sa-sampal-in ng kanyang sarili si Juan.
CONT-slap-PV ID.NOM 3SG REFL(intended: *Himself* will slap *Juan*.’) (Patient Voice)▷ c. Crossover effects(80) *Dinka: promotion-to-pivot shows no Weak Crossover effects*Dhùk ébèñ_i à-cí thók-dè_i kâac.
boy every 3S-PRF.OV goat.CS-SG.3SG bite.NF‘His_i goat bit *every boy_i*.’ (van Urk 2015:110) (Object Voice)

- Promotion-to-pivot in Philippine-type AN languages shows the hallmark of \bar{A} -operations: Weak Crossover and (occasionally) marginal Weakest Crossover effects are both attested:

(81) a. *Puyuma*

Ku=pubibi-ay [kantu=dawa] [tu=uma
 1SG.NOM=sow-LV [3.POSS.ACC=millet] [3.PIVOT.POSS=field
 kana maydrangan driya].
 LK old.persons every]

‘I sowed his/her_{<i>} millet at every old person’s_{<j/?/?i>} field.’

b. *Amis*

Sa-pi-tangtang aku [tu titi nangra] [ku siuy a
 CV-PI-cook 3SG.NOM [ACC pork 3PL.POSS] [PIVOT pot LK
 cimacima a ina].
 every LK mother]

‘I cooked her_{<i>} pork with every mother’s_{<j/?/?i>} pot.’ (Patient Voice)

c. *Tagalog*

M<in>amahal ng kanyang_i ama ang bawat anak_i.
 love<PV.PRF> NOM his father PIVOT every child

‘His_i father loves every child_{j/?/?i}.’ (Richards 2000) (Patient Voice)

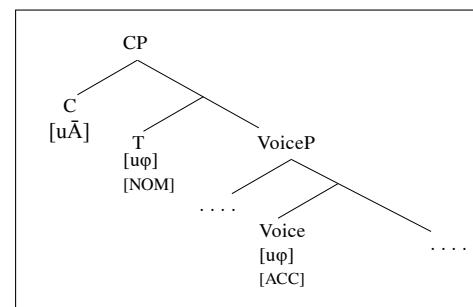
d. *Malagasy*

Novangian’-ny rainy ny mpianatra tsirairay omaly
 PST.CV.visit-DET father-3 DET student each yesterday

‘His_i father visited each_{?/?i} student yesterday.’ (Patient Voice)
 (Pearson 2001:107)

4.3 Variation 5: ϕ -feature agreement following Agree

- ▷ **Prediction:** Under the proposal in (82), the topic, subject, and/or the highest object (DO) may each trigger ϕ -feature agreement.

(82) *The proposed design of Philippine-type Austronesian languages*

Given that . . .

- Morphological agreement is optional following Agree
 - Agree with either an A- or \bar{A} -probe may trigger ϕ -feature agreement
- The prediction is indeed borne out:
- ▷ Co-occurrence of topic/pivot agreement and subject agreement²

(83) *Seediq*

Wada=ku=na bbe-un na Pawan ka yaku.
 PST=1SG.PIVOT=3SG.SUBJ hit-PV NOM Pawan PIVOT 1SG

‘Pawan hit me.’ (Patient Voice)

(84) *Puyuma*

Tu_i=trakaw-ay=yu dra paysu kan Senten_i.
3.SUBJ=steal-LV=2SG.TOP ID.ACC money PN.NOM Senten

‘Senten stole money from you.’ (LV)

(85) *Kapampangan*

Seli=ne nitang tau ing bale.
 buy.PV=3SG.TOP+3SG.SUBJ that.NOM-LK man PIVOT house.

‘That man bought the house.’ (Patient Voice)
 (Kitano 2006:90)

▷ Object agreement is also attested in some Philippine-type languages:

(86) *Bunun* (Huang 1997:317,371)

a. M-adu'=**ik=su'**
AV-like=**1SG.TOP=2SG.OBJ**
'I like(d) you.' (AV transitives)

b. Ma-saiv=**ik=su'** tasa' ahil.
AV-give=**1SG.TOP=2SG.OBJ** one book
'I give/gave you a book.' (AV ditransitives)

c. Na=ni'=**ik** ma-saiv=**su'** haimangsut.
FUT=NEG=**1SG.TOP** AV-give=**2SG.OBJ** thing
'I will not give you anything.' (Negated AV ditransitives)

→ Analogous to Amharic object agreement, this morphology is unique per clause; targeting recipients and not themes in ditransitives (80b).

→ Topic agreement (*ik*) 'climbs' to the negator; object agreement (*su'*) does not.

⇒ Presence of these sets of φ -feature agreement reinforces the assumption that abstract topic agreement, subject agreement, and object agreement are presented in these languages.

*See Chen (to appear) §5.3 for specific evidence for such morphemes being agreement and not arguments (pronominal clitics).

⊗ Languages displaying φ -feature agreement of these goals can be viewed as both agreement-based and discourse configurational.

▷ Topic-driven φ -feature agreement reported in at least three other families: Romance, Mixtec, and Bantu (Ripano: D'Alessandro 2020; Kinande: Baker 2003:113; San Martin Peras Mixtec : Ostrove 2018:220).

4.4 Variation 6: Move following Agree

▷ Symmetrical voice languages also provide good evidence that Move is optional following Agree.

▷ In Abaza, voice morphology (e.g. *z-*) is present regardless of whether a *wh*-phrase stays in-situ or undergoes overt \bar{A} -movement (O'Herin 1993:35).

(87) *Abaza* (O'Herin 1993:45, 37)

a. Dizda kitab y-*z*-ima-m?
who book 3si-**NSUBJ.WH**have-NEG
'Who doesn't have a book?' (Wh-fronting)

b. S-kitab *dizda* y-na-*z*-axu?
1s-book who 3si-PV-**NSUBJ.WH**-take
'Who took my book?' (Wh-in-situ)

▷ The optionality also attested in western Austronesian.

▷ Languages with Austronesian-type voice display variation regarding whether or not the topic/pivot occupies a designated linear position.

▷ Topic-final type

(88) *Malagasy* (Pearson 2005:389–390)

a. Mamono ny akoho amin'ny antsy **ny mpamboly**.
AV.kill DET chicken with-DET knife **DET farmer**
'The farmer is killing the chickens with the knife.' (AV)

b. Vonoin' ny mpamboly amin'ny antsy **ny akoho**.
PV.kill DET farmer with-DET knife **DET chicken**
'The chickens, the farmer is killing with the knife.' (PV)

c. Amonoan' ny mpamboly ny akoho **ny antsy**.
CV.kill DET farmer DET chicken **DET knife**
'The knife, the farmer is killing the chickens (with it).' (CV)

→ I assume this word order derives from topicalization followed by predicate fronting (Pearson 2001, 2018; Rackowski & Travis 2000).

▷ Topic in-situ type

(89) *Paiwan* (Ferrell 1979:202)

- a. Q<m>alup a caucau tua vavuy i gadu tua vuluq.
 <AV>hunt **PIVOT man** ACC pig LOC mountain OBL spear
 ‘The man hunts wild pigs in the mountains with a spear.’ (AV)
- b. Qalup-en nua caucau a vavuy i gadu tua vuluq.
 hunt-PV NOM man **PIVOT pig** LOC mountain OBL spear
 ‘The man hunts while pigs in the mountains with a spear.’ (PV)
- c. Qalup-an nua caucau tua vavuy a gadu tua vuluq.
 hunt-LV NOM man ACC pig **PIVOT mountain** OBL spear
 ‘The man hunts while pigs in the mountains with a spear.’ (LV)
- d. Si-qalup nua caucau tua vavuy i gadu a vuluq.
 CV-hunt NOM man ACC pig LOC mountain **PIVOT spear**
 ‘The man hunts while pigs in the mountains with a spear.’ (CV)

▷ Flexible word order type

There are also languages that display flexible word order among nominals:

(90) *Puyuma* (Teng 2008:148)

- a. P<en>anguter dra dare’ na markataguin.
 <AV>grab ID.ACC soul **DEF.PIVOT couple**
 ‘The couple grabbed some soil.’ (AV)
- b. P<en>anguter na markataguin dra dare’.
 <AV>grab **DEF.PIVOT couple** ID.ACC soul
 ‘The couple grabbed some soil.’ (AV)

▷ All three types of languages display the same type of voice morphology and \bar{A} -extraction restrictions in relativization.

⊕ **Implication:** Move is not a necessary outcome of Agree with [uTOP], analogous to the optionality observed with wh-in-situ.

5 Variation 7: Symmetrical voice and its decay

- Well-known grammaticalization pathway: *topic* \gg *subject* (Li & Thompson; 1976; Givon 1979; Plank 1979; Mallinson & Blake 1981; Shibatani 1991; Heine & Kuteva 2004)

▷ **Existing claim:** Indo-European languages developed from topic-prominent languages to subject-prominent languages (Lehmann 1976)

⊗ Further evidence from western Austronesian: symmetrical voice evolving from a topic-indexing system into a subject-indexing system

(91) *Geographical distribution of Philippine-type and Indonesian-type voice*

⊗ “Indonesian-type voice” is a continuum in flux in transition from a **topic-indexing** to a **subject-indexing** voice system; namely: *topic* \gg *subject*.

(92) *Four diagnostics applied* (Patrianto & Chen 2023 a,b)

| <i>A pivot phrase . . .</i> | |
|--|------------------|
| a. must be definite/specific | topic property |
| b. can surface as a reflexive theme in NAV | topic property |
| c. can function as a new binder in NAV | subject property |
| d. can be a PP adjunct in NAV | topic property |

Selected references

- Aldridge, E. 2004. Ergativity and Word Order in Austronesian Languages. Ph.D. dissertation: Cornell University.
- Aldridge, E. 2012. Antipassive and ergativity in Tagalog. *Lingua* 122(3):192–203.
- Aldridge, E. 2017. Phi-Feature Competition: A unified approach to the Austronesian extraction restriction. In J. Kantarovich, T. Truong & O. Xherija (eds.), *Proceedings of CLS* 52:1–20.
- Andersen, T. 1991. Subject and topic in Dinka. *Studies in Language* 15(2):265–294.
- Anderson, T. 2015. Syntacticized topics in Kurmuk: A ternary voice-like system in Nilotic. *Studies in Language* 39 (3):508–554.
- Aravind, A. 2018. Licensing long-distance wh-in-situ in Malayalam some padding here. *Natural Language and Linguistic Theory* 36:143.
- Arkadiev, P. and I. Caponigro. 2020. Conveying content questions without wh-words: Evidence from Abaza. *Proceedings of Sinn und Bedeutung* 25.
- Arkadiev, P. 2020. Syntax in morphological guise: Interrogative verbal morphology in Abaza. *Linguistic Typology* 24(2): 211–251.
- Baier, N. 2018. Anti-Agreement. Ph.D. dissertation, UC Berkeley.
- Baker, M. 2012. On the relationship of object agreement and accusative case: evidence from Amharic. *Linguistic Inquiry* 43:255–274.
- Chen, V. 2017. A reexamination of the Philippine-type voice system and its implications for Austronesian primary-level subgrouping. Ph.D. thesis: U of Hawai'i.
- Chen, V & Bradley McDonnell. 2019. Western Austronesian Voice. *Annual Review of Linguistics* 5(1): 173–195.
- Chen, V. 2021. Tagalog voice as four bundles of Agree relations: Insights from binding. *Proceedings of WCCFL* 38, 94–104.
- Chen, V. 2022. When Philippine-type voice meets Indo-European-type voice: Insights from Puyuma. *Journal of East Asian Linguistics* 31: 517–550.
- Chen, V. To appear. Voice morphology as the spell-out of parallel chains: Insights from Austronesian and beyond. *Move & Agree: The State of the Art*.
- Chomsky, N. 2001. Derivation by phase. In M. Kenstowicz (ed.), *Ken Hale: A Life in Language*, 1–52. MIT Press.
- Chomsky, N. 2005. On Phases. Ms. MIT.
- D'Alessandro, R. 2020. Agreement across the board: Topic agreement in Ripano. In P. Smith, J. Mursell & K. Hartmann (eds.), *Agree to Agree: Agreement in the Minimalist Programme*, 235–270. Berlin: Language Science Press.
- É. Kiss, K. 1995. Introduction. In K. É. Kiss, (ed.), *Discourse configurational languages*, 3–27. Oxford: Oxford University Press.
- Erlewine, M., T. Levin, and C. van Urk. 2017. Ergativity and Austronesian-type voice systems. In J. Coon, D. Massam, and L. Travis (eds.), *Oxford Handbook of Ergativity*. Oxford University Press.
- Himmelman, N. 2002. Voice in Western Austronesian: An update. In F. Wouk and M. Ross (eds.), *The history and typology of Western Austronesian voice systems*, 7–15. Canberra: Pacific Linguistics.
- Kandybowicz, J. 2008. *The grammar of repetition*. John Benjamins.
- Kandybowicz, J., and H. Torrence. 2016. Predicate focus in Krachi: 2 probes, 1 goal, 3 PFs. *Proceedings of WCCFL* 33:227–236.
- Li, C. and S. Thompson. 1976. Subject and topic: a new typology of language. In C. Li (ed.), *Subject and Topic*, 457–461. Austin: U of Texas Press.
- McDonnell, B. and V. Chen. The evolution of syntax in Western Austronesian. In C. Sui & S. Lee (eds.), *The Routledge Handbook of Asian Linguistics*, 11–32.
- Miyagawa, S. 2009. *Why Agree? Why Move?* Cambridge, MA: MIT Press.
- Miyagawa, S. 2017. *Agreement Beyond Phi*. Cambridge, MA: MIT Press.
- O'Herin, B. 1993. Wh-agreement in Abaza. In E. Potsdam (eds.), *Syntax and Semantics at Santa Cruz* (2), 25–56.
- Patrianto, H. and V. Chen. To appear. Rethinking Indonesian-type passives: Lessons from Javanese. *Proceedings of NELS* 53.
- Patrianto, H. and V. Chen. A cline of Indonesian-type voice as in transition from A- to A-syntax. Talk given at AFLA 30. Lund: October 19–22.
- Pearson, M. 2001. The clause structure of Malagasy: A minimalist approach. PhD thesis, UCLA.
- Pearson, M. 2005. The Malagasy subject/topic as an \bar{A} -element. *Natural Language and Linguistic Theory* 23:381–457.
- Rackowski, A. 2002. The structure of Tagalog: Specificity, voice, and the distribution of Arguments. PhD dissertation, MIT.
- Rackowski, A. and N. Richards. 2005. Phase edge and extraction: A Tagalog case study. *Linguistic Inquiry* 36(4):565–99.
- Richards, N. 2000. Another look at Tagalog subjects. In I. Paul et al. (eds.), *Formal issues in Austronesian linguistics*, 105–16. Dordrecht, Neth.: Kluwer.
- Shibatani, M. 1988. Voice in Philippine languages. In M. Shibatani (ed.), *Passive and voice*, 85–142. Amsterdam: John Benjamins.
- van Urk, C. 2015. A uniform syntax for phrasal movement: A case study of Dinka Bor. PhD thesis, MIT.