

What agrees, why and how: A view from Austronesian

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1 Introduction

⊕ The questions

- How are \bar{A} -Agree relations realized in narrow syntax?
- What is the relationship between Agree and Move? Is Move necessary?
- Is $[u\varphi]$ the only type of probe that triggers φ -feature agreement?
- Can different \bar{A} -operations be driven by the same probe?

▷ Insights from Austronesian

- **When targeting the same goal, an \bar{A} -Agree relation may bundle with other Agree relations and be spelled out as a single verbal affix.**
 - ▷ This mechanism can be viewed as a design for indicating the grammatical role of the goal of an \bar{A} -probe (e.g. topics, REL-phrases).
 - ▷ A similar design is seen in typologically diverse discourse configurational languages.
- **Move is not a necessary outcome of Agree; the optionality is seen within western Austronesian.**
- **φ -feature agreement can be triggered by Agree with an \bar{A} -probe.**
 - ▷ **Implication:** φ -feature agreement may be a mechanism for indexing the goal of any Agree relation.
- **Different \bar{A} -operations may be driven by a single, flat \bar{A} -probe.**
(See Miyagawa 2009; van Urk 2015; Baier 2018; Aravind 2019 for details)
 - ▷ This approach offers a simpler solution to the fluid extraction asymmetry observed in a group of discourse configurational languages.

2 The phenomenon

- ▷ Many western Austronesian languages display a crosslinguistically 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 verbal morphology, (1).

(1) Tagalog relativization

- Sino** ang _{[RC} b<um>ili/*-in/*-an/*i- ng keyk]?
who LK _{[RC} buy<AV>/*PV/*LV/*CV ID.CM₂ cake]
'Who is the one that bought cakes?' [Actor Voice]
- Ano** ang _{[RC} bi-bilih-in/*<um>/*-an/*i- ni Lia]?
what LK _{[RC} CONT-buy-PV/*AV/*LV/*CV PN.CM₁ Lia]
'What is the thing that L will buy?' [Patient Voice]
- Nasaan** ang _{[RC} bi-bilih-an/*<um>/*-in/*i- ni Lia ng keyk]?
where LK _{[RC} CONT-buy-LV/*AV/*PV/*C PN.CM₁ Lia ID.CM₂ cake]
'Where will be the place where L bought cakes?' [Locative Voice]
- Sino** ang _{[RC} i-bi-bili/*<um>/*-in/*-an ni Lia ng keyk]?
who LK _{[RC} CV-buy/*AV/*PV/*LV PN.CM₁ Lia ID.CM₂ cake]
'Who is the one that L will buy cakes for?' [Circumstantial Voice]

- ▷ In simple transitives like (1)
 - ▷ Actor Voice (AV) is obligatory for **EA** extraction (1a).
 - ▷ Patient Voice (PV) is obligatory for **IA** extraction (1b).
 - ▷ Locative Voice (LV) is obligatory for **locative** extraction (1c).
 - ▷ Circumstantial Voice (CV) is obligatory for **benefactive** extraction (1d).
 - ▷ 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.

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

(2) *Tagalog*

- a. B<um>ili si AJ ng keyk mula kay Lia para kay Joy.
buy<AV> PN.PIVOT AJ ID.CM₂ cake P₁ PN.CM₂ Lia P₂ PN.CM₂ Joy
'AJ bought cake from Lia for Joy.' (AV)
- b. Bi-bilih-in ni AJ ang keyk mula kay Li para kay Joy.
CONT-buy<PV> PN.CM₁ AJ PIVOT cake P₁ PN.CM₂ Li P₂ PN.CM₂ Joy
'AJ will buy cake from Li for Joy.' (PV)
- c. Bi-bilih-an ni AJ ng keyk si Li para kay Joy.
CONT-buy<LV> PN.CM₁ AJ ID.CM₁ cake PN.PIVOT Li P₂ PN.CM₂ Joy
'AJ will buy cake from Li for Joy.' (LV)
- d. I-bi-bili ni AJ ng keyk mula kay Li si Joy.
CV<CONT-buy> PN.CM₁ AJ ID.CM₂ cake P₁ PN.CM₂ Li PN.PIVOT Joy
'AJ will buy cake from Li for Joy.' (CV)

► Analogous to the mapping seen in (1),

- In AV, the EA is marked in a special marker labeled as PIVOT (2a).
- In PV: the IA bears the marker (2b).
- In LV: the locative bears the marker (2c).
- In CV: the benefactor bears the marker (2d).

	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

► In other words, voice morphology indexes the grammatical role of pivots in declaratives and that of REL-phrases in RCs.

► Core traits of this voice system

- (4) a. **A syntactically pivotal phrase:** One phrase per CP is designated the pivot and realized in a particular morphological form and/or structural position, regardless of its original grammatical function or thematic role.

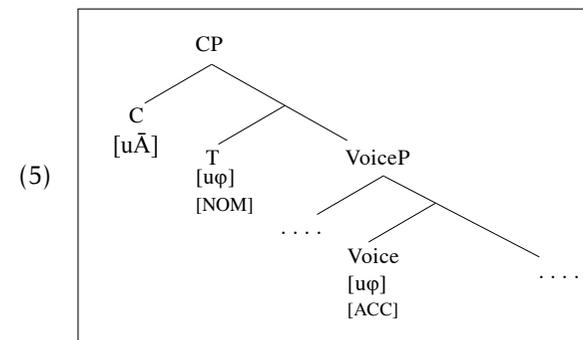
- b. **Fluid extraction restriction:** \bar{A} -extraction (relativization, including pseudo-clefting) is limited to the pivot phrase of a given clause.
- c. **Articulated verbal morphology:** Four-way affixal morphology on the verb alters for the choice of the pivot, including options for taking certain non-core phrases as pivots.
- d. **Marking of nonpivot phrases:** Nonpivot phrases carry a fixed case-marking regardless of the voice type of the clause.
- e. **One-to-many mapping between voice and pivot selection:** the mapping is not conditioned simply by case or thematic role.

⊕ Core questions

- What does pivot-marking mark?
- What is the nature of the four-way morphology (AV/PV/LV/CV)?
- What gives rise to the fluid extraction constraint in (1)?

► **A revised \bar{A} -agreement approach to Austronesian-type voice**

- Pivot-marked phrases are *topics*
- The four-way morphology is a mechanism that indicates the grammatical role of *topics* and *relativized phrases*.
- **Descriptively:**
 - “AV” indicates the topic/REL-phrase is the *subject*.
 - “PV” indicates the topic/REL-phrase is the *DO (2nd highest DP)*.
 - “LV” indicates the topic/REL-phrase is a *locative phrase*.
 - “CV” indicates the topic/REL-phrase is *none of the above*.
- **Proposal:** What gives rise to a system like this?



► **The recipe**

- (a) **[uφ] on T**, probing the highest DP (i.e. subject).
- (b) **[uφ] 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, labeled as C in (5).

► **Proposal: how it works**

When a phrase is probed simultaneously by [u \bar{A}] and by (a), (b), or (c), the bundling of the two Agree relations is spelled out as a single voice affix.

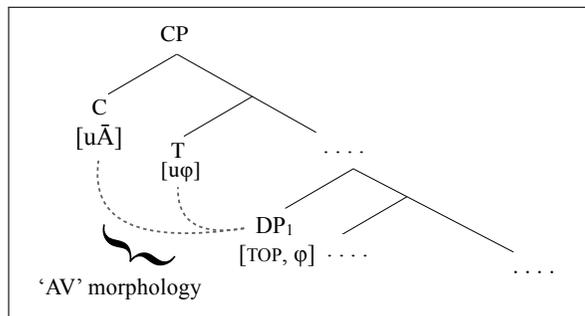
- Namely, when a topic/REL-phrase agrees also with [uφ] on a certain head, the bundle of the \bar{A} - and the A-Agree relations is spelled out as voice morphology.

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

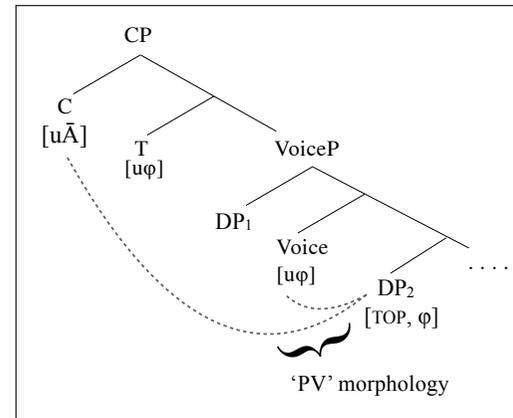
AV	spell-out of the bundle of the Agree relations with (a) and with (d)
PV	spell-out of the bundle of the Agree relations with (b) and with (d)
LV	spell-out of the bundle of the Agree relations with (c) and with (d)
CV	spell-out of the Agree relation with (d)

↔ Voice indexes the convergence of **topic agreement** with (a) **subject agreement**, (b) **object agreement**, (c) **locative agreement**, or (d) **nothing else**.

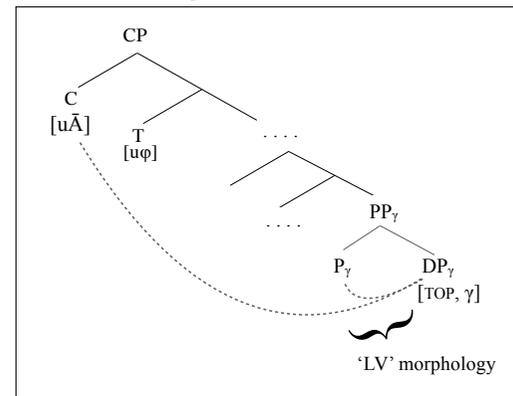
(6) AV: When the topic is also the *subject*



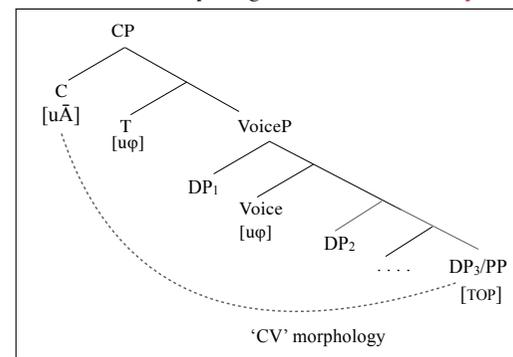
(7) PV: When the topic is also the *DO (2nd highest DP per CP)*



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



(9) CV: When the topic agrees with *no other probes*



► **Two loci of variation within this group of languages**

- 1 Whether the goals of (a)-(d) trigger φ -feature agreement on the verb (i.e. whether φ -features of topics/subjects/DOs are spelled out)
- 2 Whether topics undergo overt movement

► **Non-Austronesian parallels**

- Similar voice systems attested in western Nilotic and Caucasian
 - Verbal morphology indexing the Agree relations probing topics/*wh*-/REL-phrases
 - Different \bar{A} -operations trigger the same set of agreement morphology on the verb, giving rise to a ‘pivot-only’ extraction constraint
- Similar topic-oriented φ -feature agreement attested in Romance, Mixtec, Bantu, and Nilotic.

◇ **Roadmap**

§3 How voice works in Austronesian as topic-indicating morphology

- Voice behave like agreement hosted in the C domain
- Pivots behave like topics and not subjects
- Evidence for a separate subject position

§4 Voice tracks Agree relations probing topics and REL-phrases

§5 The design of Austronesian-type \bar{A} -agreement: A typological view

§6 Internal variation and external parallels

- Morphological agreement is not necessary after Agree
- Is [$u\varphi$] the only type of probe that triggers φ -feature agreement?
- Move is not a necessary outcome of Agree

§7 Conclusion

3 How voice works in Austronesian as topic-indicating morphology

3.1 Voice behaves like agreement hosted in the C domain

3.1.1 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.

(10) *Puyuma*

- a. Ku=beray-ay na walak kana bu'ir.
1s.NOM=give-LV DF.PIVOT child DF.ACC taro
'I gave the child the taro.'
- b. Ku=talam-ay \emptyset -beray na walak kana bu'ir.
1s.NOM=try-LV DEF-give DF.PIVOT child DF.ACC taro
'I tried to give the child the taro.'
- c. Ku=trakatrakaw-ay talam \emptyset -beray na walak kana bu'ir.
1s.NOM=secretly-LV DEF-try DEF-give DF.PIVOT child DF.ACC taro
'I secretly tried to give the child the taro.'

- The property and structural height of this (highest) head can vary.

- E.g., CV morphology may appear on various types of heads and indicates the pivot is a non-locative adjunct or a low DP, (7).

(11) *Paiwan* (Wu 2013)

a. *Voice on subject control verb*

'u-s<in>i-patagilj=anga=sun a sapay ta kaitang.
1SG.NOM-CV-PRF-begin=COS=2s.PIVOT LK <DEF>cultivate ACC field

'I have started to cultivate the field for *you*.' (CV)

b. *Voice on manner adverb*

'u-s<in>i-galju a tjavac ti ina.
1SG.NOM-CV-<PRF>slowly LK <DEF>walk PIVOT mother

'I walked slowly with *mother*.' (CV)

c. *Voice on abilitative modal*

Si-'a-caqu a lanqgui a kasiw.
 [CV]-STAT=be.able.to LK SWIM<DEF> PIVOT wood

'I am able to swim by means of the *woods*.' (CV)

d. *Voice on the first lexical verb in SVCs*

'u-s<in>i-vaik a qaljud ta vavuy ti Kapi.
 1s.NOM-[CV]-PRF-go LK <DEF> ACC wild.pig PIVOT Kapi

'I went hunting wild pigs with *Kapi*.' (CV)

e. *Voice on control verb*

'u-si-RuqeRuq tjay Kapi a Ø-pa-vay tjay Kivi a pakiawi
 1s.NOM-[CV]-force ACC Kapi LK DEF-CAU-give ACC Kivi PIVOT money

'I have forced *Kapi* to give *Kivi money*.' (CV)

► **What does this constraint tell us?**

- Austronesian-type voice may not be valency-indicating affixes hosted within individual VoiceP.

3.1.2 The locus of voice is high

► Voice morphology is hosted *higher* than Aspect.

- Voice affixes insert into aspect morphology rather than the verbal stem, (12):

(12) 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), this indicates Austronesian-type voice is hosted in a projection *higher* than Aspect.

- Since these are tenseless languages, the insertion fact above indicates voice morphology is hosted high in the left periphery

- This correlates with the fact that voice inflects for mood.

- It also reinforces the view that AN-type voice is not valency-indicating morphemes hosted within individual VoicePs

(Chung 1994; Peason 2005; Chen 2017; contra Aldridge 2004, Rackowski & Richards 2005).

► Voice morphology inflects for mood.(13) *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)

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

3.2 Pivot phrases behave like topics

⊕ **The next question**

- What does the pivot marker mark?

- **Recall:** this marker can mark various phrases ranging from core arguments to adjunct-like phrases, as seen in (2).

- Pivots behave like *topics*.

- See Shibatani (1998), Richards (2000), Pearson (2001, 2005), Rackowski (2002), Erlewine (2014), Chen (2017), Paul & Massam (2020) for a similar topic analysis for pivots.

- This analysis is consistent with the observation that voice – which indexes the designation of pivots – is hosted in the left periphery.

3.2.1 Evidence from discourse

In question-answer sequences with a clear discourse topic, the topic must be placed as pivot in the answer.

(14) *Tagalog: four ways to answer (14a)*

- a. Na saan **ang kutsara** ni Maria?
 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.CM₁ Lia (**PIVOT spoon**)
 ‘Lia is using (*it/the spoon*).’ (Topic as a theme pivot)
- c. I-p<in>ang-ka-kain ni Ryan (**ang kutsara**).
 CV-PANG<PRF>-RED-eat PN.CM₁ Ryan (**PIVOT spoon**)
 ‘Ryan is eating with (*it/the spoon*).’ (Topic as an instrument pivot)
- d. Na-kita=ko=[ng k<in>uha ni Ivan (**ang kutsara**)].
 PRF.PV-see=1SG.CM₁=[LK steal<PV.PRF> PN.CM₁ Ivan (**PIVOT spoon**)]
 ‘I saw that Ivan stole (*it/the spoon*).’ (Topic as an embedded pivot)
- e. Na kay Peter (**ang kutsara**).
 NA with Peter (**PIVOT spoon**)
 ‘*The spoon* is with Peter.’ (Topic as an existential pivot)

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

3.2.2 Evidence from binding facts

▷ Promotion-to-pivot shows typical \bar{A} - and not A-properties.

A-properties	\bar{A} -properties	AN
No reconstruction for Principle C	Reconstruction for Principle C	Yes
New antecedents for anaphors	No new antecedent for anaphors	No
No Weak Crossover	Weak & Weakest Crossover	Yes

▷ The binding parameters in five Philippine-type AN languages are consistent (see §9.2 in the appendices; Chen 2017; Pearson 2001).

▷ This suggests pivots are \bar{A} -elements (and not subjects).

▷ This follows from the fact that AN-type voice behave like agreement morphology hosted in the C domain.

▷ A comparison with Dinka.

These binding facts do differ from those in Dinka, where topics also display subject properties (van Urk 2015).

A-properties	\bar{A} -properties	Dinka	AN
No reconstruction for Principle C	Reconstruction for Principle C	No	Yes
New antecedents for anaphors	No new antecedent for anaphors	Yes	No
No Weak Crossover	Weak & Weakest Crossover	No	Yes

→ Topics show both A- and \bar{A} properties in Dinka but only \bar{A} -properties in AN.

▷ Promotion-to-pivot triggers no argument structure alternation.

Given Relativized Minimality, a topic need not render the highest DP to agree with [u_{TOP}]. Accordingly, topics should be possible to occupy any structural heights and be either PPs or DPs.

▷ As predicted, being a pivot/topic does *not* alter its binding relation, (16).

(16) *Tagalog*

- a. Nag-pa-pa-ligo=ako kay Ivan **ng sarili niya**.
 [AV]PRF-RED-bathe=1SG.NOM PN.ACC Ivan ID.ACC REFL 3SG
 ‘I made *Ivan* bathe *himself*.’ (AV)
- b. P<in>a-pa-ligo=ko si ivan **ng sarili niya**.
 CAU<PRF[PV]>-RED-bathe=1SG.NOM PN.PIVOT Ivan ACC REFL 3SG
 ‘I am making *Ivan* bathe *himself*.’ (PV)
- c. I-p<in>a-li-linis=ko kay juan **ang kanyang sarili**.
 [CV]CAU<PRF>RED-clean=1SG.NOM PN.ACC Juan PIVOT 3SG REFL
 ‘I asked *Juan* to clean *himself*.’ (CV)

▷ See Chen (2017) for more binding tests on Puyuma, Amis, Seediq, and Tagalog.

3.3 A separate subject/NOM position

- Consistent with the facts above, this group of languages display a case marker (CM₁) that shows the hallmarks of nominative case.

3.3.1 CM₁ is unique per CP and unavailable in infinitives

- Unlike inherent ergative case (17), CM₁ (labeled as NOM in the preceding data) cannot mark EAs in embedded infinitives, (18).

(17) ERG as available to embedded EA

- a. Alaweru-**k** hai-**ts** axos disi-ka.
Alaweru-ERG 1sg-ERG child.ABS hit-CAU
'Alaweru made *me* hit the child.' (Guirardello 1999) (Trumai)
- b. Imakiupi kupi jesus-**ya** emaputi yonpa-pi makiu-**ya** teuren.
bad do Jesus-ERG CAU try-PST Satan-ERG frust
'S unsuccessfully tried to make *J* do bad.' (Abbott 1991) (Macushi)

(18) CM₁ as unavailable to embedded EA

- a. Sa-pa-pi-nengneng **aku** tu/***nu** ising k-una pusi.
CV-CAU-PI-see 1SG.CM₁ ACC/*CM₁ doctor PIVOT-that cat
'I will ask *the doctor* to look at the cat.' (Amis)
- b. S-p-tinun=**mu** ∅/***na** robo ka lukus.
CV-CAU-weave=1SG.CM₁ ACC/*CM₁ Robo PIVOT clothes
'I asked *Robo* to sew the clothes.' (Seediq)
- c. I-p<in>a-nakaw=**ko** kay/***ni** juan ang kotse.
CV-CAU<PRF>-steal=1SG.CM₁ PN.ACC/*PN.CM₁ PIVOT car
'I asked *Juan* to steal the car.' (Tagalog)
- d. **ku**=***Tu**=pa-saletra-anay kan sawagu i senten.
1SG.CM₁=*3.CM₁-CAU-slap=CV SG.PIVOT Senten
'I asked him/her to slap Senten.' (Puyuma)

3.3.2 CM₁ is available to theme in unaccusatives

CM₁ marks both the highest EAs in unergatives/transitives and highest IAs in unaccusatives (19)-(20).

(19) 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 subjects)
- 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 unaccusative subjects)

(20) 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 unergative subjects)
- 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 unaccusative subjects)

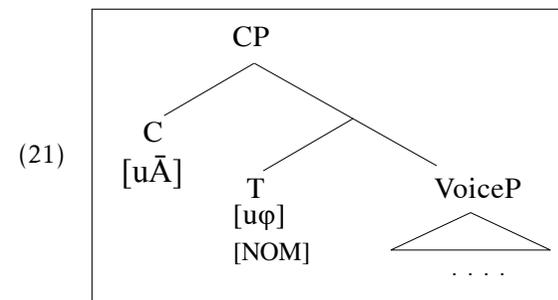
- See Chen & Fukuda (2017) for similar data from more languages.

- This observation also argues against the ergative approach to these languages, which assumes CM₁ marks inherent ERG.

► Proposal

Philippine-type Austronesian languages possess an ordinary subject position distinct from topic position (21):

- [**uφ**] on T, probing the highest DP.
 - Agree with this feature is accompanied by NOM-licensing.
- [**uĀ**] on a different head (C), probing topics/REL-phrases.

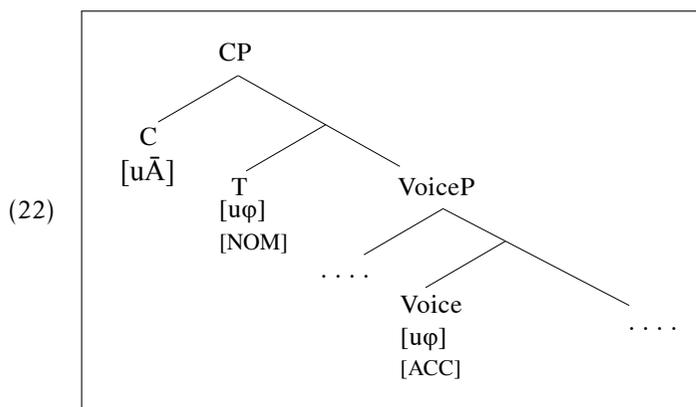


4 ‘Voice’ tracks the Agree relations probing topics and REL-phrases

► The big picture

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

► **Proposal:** the design of voice (\bar{A} -agreement) in Austronesian.



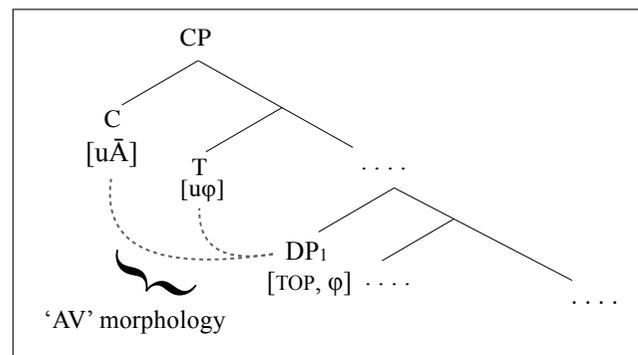
► **Assumption:** When a phrase is probed by both $[u\bar{A}]$ and another probe, the bundle of the two abstract Agree relations is spelled out as voice morphology.

- { AV: when topic agreement converges with **subject agreement**
- { PV: when topic agreement converges with **object agreement**
- { LV: when topic agreement converges with **locative agreement**
- { CV: when topic agreement converges with **no other Agree relations**

4.1 Actor Voice

► Spell-out of the bundle of the **Agree relation with $[u\bar{A}]$** and that with $[u\phi]$ on T

(23) AV: When the subject is also the topic



► Possible triggers of AV include:

- EAs in unergatives/transitives/ditransitives/causatives/controls (24a-b)
- IAs in unaccusatives/detransitives (24c-d)

(24) *Puyuma*

- a. M-**u**-arak **na** **walak** i arasip.
 [AV]-dance DF.PIVOT child LOC Arasip
 ‘Atrung danced in Arasip.’ (AV unergatives)
- b. M-**e**-kan **na** **bangsaran** dra patraka.
 [AV]-eat DF.PIVOT young.man ID.ACC meat
 ‘The young man ate some meat.’ (AV transitives)
- c. M-**u**-ekan **na** **patraka**.
 [AV]-DETR-eat DF.PIVOT meat
 ‘The meat was eaten up.’ (AV detransitives)
- d. M<in>atray **na** **bangsaran**.
 [AV]<PRF> DF.PIVOT young.man
 ‘That young man died.’ (AV unaccusatives)

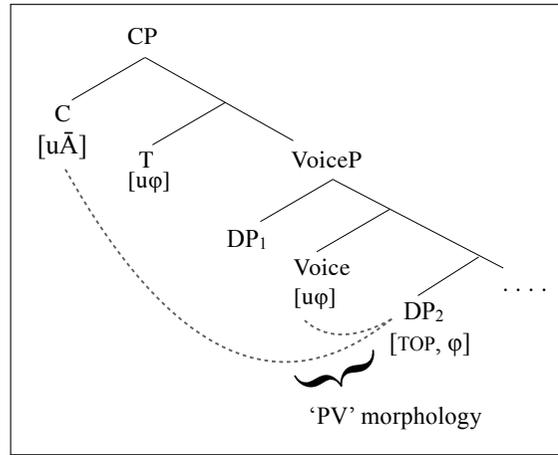
► **Consistent with the facts above . . .**

- Intransitives of any type can be marked in AV.
- Embedded EAs (e.g., causees, controlles) cannot trigger AV agreement as they are not the highest DP per CP (see §4.2).

4.2 Patient Voice

- ▷ Spell-out of the bundle of **the Agree relation with [uĀ]** and that with [uφ] on **matrix Voice**

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



- ▷ Possible triggers of PV include:

- IAs in simple transitives (26a)
- **Causees** (26b), **controllee**, **recipients in DOCs** (26c)
- *But not*: themes in causatives/DOCs/controls (DPs lower than the above)

(26) *Amis*

- a. Tangtang-**en** ni Lisin **k-u** titi.
 cook-**PV** PN.NOM Lisin **PIVOT-that** pork
 'Lisin will cook *that* pork.' (PV transitives)
- b. Pa-pi-takaw-**en** aku **k-una** wawa t-una paysu.
 CAU-PI-steal-**PV** 1SG.NOM **PIVOT-that** child ACC-that money
 'I will ask *that* child to steal that money.' (PV causatives)
- 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 ditransitives)

- ▷ **Consistent with the facts above . . .**

- ▷ 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) (Baker 2012; Deal 2019).

(27) *Amharic object agreement*

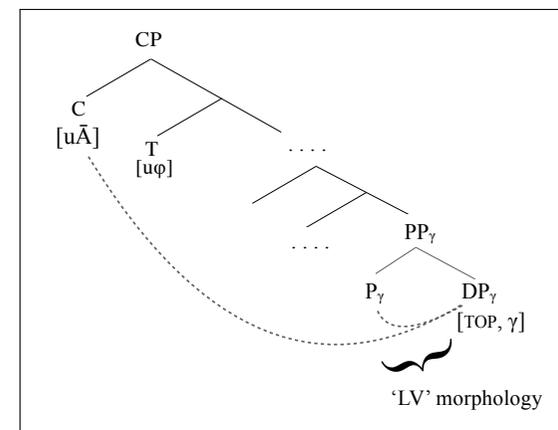
- a. Ləmma **l-Almaz** məs'əhaf-u-n sət't'-at.
 Lemma **DAT-Almaz** book-DEF-ACC give-(3MS)-**3FO**
 'Lemma gave the book to *Almaz*.' (Baker 2012:258)
- b. Aster was-a-n as-metaitf-**ññ**.
 Aster ball-DEF.ACC CAU-hit-3FEM.S-**1SG.O**
 'Aster made *me* kick the ball.' (Duncan & Aberra 2009)

- In DOC, object agreement probes the **recipient** and not the theme.
- In causatives, object agreement probes the **causee** and not the theme.

4.3 Locative Voice

- ▷ Spell-out of the bundle of **the Agree relation with [uĀ]** and that with **P_{Loc}**

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



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

- Locative adjuncts in any constructions (29a-b)
- Sources/goals in prepositional datives (29d)

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

- a. Qalup-an nua caucau tua vavuy a gadu.
 hunt-LV CM₁ man CM₂ pig PIVOT mountain
 ‘The man hunts while pigs in the mountains’ (LV transitives)
- b. P<in>a-pana-an a icu a i maza ni palang tay kui
 CAU<PRF>-shoot-LV PIVOT this LK LOC here PN.NOM Palang PN.ACC Kui
 ta zua venan.
 ACC that deer
 ‘Palang made Kui shoot that deer here.’ (LV causatives)
- 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 ditransitives)

► **Consistent with the facts above . . .**

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

4.4 Circumstantial Voice

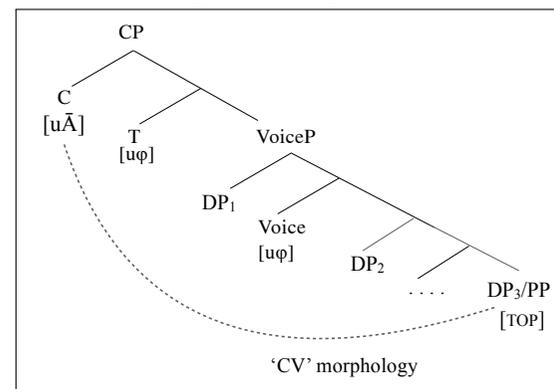
► Spell-out of the Agree relation with [$u\bar{A}$] (when the goal agrees with no other probe).

- Possible triggers of CV:
- DPs that are structurally low (30a-c)
 - Non-locative adjuncts (30d-f)

(30) *Paiwan*

- a. Si-qihul=si’ hiya’ ‘i’ Ø-pa-patas ku’ ruas.
 [CV]force=2SG.NOM 3SG.ACC LK AV-CAU-write PIVOT book
 ‘You forced him to read the book.’ (CV controls)
- b. Ku=s<in>i-pa-‘alup tay palang a icu a vavuy.
 1SG.NOM=[CV]<PRF>-CAU-hunt ACC Palang PIVOT this LK boar
 ‘I made Palang hunt this wild pig.’ (CV causatives)
- c. ‘u-s<in>i-vaik a qaljump ta vavuy ti Kapi.
 1S.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 kaitang.
 1SG.NOM=[CV]-PRF-begin=COS=2s.PIVOT LK <AV>cultivate ACC field
 ‘I have started to cultivate the field for you.’ (CV transitives)

(31) CV: When the topic is none of the above



* * * * *

► In this view, Austronesian-type voice constitutes \bar{A} -agreement morphology that tracks the Agree relations probing topics and REL-phrases.

- “AV” better characterized as ‘Subject Topic Construction’
- “PV” better characterized as ‘Object Topic Construction’
- “LV” better characterized as ‘Locative Topic Construction’
- “CV” better characterized as ‘Circumstantial Topic Construction’

► This system can be viewed as *discourse-configurational* in the sense of Lee & Thompson (1980), Kiss (1995), and Miyagawa (2009, 2017).

5 The design of Austronesian-type \bar{A} -agreement: A typological view

► How unusual is this design?

- Similar systems attested in Nilotic and Caucasian
 - Verbal morphology indexing the Agree relations probing topics, *wh*-, and/or REL-phrases
 - Different \bar{A} -operations trigger the same set of agreement morphology on the verb, giving rise to a ‘pivot-only’-like extraction constraint

5.1 Western Nilotic

(32) a. *Kurmuk* (Anderson 2015)

t̩áarák ⁺bóor-ú d̩éel kà ñìr.
 person skin-PST.SUBJ.T goat PREP knife

‘The man skinned a goat with a knife.’ (Subject Topic)

b. d̩éel bóor-út-ì ñà t̩áarák kà ñìr.
 goat skin-PST-OBJ.T NOM person PREP knife

‘The man skinned the goat with a knife.’ (Object Topic)

c. ñìr bóor-út-í d̩éel ñà t̩áarák
 knife skin-PST-OBL.T goat NOM person

‘The man skinned a goat with the knife.’ (Oblique Topic)

(33) *Dinka* (van Urk 2015: 61)

a. Áyén à-cám cu̩in n̩è p̩aal.
 Ayen 3s-eat.sv food P knife

‘Ayen is eating food with a knife.’ (Subject Voice (Topic))

b. Cu̩in à-céem Áyèn n̩è p̩aal.
 food 3s.eat-ov Ayen.GEN P knife

‘Ayen is eating the food with a knife.’ (Object Voice (Topic))

c. P̩aal à-céem̩è Áyèn cu̩in
 knife 3s-eat.OBLV Ayen.GEN food

‘Ayen is eating food with a knife.’ (Oblique Voice (Topic))

► Core traits of the Nilotic voice system (Anderson 2015; van Urk 2015)

- (34) a. **Three-way verbal morphology** indicating the grammatical role of the topic (i.e. subject | DO | others)
- b. Nominative-accusative-style case system
- c. A ‘Last resort’-style Oblique topic constructions
- d. Voice obligatorily present on the highest verbal head with default marking on all lower heads (35)
- e. Same set of agreement morphology present in \bar{A} operations (36).

(35) *Dinka* (van Urk 2015: 61, 84, 96)

a. Cu̩in à-céem Áyèn n̩è p̩aal.
 food 3s[eat-ov]Ayen.GEN P knife

‘Ayen is eating the food with a knife.’ (Object Voice)

b. Cu̩in à-dóoc Ból câam
 food 3s[do.quickly.ov]Bol.GEN eat.NF

‘Bol is eating the food quickly.’ (Object Voice)

c. Cu̩in a-c̩i Áyèn [_{VP} câam n̩è p̩aal].
 food 3s[PRF.ov]Ayen.GEN eat.NF P knife

‘Ayen has eaten the food with a knife.’ (Object Voice)

(36) *Dinka*

a. Yè ñà c̩é cu̩in câam?
 be who PRF.sv food eat.NF

‘Who has eaten the food?’ (Subject *wh*-question)

b. t̩ín [CP c̩é Ból t̩in̩]
 woman.cs PERF.sv Bol see.NF

‘the woman that has seen Bol’ (Subject relativization)

c. Yè ñó c̩i Ból câam?
 be what PRF.ov Bol.GEN eat.GEN

‘What has Bol eaten?’ (Object *wh*-question)

d. t̩ín [CP c̩i Ból t̩in̩]
 woman.cs PERF.ov Bol.GEN see.NF

‘the woman that Bol has seen’ (Object relativization)

* * * * *

5.2 Abaza (Caucasian)

- A similar voice system is observed in Abaza (Caucasian), which possesses an ergative case system.

(37) *Abaza (Arkadiev & Caponigro 2020)*

- a. [awaʔa j-ʕa-ta-χa-k^wa-z]
there REL.SUBJ-CSL-LOC-remain-PL-PST.NFIN
'Those who remain there are the Abaza.' (Subject RC (S))
- b. [a-ph^wəspa j-lə-s-tə-z] a-ĉa
DEF-girl REL.SUBJ-3SG.F.IO-1SG.ERG-give-PST.NFIN DEF-apple
'the apple I gave to the girl.' (Subject RC (O))
- c. [a-ph^wəspa ĉa lə-z-tə-z] a-ĉ'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. [ĉa z-s-tə-z] a-aph^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 [jəz-zə-b-χ^wʕa-z]
3SG.H.ABS-say(IMP) 3SG.N.ABS-REL.NSUBJ-BEN-2SG.F.ERG-buy-PST.INFIN
'Say whom you bought it for!' (Nonsubj RC (AO))
- f. [a-karbəʒ'-k^wa ʔa-də-r-baχ-wa-z] a-baq
DEF-brick-PL REL.LOC-3PL-ERG-CAUS-dry-IPF-PST.NFIN DEF-shed
'the shed where bricks are made.' (Locative RC)
- g. [l-an d-an-ʕa-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-PAST.FIN
'He lay down like he lay before.' (Manner RC)

- 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 (37f-h).

► Summary: 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)

* * * * *

- Similar to the cases seen above, Abaza employs verbal morphology that indexes the grammatical role of the goal of an \bar{A} -probe (i.e. [uRel]).

- Just like topicalization and relativization in Dinka share the same set of voice morphology (36)-(37), the verbal affixes in (38) are also seen in *wh*-questions in Abaza.

(38) *Abaza (O'Herin 1993)*

- a. j-'a-ka-sa-ja?
SUBJ.WH-DIR-LOC-fall(AOR)-QN
'What fell?' (Subject *wh*-question (ABS S))
- b. j-'a-b-g-ja?
SUBJ.WH-DIR-3SG.F.ERG-bring(AOR)-QN
'What did you bring?' (Subject *wh*-question (ABS O))
- c. w-'a-z-re-ha-ja?
3SG.M.ABS-DIR-NSUBJ.WH-CAU-FEAR(AOR)-QN
'What frightened you?' (Non-subj *wh*-question (ERG A))
- d. j-z-ze-b-x'a0da?
3SG.N.ANS-NSUBJ.WH-BEN.APPL-2SG.F.ERG-buy(AOR-QH)
'Whom did you buy it for?' (Non-subj *wh*-question (applied O))
- e. we-z-ps-wa-da?
2SG.M.ABS-NSUBJ.WH-look-IPF-QH
'Whom are you looking at?' (Non-subj *wh*-question (indirect O))

* * * * *

- In all three languages, we see different \bar{A} -operations sharing the same set of verbal morphology.

Austronesian	topicalization, relativization
Dinka (Nilotic)	topicalization, relativization, <i>wh</i> -questions
Abaza (Caucasian)	topicalization, relativization, <i>wh</i> -questions

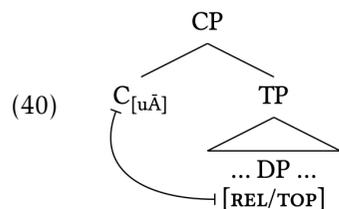
5.3 An alternative approach to the Austronesian ‘pivot-only’ extraction restriction

- **Recall:** The same set of voice morphology is obligatory in RCs.
 - In this environment, voice morphology indicates the grammatical role of the REL-phrase (rather than that of the topics).

(39) *Tagalog relativization*

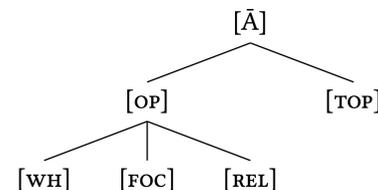
- a. **Sino** ang [RC b<um>ili/*-in/*-an/*i- ng keyk]? **[Actor Voice]**
who LK [RC buy<AV>/*PV/*LV/*CV ID.CM₂ cake]
 ‘Who is the one that bought cakes?’
- b. **Ano** ang [RC bi-bilih-**in**/*<um>/*-an/*i- ni Lia]? **[Patient Voice]**
what LK [RC CONT-buy-PV/*AV/*LV/*CV PN.CM₁ Lia]
 ‘What is the thing that L will buy?’
- c. **Nasaan** ang [RC bi-bilih-**an**/*<um>/*-in/*i- ni Lia ng keyk]? **[Locative Voice]**
where LK [RC CONT-buy-LV/*AV/*PV/*C PN.CM₁ Lia ID.CM₂ cake]
 ‘Where will be the place where L bought cakes?’
- d. **Sino** ang [RC **i**-bi-bili/*<um>/*-in/*-an ni Lia ng keyk]? **[Circumstantial Voice]**
who LK [RC CV-buy/*AV/*PV/*LV PN.CM₁ Lia ID.CM₂ cake]
 ‘Who is the one that L will buy cakes for?’

▸ I argue that the apparent extraction constraint derives from topicalization and relativization as driven by a single, flat, \bar{A} -probe (41).



- **Baier (2018):** \bar{A} -features ([WH], [REL], [FOC], [TOP]) are hierarchically arranged. Probes may be relativized to different places on this hierarchy.¹
 - **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].**

(41) \bar{A} -feature geometry (Aravind 2018; Baier 2018)



- 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.

6 Internal variation and external parallels

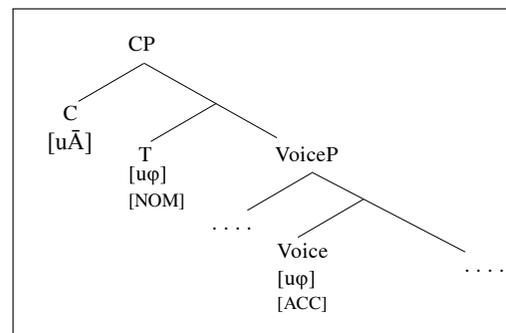
⊕ **Two implications**

- Morphological agreement is optional following Agree
- Move is optional following Agree

6.1 Morphological agreement is not necessary after Agree

▸ **Prediction:** We should see φ -feature of topics, subjects, and/or DOs spelled out on the verb – as these phrases are the goal of the probes in (42).

(42) *The design of \bar{A} -agreement in Austronesian*



¹See also Kuno (1973) for a similar insight, who observed that relativization and topicalization in many languages cannot co-occur in the same clause.

²These morphemes are commonly analyzed as clitic pronouns, but an agreement analysis has also been proposed for some languages (see, e.g. Chang 1997; Ochiai 2009).

- This prediction is borne out. Many Philippine-type languages display φ -features of the *topics* and *subjects* on the verb.²

- Co-occurrence of topic/pivot agreement and subject agreement³

(43) *Seediq*

- a. Wada=ku m-ege \emptyset lukus ka yaku.
 PERF=1SG.TOP AV-give ACC clothes PIVOT 1SG
 ‘I have donated clothes.’ (Actor Voice)
- b. 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)

(44) *Puyuma*

- a. Tu=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)
- b. Tu=atel-ay ku=tranguru (kana ladru)_i.
3.SUBJ=fall-LV 1SG.POSS.PIVOT-head (DF.NOM mango)
 ‘It/the mango fell on my head.’ (LV)

(45) *Kapampangan* (Kitano 2006:90)

- a. Su-sulagpo=ya ing ayup.
 PROG-fly.AV=3SG.PIVOT SPEC.SG bird
 ‘The bird is flying.’ (Actor Voice)
- b. 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)

- An object series is also attested in some Philippine-type languages:

(46) *Bunun* (Huang 1997:309, 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)

→ This series is unique per clause and targets recipients and not themes in ditransitives (46b), analogous to Amharic object agreement (27a).

→ Topic agreement ‘climbs’ to the negator; object agreement does not (c).

- The presence of these sets of φ -feature agreement lends support to the assumption that abstract topic agreement, subject agreement, and object agreement are presented in these languages.

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

* * * * *

6.2 φ -feature agreement triggered by topics

- Topic-driven φ -feature agreement reported in at least four language families (including Austronesian):

- Ripano (Romance) (Rossi 2008:86,87)

- (47) a. Tu nghe mme ti pij-u tropp-e cunfidenz-e.
 you.M with me REFL take-SG.M too.much-SG.F confidence-SG.F
 ‘You take too much liberty with me.’ (φ -agreement with subject topic)
- b. L-u preta cunzacr-e ll’-ostia.
 the-SG.M priest.SG.M consecrate-3SG.F the-host.SG.F
 ‘The priest consecrates the Host.’ (φ -agreement with object topic)

- See D’Alessandro (2020) for more detail about Ripano’s topic-driven φ -agreement.

► San Martin Peras Mixtec (Mixtec) (Ostrove 2018:220)

- (48) a. **Rà**_i-xá'antsya rà **Juan**_i chikí.
 he-cut.PRES he **Juan** tuna
 'Juan is cutting tunas.' (φ -agreement with subject topic)
- b. **Rí**_i-xá'antsya rà Juan **chikí**_i.
 it.AML-cut.PRES he Juan **tuna**
 'Juan is cutting *tunas*.' (φ -agreement with object topic)

► Kinande (Bantu) (Baker 2003:113)

- (49) a. **Omakuli mo**-a-seny-ire olukwi.
 woman.1 AFF-1.s/T-chop-EXT wood.11
 'The woman chopped wood.' (φ -agreement with subject topic)
- b. **Olukwi si**-lu-li-seny-a bakali.
 wood.11 NEG11.s-PRES-chop-FV women.2
 'Women do not chop *wood*.' (φ -agreement with object topic)

⊕ Implications

- Either an A- or \bar{A} probe (e.g. [uTOP] may trigger φ -feature agreement.
- φ -feature agreement may be a universal tool for indexing the goal of any probe.

* * * * *

6.3 Move is not a necessary outcome of Agree

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

- (50) *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)

► This optionality mirrors the word order variation in western Austronesian.

► Languages with the Austronesian-type four-way \bar{A} -agreement display variation in whether or not the topic/pivot occupies a designated position.

► Topic-final type

- (51) *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

- (52) *Paiwan* (Ferrell 1979:202)
- a. Q<m>alup **a caucau** tua vavuy i gadu tua vuluq.
 <AV>hunt **PIVOT man** CM₂ pig LOC mountain OBL spear
 'The man hunts while pigs in the mountains with a spear.' (AV)
- b. Qalup-en nua caucau **a vavuy** i gadu tua vuluq.
 hunt-PV CM₁ 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 CM₁ man CM₂ 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 CM₁ man CM₂ 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:

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

a. P<en>anguter dra dare' na markataguin.
 <AV>grab ID.ACC soul DF.PIVOT couple
 'The couple grabbed some soil.' (AV)

b. P<en>anguter na markataguin dra dare'.
 <AV>grab DF.PIVOT couple ID.ACC soul
 'The couple grabbed some soil.' (AV)

► Note, importantly, that all three types of languages display the same type of voice morphology and \bar{A} -extraction restrictions in relativization.

⊕ **Implication**

- Move might not be a necessary outcome of Agree with [uTOP] – just like the optionality observed with *wh*-in-situ.
- Since topics overtly marked in most Philippine-type languages, overt movement is not necessary.

7 Conclusion and implications

⊕ **Summary:** How are Philippine-type AN languages discourse configurational?

(54) *Seediq*

Wada=*ku*=*na* bbe-un *na* Pawan *ka* *yaku*.
 PST=1SG.TOP=3SG.SUBJ hit-[PV] NOM Pawan TOP 1SG
 'Pawan hit me.' (Patient Voice)

- Overt topic marker (*ka*)
- Topic-driven φ -agreement on the verb (=ku)
- Verbal morphology (PV) indexing the grammatical role of topics
- Subjects also trigger φ -agreement (=na)

⊕ **Take-home message**

► Discourse configurational languages may employ articulated verbal morphology indexing the Agree relations probing *topics*, *wh*-, and/or *REL-phrases*.

- This design is independent of case alignment and observed both in accusative and in ergative languages.
- It can be viewed as a strategy for indicating the grammatical role of the goal of an \bar{A} -probe.

⊕ **What do Austronesian languages tell us about Agree and Move?**

- How are \bar{A} -Agree relations realized in narrow syntax?
 - Bundles of abstract Agree relations may be built in to verbal morphology when targeting the same goal.
- What is the relationship between Agree and Move? Is Move necessary?
 - Move is not a necessary outcome of Agree with [u \bar{A}] ([uTOP]); the optionality is seen in western Austronesian.
- Is [u φ] the only type of probe that triggers φ -feature agreement?
 - φ -agreement can be triggered by Agree with either an A- or \bar{A} -probe.
 - **Implication:** φ -agreement may be a means for indexing the goal of any Agree relations.
- Can different \bar{A} -operations be driven by the same probe?
 - This proposal offers a simple solution to a fluid extraction constraint (e.g. (1)) observed in a group of discourse configurational languages.

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9 Appendices

9.1 Case pattern and voice-pivot mapping

(55) *Mapping between voice morphology and pivot selection*

	a. AV	b. PV	c. LV	d. CV
Highest DP (subject)	Pivot	CM ₁	CM ₁	CM ₁
2nd highest DP (DO)	CM ₂	Pivot	CM ₂	CM ₂
locative phrases	P ₁	P ₁	Pivot	P ₁
anything else*	P ₂ or CM ₂	P ₂ or CM ₂	P ₂ or CM ₂	Pivot

Pivot of “AV”	external argument in simple transitives/unergatives/ditransitives; internal argument in unaccusatives; causer in causatives
Pivot of “PV”	internal argument of simple transitives; causee in causatives; recipient in ditransitives (in some languages); controllee in object controls
Pivot of “LV”	ordinary locative phrases, recipient in ditransitives (in some languages)
Pivot of “CV”	theme in ditransitives; theme in causatives; theme in object controls; instrument; benefactor; reason; purpose; manner; degree; comitative, etc.

9.2 Binding facts

- ▷ Dinka (Nilotic) has been shown to lack A/ \bar{A} -distinction where Spec CP is simultaneously a topic and a subject position (van Urk 2015).

A-properties	\bar{A} -properties	Dinka	AN
No reconstruction for Principle C	Reconstruction for Principle C	No	Yes
New antecedents for anaphors	No new antecedent for anaphors	Yes	No
No Weak Crossover	Weak & Weakest Crossover	No	Yes

- ▷ Promotion-to-pivot in Dinka shows both A- and \bar{A} -properties.
- ▷ Promotion-to-pivot in Philippine-type languages (Puyuma, Amis, Seediq, Tagalog, Malagasy) shows only \bar{A} -properties (Chen 2017; Pearson 2001).

- ▷ Reconstruction for Principle C

(56) *Dinka*

*Ròt-dè_i à-nhiéer Bòl_i.
self-sg.3SG 3s-love.ov Bol.GEN

(intended: ‘Bol loves *himeself*.’)

(Object Voice)

(57) 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 DF.NOM Pilay

'Pilay hit *herself*.' (Patient Voice)

▷ New antecedent for anaphors(58) *Dinka*

Bòlì à-cíjì [DP thùrá è rôt-dèì] nyôoth [CP kè cùukù tìjì].
Bol 3S-PRF.OV picture P self-SG.3SG show.NF C PRF.1PL see.NF

'*Bol*, a picture of himself has shown that we have seen.' (Object Voice)

(59) 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)

▷ Types of Crossover effects(60) *No Weak Crossover effects in Dinka*

Dhùk ébénì à-cíjì thók-dèì kâac.
boy every 3S-PRF.OV goat.CS-SG.3SG bite.NF

'His_i goat bit *every boy*_i.' (Object Voice)

▷ In contrast to that in Dinka (60), promotion-to-pivot in Philippine-type Austronesian languages shows Weak Crossover and (occasionally very marginal) Weakest Crossover effects.

(61) *Weak Crossover effects in Austronesian*a. *Puyuma*

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

'I sowed his/her<_i> millet at *every old person's*<_{j/??i}> field.

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

Namangy ny rainy ny mpianatra tsirairay omaly.
PST.PV.visit DET father-3 DET student each yesterday

'His_i father visited each student_{j/??i} yesterday.' (Patient Voice)

9.3 Two approaches to the Austronesian-type voice system

▸ The key question

- What enables various types of internal arguments to extract and receive pivot-marking in PV/LV/CV?

-
- **Approach A:** voice is hosted *low* within individual VoicePs as valency-rearranging affixes, promoting different IAs to the VoiceP phase edge.
 - **Approach B:** voice is hosted *high* as clause-level agreement morphology, indexing the grammatical role of the topic.

▸ Approach A: Voice indexes argument structure alternation

- Whatever renders the pivot in PV/LV/CV is the *highest IA*.
 - In PV/LV/CV, the pivot is always the 2nd highest DP.
 - In LV/CV, the pivot is introduced *higher* than the theme.
- **Assumption:** LV/CV morphology indicates the presence of an Applicative phrase (ApplP) above the IA.
- In this view, voice affixes are hosted within *individual VoicePs*.
 - Aldridge (2004): Voice affixes as transitivity/applicative affixes.
 - Rackowski & Richards (2005): Voice affixes as case agreement morphology that tracks the case of the DP agreeing with Voice (NOM, ACC, and two inherent cases (DAT, OBL) assigned by an Appl head).

▸ Approach B: Voice affix as \bar{A} -agreement

- Whatever renders the pivot is the *topic* of the clause, probed by [u_{TOP}] on a C head and carries topic-marking (PIVOT).
- Given Relativized Minimality, a phrase doesn't need to be the highest DP to agree with an \bar{A} -probe such as [u_{TOP}].

(62) *Relativized Minimality* (Rizzi 1990 et seq; Starke 2001)

A syntactic relation R must involve the closest XP capable of entering into R.

- Therefore, there is no need to postulate argument structure alternation between PV and LV/CV – as a locative or instrument topic doesn't need to be the highest IA to agree with [u_{TOP}].

- Adjunct-like pivots in LV/CV may remain as a PP (Chen 2017, 2021).

- This is similar to *wh*-extraction in English: an adjunct or indirect object *wh*-word need not render an applied object to enable *wh*-extraction.

(63) *English wh-extraction*

- Who_i did you clean the room for <t_i>? (adjunct extraction)
- Who_i did you give the book to <t_i>? (IO extraction)

- In this view, voice affixes are *clause-level agreement morphology* indexing the grammatical role of the topic/pivot (i.e. goal of [u_{TOP}]).

- Pearson (2001): Voice affixes as \bar{A} -extraction morphology indexing the case position where the topic raises from.
- Chen (2017): Voice affixes as the spell-out of different bundles of Agree relations that probes the topic (i.e. Agree relation with [u_{TOP}] on C, [u φ] on T, [u φ] on matrix Voice, and [u φ] on P_{LOC}).

9.4 Why is Approach A disfavored?

- ▶ Placing Philippine-type voice within individual VoiceP (Approach A) would be difficult to maintain. For example:
- ▶ Treating CV-morphology as an applicative affix hosted in VoiceP gives rise to a series of issues:

1 Adverbs and modals (e.g. *quickly*, *again*, *be able to*) can take valency-indicating affixes (e.g. applicative).⁴

2 Theme in controls as applicativized *above* the controllee.

(64) *Paiwan*

Si-qihul=si' hiya' 'i' Ø-pa-patas ku' ruas.
 CV-force=2SG.NOM 3SG.ACC LK AV-CAU-write PIVOT book

'You forced him to read *the book*.' (CV)

3 Theme in causatives as applicativized *above* the causee.

(65) *Paiwan*

Ku=s<in>i-pa-'alup tay palang a icu a vavuy.
 1SG.NOM=CV<PRF>-CAU-hunt ACC Palang PIVOT this LK boar

'I made Palang hunt *this wild pig*.' (CV)

4 The alleged applicativization is not indicated by binding facts (Chen 2017).

(66) *Seediq*

S-p-tapaq=mu Ø heya ka heya *(nanaq).
 CV-CAU-slap=1SG.NOM ACC 3SG PIVOT 3SG *(REFL)

'I asked him/her to slap *himself/herself*.' (CV)

5 Applicative affixes inflects for mood (crosslinguistically unusual)

6 Unexpected locus of voice-marking

- ▶ If CV indeed functions to introduce the pivot *above* the IA ('taro'), the affix should be attached to the embedded verb 'give' – and not the adverb 'secretly'.

(67) *Puyuma*

Ku=trakatrakaw-ay Ø-beray na walak kana bu'ir.
 1s.NOM=secretly-LV AV-give DF.PIVOT child DF.ACC taro

'I *secretly* gave the child the taro.' (LV)

* * * * *

- ▶ The solution can be much simpler under Approach B. Consider (69).

(68) *Paiwan*

'u-si-RuqeRuq tjay Kapi a Ø-pa-vay tjay Kivi a pakiawi
 1s.NOM CV-force ACC Kapi LK AV-CAU-give ACC Kivi PIVOT money

'I have forced Kapi to give Kivi money.' (CV)

- ▶ **Approach:** PIVOT marks topics, and not ABS/NOM case.

- ▶ No argument structure alternation is required for the control example above.
- ▶ The pivot 'money' need not be applicativized *above* 'Kapi' (controllee) and 'Kivi' (recipient in DOC) to access pivot-marking.
- ▶ CV-morphology may simply indicates **the topic/pivot is something low in the clause** (see §4).

- ▶ See Chen (2017) for more discussion about Approaches A and B.

⁴I follow Holmer (1996, 2004) and Chang (2009) assuming adverbs in these languages are functional heads located between C and T.