The design of Philippine-type syntax, with special reference to Formosan

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1	Introduction	S <in>i-tekeL ni Zepul a icu a kupu ta</in>
•	Three common features of Philippine-type languages that have received less attention in the literature:	CV <prf>-drink PN.NOM Zepul CN.PIVOT this LK CUP CN.ACC za zalum. that water</prf>
	 Pronominal clitic climbing (and clitic doubling) 	'Z drank that water with <i>this cup</i> .' (Circumstantial Voice)
	 (1) a. Kapampangan (Gonzalez 1981:161) E=ya masanting ing igu. NEG=3sG.PIVOT AV.pretty PIVOT rattan.basket 'The rattan basket is not pretty.' (Actor Voice) b. Seediq (Chang 1999:356) Wada=ku=na bbe-un na Pawan ka yaku. PST=1sG.PIVOT=3sG.NOM hit-PV NOM Pawan PIVOT 1sG 'Pawan hit me.' (Patient Voice) 	 b. Reason pivot S<in>i-kan ni Zepul ta ci'aw a za</in> cv<prf>-eat PN.NOM Zepul CN.ACC fish CN.PIVOT that</prf> vengeLay-nimadu. pregnancy-3sG.POSS 'Z ate fish becuase of her pregnancy.' (Circumstantial Voice) c. Theme pivot Ku=s<in>i-pa-'alip tay Palang a icu a</in> lsG.NOM=CV<prf>CAU-hunt ACC Palang CN.PIVOT this LK</prf>
	(2) a. Kavalan (Yeh & Huang 2009:92)	vavuy. boar
	Ngid-an=na <u>m</u> -lizaq q <m>an ya baut 'nay. want-PV=3s.NOM <u>AV</u>-happily <<u>AV></u>eat PIVOT fish that</m>	'I made Palang hunt <i>this boar</i> .' (Circumstantial Voice) d. <i>Theme pivot</i>
	'He wanted to eat <i>the fish</i> happily.' (Patient Voice) b. <i>Puyuma</i> Ku=talam-ay d eru na patraka. 1sg.Nom=try-py<av>cook ріvот meat 'I tried to cook <i>the meat</i>.' (Patient Voice)</av>	S <in>i-vai ni Zepul tay Kalalu a zua paysu. CV<prf>-give см₁ Zepul Acc Kalalu см.ріvот that money 'Z gave Kalalu <i>that money</i>.' (Circumstantial Voice)</prf></in>
	 One-to-many correspondence between voice-marking and the grammatical role of the pivot 	Hey questions Multiple and the alignment in (1)2

- What are the clitic pronouns in (1)?
 - What do the voice marking constraint and the one-to-many correspondence in (2)-(3) tell us about the design of Philippine-type syntax?

(3) Paiwan (A. Chang 2006:72, 73, 193, 334)

a. Instrument pivot

▹ Main claims

- ▶ The so-called 'clitics' are the spell-out of φ -features of *topics* and *subjects*.
 - (4) Wada=<u>ku=na</u> bbe-un na Pawan ka yaku. PST=<u>1sg.top=3sg.subi</u>hit-pv Nom Pawan top 1sg 'Pawan hit me.' (S

(Seediq)

- Philippine-type 'voice' tracks the Agree relations targeting *topics* and *relativized phrases*.
 - ▶ This marking always appears on the highest verbal head per CP.
 - ▶ The voice-marking constraint in (2) instantiates *default agreement* on non-highest verbal heads per CP.
- Languages with the traits in (1)-(2) can be viewed as agreement-based and discourse-configurational (Miyagawa 2009).
- The one-to-many correspondence exemplified in (3) reinforces the view that Philippine-type 'voice' is not hosted in individual verb phrases (VoicePs), but clause-level agreement morphology associated with the presence of a finite CP layer.

How unusual is this design?

- ▶ Similar voice systems attested in western Nilotic and Caucasian
 - Verbal morphology indexing the Agree relations probing topics/*wh*-/REL-phrases
 - Default agreement marking on all non-highest verbs
 - Different Ā-operations trigger the same set of agreement morphology on the verb, giving rise to a 'pivot-only'-like extraction constraint
- Topic-oriented φ-feature agreement attested in Romance, Mixtec, Bantu, and Nilotic:
 - φ-features of topic/wh/REL-phrases spelled out on the highest verb (and co-occur with subject agreement, similar to (4))

- ◊ Roadmap
- $\$2\,$ Two approaches to Philippine-type syntax
- $\$3\,$ Three patterns of voice-marking constraints in Formosan
- §4 Philippine-type voice as agreement bundles probing topics/REL-phrases
- §5 The design of Philippine-type syntax: A typological view

2 Two approaches to Philippine-type syntax

2.1 Basic facts

- ▶ A Philippine-type voice system is featured by the traits in (5):¹
- (5) a. A syntactically pivotal phrase: One phrase is designated the pivot and is realized in a particular morphological form and/or structural position, regardless of its original grammatical function, case, or thematic role.
 - b. **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.
 - c. **One-to-many mapping between voice and pivot selection**: The choice of voice is not conditioned simply by the case or thematic role of the pivot.
 - d. Fluid extraction restriction: Ā-extraction (relativization, including pseudo-clefting) is limited to the pivot phrase of a given clause.
 - e. **Marking of nonpivot phrases**: Nonpivot phrases carry a fixed case-marking regardless of the voice type of the clause.
- This voice system is attested in all Austronesian primary branches except Rukai (Taiwan), which lacks voice distinctions in root clauses.



¹The definition here expands from Erlewine et al. (2017).

- ▶ 8 of the 9 branches with this voice system are located in Taiwan (the AN homeland). Formosan languages thus provide important clues for understanding the prototypical design of Philippine-type syntax.
- ▶ This voice system can be traced back to Proto-Austronesian (see Ross 2009, 2012; Blust & Chen 2017; Chen 2017 for details).

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- ⊳ How this system works
 - (7) Tagalog
 - keyk mula kay Lia para kay a. B<um>ili si AJ ng buy $\langle AV \rangle$ PN.PIVOT AJ ID.CM₂ cake P₁ PN.CM₂ Lia P₂ PN.CM₂ Joy. Joy

'AJ bought cake from Lia for Joy.'

b. Bi-bilih-in ni AJ ang keyk mula kay Li para kay CONT-buy-PV PN.CM1 AJ PIVOT cake P1 PN.CM2 Li P2 PN.CM2 Joy. Joy

'AJ will buy cake from Li for Joy.' (Patient Voice)

- AJ ng keyk si c. Bi-bilih-an ni Li para kay Joy. cont-buy-IV pn.cm1 AJ id.cm1 cake pn.pivot Li P_2 pn.cm2 Joy 'AJ will buy cake from Li for Joy.' (Locative Voice)
- d. I-bi-bili ni AJ ng keyk mula kay Li si **су**-сонт-buy ри.см1 АЈ ID.см2 саке Р₁ ри.см2 Li ри.риот Joy. Joy

'AJ will buy cake from Li for Joy.' (Circumstantial Voice)

- ▶ In **AV**, pivot-marking falls on the external argument (EA).
- ▶ In **PV**, pivot-marking falls on the internal argument (IA).
- ▶ In LV, pivot-marking falls on locative phrases.
- ▶ In CV, pivot-marking falls on other types of adjunct-like phrases (e.g. instrument, benefactor, reason, purpose, manner, degree, comitative).

- ▶ Note, however, that the mapping between voice and pivot selection is not simply tied to case or thematic role. We will return to this in §3 and §4.
- 'Pivot-only' extraction restriction: voice morphology must indicate the extracted phrase as the pivot.
 - (8) Tagalog pseudo clefts
 - a. Sino ang $\int_{BC} b < um > ili/*-in/*-an/*i-ng$ keyk]? who lk [_{RC} buy<<u>AV</u>>/*<u>PV</u>/*LV/*CV</u> ID.CM₂ cake] 'Who is the one that bought cakes?' (Actor Voice)
 - b. Ano ang $[_{RC}$ bi-bilih-in/*<um>/*-an/*i- ni Lia l? what LK [RC CONT-buy-PV/*AV/*LV/*CV] PN.CM1 Lia] 'What is the thing that Lia will buy?' (Patient Voice)
 - c. Nasaan ang $[_{RC}$ bi-bilih-an/*<um>/*-in/*i- ni Lia ng where LK [RC CONT-buy-LV/*AV/*PV/*C] PN.CM₁ Lia ID.CM₂ keyk]? cake]

'Where will be the place where L bought cakes?' (Locative Voice)

d. Sino ang $[_{RC}$ i-bi-bili/*<um>/*-in/*-an ni Lia ng kevk]? рм.см₁ Lia ID.см₂ cake] who lk [_{RC} CV-buy/*AV/*PV/*LV] 'Who is the one that Lia will buy cakes for?'(Circumstantial Voice)

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2.2 Two approaches to Philippine-type syntax

▶ The very 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.

(Actor Voice)

▶ 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.
 - Rackowksi & 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 Ā-agreement approach

- ▶ Whatever renders the pivot is the *topic* of the clause, probed by [итор] on a C head and carries topic-marking (ртот).
 - ▷ Given Relativized Minimality (9), a phrase doesn't need to be the highest DP to agree with an Ā-probe such as [utop].
 - (9) 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 [utop].
 - ▶ 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, (10).
 - (10) English wh-extraction
 - a. Who_i did you clean the room for ${<}t_i{>}? \quad (adjunct\ extraction)$
 - b. Who_i did you give the book to $\langle t_i \rangle$? (IO extraction)
- ▷ In this view, voice affixes are *clause-level agreement morphology* indexing the grammatical role of the topic/pivot (i.e. goal of [итор]).
 - Pearson (2001): Voice affixes as Ā-extraction morphology indexing the case position where the topic raises from.
 - ▶ Chen (2017): Voice affixes as the spell-out of different bundles of $\overline{\text{Agree relations that probes the topic (i.e. Agree relation with [utop] on C, [u\varphi] on T, [u\varphi] on matrix Voice, and [u\varphi] on P_{LOC}).$
- ▶ Three voice-marking constraints observed with Formosan infinitives lend new support to Approach B.

3 Three patterns of voice-marking constraints in Formosan

1 The AV-only constraint

- ▷ Attested in: Atayal, Seediq, Amis, Kavalan, Paiwan, Puyuma, Bunun, Pazeh, Saaroa, Kanakanavu
- 2 The voice concord constraint
 - ▶ Attested in: Tsou, Saisiyat, Taitung variety of Isbukun Bunun
- 3 The bare verb constraint
 - Attested in: Rukai
- ▹ These constraints are traditionally associated with voice restructuring and long-object movement, but a closer look suggests a different analysis.
- ▶ All three constraints occur in the same environments (11).
 - (11) Where do these constraints occur?Any non-highest verbal heads per CP, such as those in:
 - ▶ Serial verb constructions
 - ▶ Adverbial verb constructions
 - ▶ Productive causatives
 - ▶ Controls
 - ▶ Constructions introduced by a restructuring verb
 - ▶ Purpose clauses
 - ▶ Any combination of the above (e.g. adverbial verb + SVC)
- 'AV-only' is attested in 7 Austronesian primary branches and 'voice concord' in 4 branches.
- ▶ There is also variation within the same branch (Tsouic, Northwestern Formosan, Malayo-Polynesian) and within the same language (Bunun).

3.1 The AV-only constraint

- Pivot assignment indicated by voice-marking on the highest verbal head.
 - ▶ All the rest of the heads carry AV morphology, (12)-(13).
- (12) Atayal (TC Chen 2012:6)
 - a. M-naqaru 'i' t<u><um></u>aluk cu' cai' ku' 'ulaqi.
 AV-finish LK <<u>AV</u>>cook ACC taro PIVOT child 'The child finished cooking the taros.' (Actor Voice)
 b. Naqaru-un nku' 'ulaqi' 'i' t<u><um></u>aluk ku' cai'.
 - finish- \underline{PV} NOM child LK <u><AV></u> cook PIVOT taro 'The child finished cooking *the taros.*' (Patient Voice)
- (13) Puyuma
 - a. Talam=ku deru kana patraka. <av>try=1sg.pivot <av>cook df.acc meat 'I tried to cook the meat.' (Actor Voice)
 - b. Ku=talam-ay d<u></u>eru na patraka. 1sg.Nom=try-<u>PV</u><u><AV></u>cook DF.PIVOT meat 'I tried to cook the meat.'

(Patient Voice)

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- The traditional account: 'AV-only' indicates the presence of a deficient VoiceP, accompanied by voice restructuring and long-object movement.
 - ▶ The AV-marked infinitive is structurally deficient and incapable of case-licensing the IA.
 - ▶ The IA moves up and gets case from the matrix clause.
 - ▶ Consequently, matrix voice controls the IA's case-marking.²
 - ▶ Two basic assumptions of this approach
 - ▶ PIVOT marks nominative/absolutive case.
 - ▶ Philippine-type voice is hosted in *Voice* (Approach A).
 - Thus, a deficient Voice head constrains the option of voice-marking (i.e. AV-only).

²For more details of this approach, see TC Chen (2010), Chang (2017), and Wurmbrand (2014).

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Three understudied facts	(15
1 The matrix voice-marking is <i>not</i> restricted to AV and PV	
2 The pivot can be something <i>lower than the first embedded IA</i>	
3 'AV-only' is attested not only in ordinary restructuring environments, but on any non-highest verbal heads per CP (11).	
14) Atayal (Wu 2013)	L
a. Restructuring verb	
Si-'na-qru' 'i' kabalay cu' 'imuag ni' Watan 'i' Tapas. टv-vcl-finish lк av.make acc house пом Watan pivot Tapas	
'Watan finished building a house for <i>Tapas</i> .' (CV)	
b. Manner adverb	
Si-psi-ha-hailag=mi' c <um>bu' cu' bauwak ku' patus. CV-vcl-red-quickly=1s.nom shoot<av> acc pig ріvот gun</av></um>	
'I quickly shot a pig with <i>the gun</i> .' (CV)	
c. Abilitative modal	
Si-'na-huwai=mi' pasayug 'i' Watan ku' pila'. cv-do-be.able.to=1s.nom av.return асс Watan pivot money	
'I can/am able to return Watan <i>the money</i> .' (CV)	
d. Serial verb construction	
Si-'usa' 'i' c <um>bu' ni' Watan cu' bauwak <mark>ku' patus</mark>. <mark>cv</mark>-go lk <av>shoot ком Watan асс pig ріуот gun</av></um>	► In o
'Watan goes hunting pigs with <i>the gun</i> .' (CV)	(16
e. Productive causative	
Ku=s <in>i-pa-'alup tay palang a icu a vavuy. lsg.nom=<mark>Cv</mark><prf>-саu-hunt acc Palang pivot this lk boar</prf></in>	
'I made Palang hunt <i>this wild pig.</i> ' (CV)	
f. Object control	
Si-qihul=si' hiya' 'i' Ø-pa-patas <mark>ku' ruas.</mark> cv-force=2s.nom 3s.acc lk av-cau-write <mark>pivot book</mark>	
'You forced him to read <i>the book</i> .' (CV)	

▶ The same observation obtains in other 'AV-only' Formosan languages:

5)	Pai	iwan (Wu 2013)	
	a.	Restructuring verb	
		'u-s <in>i-patagilj=anga=sun a sapay ta 1sg.nom-cv-prf-begin=cos=2s.pivot lk <av>cultivate acc kaitang.</av></in>	
		field	
		'I have started to cultivate the field for <i>you</i> .'	(CV)
	b.	Manner adverb	
		ʻu-s <in>i-galju a tjavac ti ina. lsg.nom-CV-<prf>slow lk <av>walk pivot mother</av></prf></in>	
		'I walked slowly with <i>mother</i> .'	(CV)
	c.	Abilitative modal	
		Si-'a-caqu a l anqgui a kasiw.	
		'I am able to swim by means of the <i>woods</i> .'	(CV)
	d.	Serial verb construction	
		'u-s <in>i-vaik a qaljup ta vavuy ti Kapi. 1s.nom-CV-PRF-GO LK <av> acc wild.pig pivot Kapi</av></in>	
		'I went hunting wild pigs with Kapi.'	(CV)
	e.	Object control verb	
		'u-si-RuqeRuq tjay Kapi a Ø-pa-vay tjay Kivi a pal 1s.nom-[сv]-force Acc Kapi LK AV-CAU-give Acc Kivi ріуот то	kiawi ney
		'I have forced Kapi to give Kivi <i>money</i> '.'	(CV)
			· · /

- > In other words, voice-marking 'climbs' to whatever is the highest head!
 - (16) 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 Ø-beray na walak kana bu'ir. 1s.NOM=<u>try-LV</u> DEF-give DF.PIVOT child DF.ACC taro 'I *tried* to give the child the taro.'
 - c. Ku=trakatrakaw-ay talam Ø-beray na walak kana 1s.NOM=<u>secretly-Lv</u> DEF-try DEF-give DF.PIVOT child DF.ACC bu'ir. taro

'I secretly tried to give the child the taro.'

	(19) Ku=s <in>i-pa-'alup tay palang a icu lsg.nom=cv<prf>-саu-hunt <u>acc</u> Palang pivot this</prf></in>			
	a vavuy. LK boar			
	'I made Palang hunt <i>this wild pig</i> .' (CV)			
t Voice)	4 The alleged applicativization is not indicated by binding facts (Chen 2017).			
	(20) Seediq			
t Voice)	S-p-tapaq=mu Ø heya ka heya *(nanaq). cv-саи-slap=1sg.nom асс 3sg ріvот 3sg *(refl)			
t Voice)	'I asked him/her to slap <i>himself/herself</i> .' (CV)			
1	▶ For more binding tests, see Pearson (2001, 2005) and Chen (2017) §4.			
three	5 Applicative affixes inflect for mood (crosslinguistically unusual)			
	6 Unexpected locus of voice-marking			
ch A)	 If CV indeed functions to introduce the pivot <i>above</i> the IA ('taro'), the affix should be attached to the embedded verb 'give' – and not the adverb 'secretly'. 			
	(21) Puyuma			
biceP	Ku=trakatrakaw-ay Ø-beray na walak kana 1s.Nom=secretly-Lv Av-give DF.PIVOT child DF.ACC			
ı take	bu'ir. taro			
	'I <i>secretly</i> gave the child the taro.' (LV)			
.ee.	* * * * * * * * * * * * * * * * * *			
,				
OT	▶ The solution can be much simpler under Approach B. Consider (22).			
	(22) Paiwan			
(CV)	ʻu-si-RuqeRuq tjay Kapi a <u>∅</u> -pa-vay tjay Kivi a pakiawi 1s.nom- <mark>cv</mark> -force асс Карі lk <u>av</u> -саu-give асс Kivi рі <mark>vот money</mark>			
e.	'I have forced Kapi to give <u>Kivi</u> money'.' (CV)			

- ▶ Topic-indicating agreement in Dinka (Nilotic) behaves similarly:
 - (17) Dinka (van Urk 2015: 61, 84, 96)

a.	Cuîin à-c´m Áyèn nè păal. food 3seat-ov Ayen.gen p knife 'The food, Ayen is eating with a knife.'	(Objec
b.	Cuîin à-d´c Bôl <u>câam</u> food 3s- <u>do.quickly.ov</u> Bol.gen <u>eat.nf</u>	
	'The food, Bol is eating quickly.'	(Objec
c.	Cuîin a-cíi Áyèn [$_{vP}$ câam nè pâal].	

food 3s-PRF.OV Ayen $[vP \ caam$ ne paal]. 'The food, Ayen has eaten with a knife.' (Object Voice)

- > Dinka's topic-indicating morphology also 'climbs' to the highest head.
 - Any lower verbs carry nonfinite (NF) marking, analogous to the three voice-marking constraints discussed above.

3.2 What does this constraint tell us?

- 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).³
 - 2 Theme in controls as applicativized *above* the controllee.
 - (18) Si-qihul=si' hiya' 'i' Ø-pa-patas ku'
 cv-force=2sg.NOM 3sg.ACC LK AV-CAU-write PIVOT ruas.
 book
 'You forced him to read *the book*.'

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

³I follow Holmer (1996, 2004) and Chang (2009) and assume adverbs in Formosan languages are functional heads located between C and T, rather than adjuncts.'

- ▶ **Approach**: Pivot marks topics, and not ABS/NOM case.
 - ▶ No argument structure alternation is required for (22).
 - 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).

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3.3 The voice concord constraint

- > Pivot assignment indicated by voice-marking on the highest verbal head.
 - ▶ All the rest of the heads copy the same voice morphology.
- ▶ This constraint is attested in exactly the same environments where AV-only occurs.
 - (23) Tsou (Lin 2009; Yeh & Huang 2009; Chang 2005)
 - a. Restructuring verb

Os='o=cu ahoz-a 'ote an-a 'o fou. AUX.NAV.REAL=1S.NOM=PERF start-<u>PV</u>NEG eat-<u>PV</u> pivot meat

'I have started not eating the meat.'

b. Epistemic adverb

O=he=cu ason-a opcoz-a homio. AUX.NAV.REAL=3PL.NOM=PERF probably-PV kill-PV at.the.time

'They probably killed (him) at that time.'

c. Epistemic adverb + manner adverb

... ho a'Umta mon'ia teopUngi.

... CONJ really.**PV** quickly.**PV** finish.**PV**

'... we will really complete (the work on a dictionary) quickly.'

d. Epistemic adverb

O=he nana aUmt-a opcoz-a na nia AUX.NAV.REAL=3PL.NOM heresay indeed-PV kill-PV PIVOT late ngohoo. Ngohoo 'They indeed killed the late Ngohoo.'

e. Epistemic adverb

Te cu petohUea peela efoa. AUX ASP finally **PV** could.**PV** be.buried.**PV**

- 'It finally could be buried.'
- f. Epistemic adverb + degree adverb + semi-modal

I-he a'Umta na'na ucia cohivi 'e mo AUX.NAV=3P.NOM really.<u>PV</u> very.<u>PV</u> want.<u>PV</u> know.<u>PV</u> PIVOT AUX.AV maica ci 'a'a'ausna. like.that REL thing

'They really want to know the thing like that very much.'

g. Epistemic modal

Te c'o ahUe-a tueoh-a. AUX.IRR just should-<u>PV</u> remove-<u>PV</u>

'(They) must be removed.'

h. Subject control verb

Os='o uci-a an-a 'o tacUmU. AUX.NAV.REAL=1S.NOM want-**PV** eat-**PV** top banana

'I want to eat the bananas.'

- Just like that in AV-only languages, CV-morphology allows pivot-marking to fall on phrases lower than the IA:
 - (24) Tsou (Lin 2009)
 - a. I=si poa-bonU-a to tacUmU to AUX.NAV.REAL=3sg.NOM CAU-eat-PV NONPIV banana NONPIV yoifo 'e amo. wizard **PIVOT** father (PV) 'The wizard made father eat bananas.' poa-bonU-neni to 'o'oko to b. I=si AUX.NAV.REAL=3sg.NOM CAU-eat-cv NONPIV children NONPIV voifo 'o naveu. wizard pivot rice

'The wizard made the children eat *the rice*.' (CV)

3.4 The bare verb constraint

- The bare verb constraint is observed in exactly the same environments in Rukai, i.e. any non-highest verbal heads within a clause.
 - (25) Rukai (Zeitoun 2007)
 - a. Manner adverb

Ma-ridhare Ø-lrolrame. Av-fast Dyn.subj-run

'He runs fast.' (Zeitoun 2007:92)

b. Manner adverb

Paoli=lraoØ-koneana Taotao velevele=ni.Av.wrongly=1s.pivotDYN.SUBJ-eat that Taotao banana=3s.NOM

'I wrongly eat Taotao's banana.' (Zeitoun 2007:410)

c. Abilitative modal

O-dholro=nai Ø-longai 'i-paiso. AV.DYN.FIN-can=1P.PIVOT DYN.SUNJ-buy get-money

'We can trade (them) against money.' (Zeitoun 2007:139)

d. Serial verb construction

Om-oa-nga-lrao Ø-cengel=ine iinae. AV.DYN.FIN-go-already=1s.PIVOT DYN.SUBJ=3s.ACC own.mother

'I went to see my mother.' (Zeitoun 2007:403)

e. Subject control

Pasopalr-lra-ine'Ø-'ilapeapoto taotao.AV.DYN.FIN.help=1s.PIVOT=3s.ACCDYN.SUBJ-look.for stoneTaotao

'I helped Taotao to look for the stones.' (Zeitoun 2007:405)

f. Purpose clause

Om-alra-mao 'avelre ⊘-topo'o. AV.DYN.FIN-take big.rounded.bamboo.dish DYN.SUBJ-winnow

'We (would) take a big rounded bamboo dish to winnow (the grains).' (Zeitoun 2007:414)

g. Object control

Pa-'adhi'adhili=lra=ine Ø-pa-langolangoi. AV.CAU-DYN.FIN-force=1s.pivot=3s.acc CAU-DYN.NFIN-swim

'I forced him/her to swim.' (Zeitoun 2007:427)

- ▶ Interim conclusion
 - ▶ AV-only, voice concord, and bare verb are likely to be alternative strategies realizing *default voice/agreement*.
 - ▶ Recall that all three constraints are attested in exactly the same environments, i.e. non-highest verbal heads per CP.
 - ▷ Given their distribution, these constraints should not be associated with size restructuring.
 - 'True' pivot-indicating voice-marking is always present on the highest head.

4 Proposal: Philippine-type voice tracks the Agree relations probing topics and REL-phrases

- ▶ Take-home message from §3:
 - ▶ Voice-marking does not *change* the argument structure of a clause.
 - ▶ Instead, it indicates the *relative structrual height* of the pivot/topic.
 - (26) A VOICE HIERARCHY
 - a. AV > PV > CV
 - b. LV as thematic-role oriented
 - ▶ "AV" indexes pivots that constitute the highest DP within a CP
 - \blacktriangleright "PV" indexes pivots that constitute the 2nd highest DP within a CP
 - ▶ "CV" indexes pivots that are anything else
 - "LV" indexes pivots that are locative phrases (including goal in ditransitives)
- \rightarrow That is to say, the distribution of AV and PV patterns with abstract subject and object agreement.

- **Theoretical assumption**: abstract subject and object agreement are presented in all human languages (Chomsky 1990; Miyagawa 2009, 2017; Baker 2012; a.o.).
 - Abstract subject agreement: the Agree relation with [uφ] on C/T, targeting the closest DP
 - Abstract object agreement: the Agree relation with [uφ] on the matrix Voice
 - ▶ Three idiosyncrasies of object agreement (Baker 2012; Deal 2016)
 - Unique per clause, targeting only the highest DP below matrix Voice
 - ▶ Cannot probe into PPs
 - ▶ Is independent from Acc-licensing (not unique per CP)
 - (27) Amharic object agreement
 - a. Lmma l-Almaz ms'haf-u-n st'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-meta-ññ. Aster ball-DEF.ACC CAU-hit-ЗFEM.S-<mark>Isg.O</mark> 'Aster made *me* kick the ball.' (Duncan & Aberra 2009)
 - $\rightarrow\,$ In DOC, only the goal and not the theme triggers object agreement.
 - \rightarrow In causatives, only the causee and not the theme triggers object agreement.
- ▶ We see exactly the same pattern with Philippine-type PV morphology.

Pivots in "AV"	external argument in simple transitives/unerga- tives/ditransitives; internal argument in unac- cusatives; causer in causatives	
Pivots in "PV"	internal argument in simple transitives; causee in causatives; recipient in ditransitives (in some lan- guages); controlle in object controls	
Pivots in "LV"	ordinary locative phrases, recipient in ditransi-	
Pivots in "CV"	theme in ditransitives; theme in causatives; theme in object controls; instrument; benefactor; reason; purpose; manner; degree; comitative, etc.	

- (28) Seediq (Chen 2017:112–113)
 - a. P-trima-un=mu Ø papak-na ka laqi gaga. саи-wash-PV=1sg.Noм Acc leg-3sg.poss pivot child that 'I asked *the child*_i to wash their_{i/k} legs'. (PV)
 - b. S-p-trima=mu Ø laqi gaga ka papak=na. <u>PV</u>-CAU-wash=1sg.NOM ACC child that <u>PIVOT leg-3sg.POSS</u> 'I asked the child_i to wash *his_{i/k} legs*'. (CV)
- Claim: Philippine-type 'voice' tracks different bundles of Agree relations probing the topics/pivots.
 - ▶ When the goal of [utop] is simultaneously the goal of other probes, the bundle of Agree relations is spelled out as 'voice morphology', (29).



- "AV": descriptively: indicates the subject is also the topic \Rightarrow bundle of the Agree relation with $[u\varphi]$ on T and that with [urop] on C i.e. bundle of subject agreement & topic agreement
- "PV": descriptively: indicates the DO is also the topic \Rightarrow bundle of the Agree relation with $[\underline{u}\varphi]$ on matrix Voice and that with $[\underline{u}\tau or]$ on C i.e. bundle of object agreement & topic agreement
- "LV": descriptively: indicates the locative phrase is also the topic \Rightarrow bundle of the Agree relation with $\underline{P_{LOC}}$ and that with $\underline{[urop]}$ on C i.e. bundle of locative agreement & topic agreement)
- "CV": descriptively: indicates the topic is none of the above \Rightarrow spell-out of the Agree relation with [utop] on C i.e. spell-out of **topic agreement**

▶ "AV" as the bundle of the Agree relation with [uTOP] (i.e. topic agreement) and that with the Agree relation with $[u\varphi]$ on T (i.e. subject agreement).



"PV" as the bundle of the Agree relation with [utop] (i.e. topic agreement) and that with [uφ] on matrix Voice (i.e. object agreement).



 "LV" as the bundle of the Agree relation with [utop] (i.e. topic agreement) and that with a specific type of preposition, P_{LOC} (i.e. locative agreement)⁴



"CV" as the spell-out of the Agree relation with [utop] (i.e. topic agreement)
 when the goal of [utop] does not agree with any other probes.





- ▶ In this view, Philippine-type 'voice' tracks the Agree relations probing topics.
 - ▶ The label "AV" is better characterized as 'Subject Topic'
 - ▶ The label "PV" is better characterized as 'Object Topic'
 - ▶ The label "LV" is better characterized as 'Locative Topic'
 - ▶ The label "CV" is better characterized as 'Circumstantial Topic'
- ► This system can be viewed as *discourse-configurational* (Lee & Thompson 1980; Kiss 1995; Miyagawa 2009)

⁴Support for this proposal comes from the fact that locative phrases in various Philippine-type languages are commonly marked with the Proto-Austronesian preposition *i (Blust 2009, 2015; the Austronesian Comparative Dictionary). See Chen (2017:168) for details.

5 The design of Philippine-type syntax: A typological view

▶ How unusual is this design?

- ▶ Similar systems attested in Nilotic and Caucasian:
 - Verbal morphology indexing the Agree relations probing topics/wh-/REL-phrases
 - Different Ā-operations trigger the same set of agreement morphology on the verb, giving rise to a 'pivot-only'-like extraction constraint
- (35) a. Kurmuk (Anderson 2015)

táarák bóor-ú `l k` ŋìır. person skin-pst.st goat prep knife

'The man skinned a goat with a knife.

- b. `l bóor-út-` ŋ` táarák k` ŋ`r. goat skin-pst-от NOM person prep knife
 'The man skinned the goat with a knife.'
- c. ŋ`r bóor-út-´ 'l ŋ` táarák
 knife skin-рэт-овьт goat мом person
 'The man skinned a goat with the knife.'
- (36) Dinka (van Urk 2015: 61)
 - a. Àyén à-càm cuîin nè păal.
 Ayen 3s-eat.sv food p knife
 'Ayen is eating food with a knife.'
 - b. Cuîin à-c'm Áyèn nè păal.
 food 3s.eat-ov Ayen.GEN P knife
 'Ayen is eating *the food* with a knife.'
 - c. Păal à-c'mè Áyèn cuîin knife 3s-eat.OBLV Ayen.GEN food 'Ayen is eating food with *a knife*.'

- ▷ Core traits of this voice system (Anderson 2015; van Urk 2015)
 - Three-way morphology indicating the grammatical role of the topic (subject vs. direct object vs. others)
 - ▶ NOM-ACC-style case system
 - Oblique topic constructions involve no applicativization (Anderson 2015; van Urk 2015)
 - Same set of verbal morphology observed in constructions involving other A
 operations (37).
- (37) Dinka

a.	Yè ŋà cé cuîin câam? be who prF. <mark>sv</mark> food eat.NF 'Who has eaten the food?'	(Subject <i>wh</i> -question)
b.	tíŋ [CP cé Bòl tîiŋ] woman.cs PERF.SV Bol see.NF 'the woman that has seen Bol'	(Subject relativization)
c.	Yè ŋó <mark>cíi</mark> Bôl câam? be what prf.ov Bol.gen eat.gen 'What has Bol eaten?'	(Object <i>wh</i> -question)
d.	tíŋ [CP cìi Bôl tîiŋ] woman.cs perf.ov Bol.gen see.nf 'the woman that Bol has seen'	(Object relativization)
 A similar ergative ca 	voice system is observed in Abaza (Caucasian), ase system.	which possesses an
(38) <i>Ab</i>	aza (Arkadiev & Caponigro 2020)	
a.	[awaa j-a-ta-a-k ^w a-z] there <u>rel.subj</u> -csl-loc-remain-pl-pst.nfin	
	'Those who remain there are the Abaza.'	(Subject RC (S))

b. [a-ph^wspa j_i-l-s-t-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))

(Subject Topic)

(Object Topic)

(Oblique Topic)

(Subject Voice (Topic))

(Object Voice (Topic))

(Oblique Voice (Topic))

c.	[a-ph ^w spa ĉa l- <mark>z</mark> -t-z]	a-ĉ'k ^w n
	DEF-girl apple 3sg.f.IO-REL.NSUBJ-gi	ve-pst.nfin def-boy
	'The boy who gave an apple to the gir	l.' (Nonsubj RC (A))
d.	[ĉa z-s-t-z] apple REL.NSUBJ -1sg.ERG-give-pst.NFIN	a-aph ^w spa DEF-girl
	'the girl whom I gave an apple.'	(Nonsubj RC (IO)
e.	d-h ^w a [j- z -b- ^w a-z]	
	3sg.h.abs-say(imp) 3sg.n.abs- <u>rel.nsub</u>	J-BEN-2sg.f.erg-buy-pst.infin
	'Say whom you bought it for!'	(Nonsubj RC (AO))
f.	[a-karb ^{*'} -k ^w a a-d-r-ba-wa-z] def-brick-pl <u>rel.loc</u> -3pl-erg-caus-d	a-baq ry-ipf-pst.nfin def-shed
	'the shed where bricks are made.'	(Locative RC)
g.	[l-an d-an-a-j-] 3sg.f.IO-mother 3sg.H.ABS-REL.TMP-CSI	asqan go-re def.time
	'at the time when her mother came ba	ck.' (Temporal RC)
h.	[d-š-š'ta-z] a-pš-ta 3sg.h.abs-rel.mnr-lie-pst.nfin 3sg.n.i d-š'tal-n 3sg.h.abs-lie down-re-past fin	o-be.like-adv
	'He lay down like he lay before.'	(Manner RC)

- → The same verbal morphology (*j*-) used for both S and O (i.e. subject) relativization.
- $\rightarrow\,$ Relativization of non-subject arguments (A/IO/AO) share the same affix (z-).
- $\rightarrow\,$ Extraction of different types of adjuncts employ distinct extraction affixes (38f-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 Ā-probe (i.e. [uRel]).

⁵See also Kuno (1973) for a similar insight, who observed that relativization and topicalization in many languages cannot co-occur in the same clause.

▶ 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. (39) Abaza (O' Brien 2002) 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 (Non-subj *wh*-question (ERG A)) 'What frightened you?' 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-oh 'Whom are you looking at?' (Non-subj *wh*-question (indirect O))

▶ An alternative solution to the 'pivot-only' extraction constraint

- Baier (2018): Ā-features ([WH], [REL], [FOC], [TOP]) are hierarchically arranged. Probes may be relativized to different places on this hierarchy.⁵
 - ▶ That is, a probe may be satisfied by an Ā-feature (represented [uĀ]), or a feature lower down on the hierarchy, like [REL]. See Miyagawa (2009) and van Urk (2015) for a similar assumption.
- (40) *Ā-feature geometry (Aravind 2018; Baier 2018)*



▶ I argue that the 'pivot-only' constraint derives from topicalization and relativization as driven by a single, flat, Ā-probe (41).



- ▶ 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 and Kilega.
 - (42) The design of Philippine-type syntax (revised)



▷ When the goal of [uĀ] is simultaneously the goal of other probes ([uφ] on various heads), the bundle of Agree relations is spelled out as 'voice morphology'.

6 Internal variation and external parallels

$\oplus \ \ \, {\rm The \ next \ question}$

- ▶ Any supporting evidence for this analysis?
- ▶ Any more similar patterns seen in non-Austronesian languages?

6.1 Two sets of variation in Philippine-type languages

1~ Whether $\varphi\text{-}\text{features}$ of topics/subjects/DOs are spelled out on the verb

- If the analysis in (42) is correct, we should see φ-feature of topics, subjects, and/or direct objects spelled out on the verb as these phrases are assumed to agree with [utop/Rel] and/or [uφ] on different heads.
- This prediction is borne out. Many Philippine-type languages display φ-features of the *topics* and *subjects* on the verb.
 - ▶ Topic/pivot series.
 - (43) 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.pivot+3sg.sub] that.NOM-LK man pivot house. 'That man bought the house.' (Patient Voice)
 - (44) Seediq
 - a. Wada=ku m-ege Ø lukus ka yaku. PERF=lsG.PIVOT AV-give ACC clothes PIVOT lsG 'I have donated clothes.' (Actor Voice)
 b. Wada=ku=na bbe-un na Pawan ka yaku. pgg-lsg.pupgg-2sg.gum bit pu voit Pawan pupg lag.
 - b. Wada=<u>Ku=na</u> bbe-un na rawan ka yaku. PST=<u>Isg.PIVOT=3sg.suBJ</u>hit-PV NOM Pawan PIVOT 1sg 'Pawan hit me.' (Patient Voice)
 - These morphemes are commonly analyzed as clitic pronouns, but an agreement analysis has also been proposed for some languages (see, a.g. Chang 1997; Ochiai 2009).

- ▶ Subject series.
 - This series is traditionally labeled as GEN/ERG, but it in fact also indexes undergoers in unaccusatives (45)-(46) – hence better viewed as 'subject series'.
 - (45) Puyuma⁶

(46)

a.	$\begin{array}{llllllllllllllllllllllllllllllllllll$	
	'Senten stole money from you.'	(LV)
b.	$\begin{array}{llllllllllllllllllllllllllllllllllll$	
	'The rain rained on me.'	(LV)
c.	Tui=atel-ayku=tranguru(kanaladru)i.3.SUBJ=fall-lv1sg.poss.pivot-head(DF.NOM mango)	
	'It/the mango fell on my head.'	(LV)
See	diq	
a.	Wada=ku=na bbe-un na Pawan ka yaku. pst=1sg.top=3sg.subj bit-pv Nom Pawan pivot 1sg	
	'Pawan hit me.'	(PV)
b.	H-huqil-an=na ka Paran. RED-die-Lv=3sg.subj pivot Paran	
	'S/he will die in Paran.'	(LV)

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

(47) Bunun (Li 2018:86-87)
Ma-saiv=ku tina sui. Av-give=1sg.obj mother.pivot money
'Mother gives/gave me money.' (AV)

The fact that φ-features of the topic, subject, and DO are spelled-out on the verb follows from the proposal in (48), i.e. abstract topic agreement, subject agreement, and object agreement are presented in these languages.

(48) The design of Philippine-type syntax (revised)



- ▶ Languages where φ -features of *topics* are spelled out on the verb
 - ▶ Ripano⁷ (Romance) (Rossi 2008:86,87)
 - (49) 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.м priest.sg.м consecrate-3sg.F the-host.sg.F
 'The priest consecrates the Host.'(φ-agreement with object topic)
 - ► San Martin Peras Mixtec (Mixtec) (Ostrove 2018:220)

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

▶ Kilega (Bantu) (Miyagawa 2009)

⁶Nanwang Puyuma has undergone case syncretism whereby NOM phrases share the same marking with non-pivot objects. A conservative NOM-marking (reflex of Proto-Austronesian *ni) is preserved in more conservative dialects. See Teng (2009) for details. For clarify, I maintain the case distinction in the glosses in (46).

⁷See D'Alessandro (2020) for more detail about topic-oriented agreement in Ripano.

- (51) a. Olukwi si-lu-li-seny-a bakali (omo-mbasa).
 wood.11 NEG11.s-PRES-chop-FV women.2 Loc.18-axe.9
 'Women do not chop wood (with an axe).' (φ-agreement with object topic)
 - b. Bikí bí-á-kás-il-é bábo bíkulu mwámi mu-muwílo? 8what 8-CA-A-give-PERF.FV 2that 2woman 1chief 18-3village 'What did those women give the chief in the village?' $(\varphi$ -agreement with *wh*-object)
- 2 Variation in word order patterns
 - Philippine-type languages display variation in whether or not the topic/pivot occupies a designated position.
 - Topic-final type
 - (52) 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
 - (53) Paiwan (Ferrell 1979:202)
 - a. Q<m>alup a caucau tua vavuy i gadu tua vuluq. <av>hunt pivot man CM_2 pig LOC mountain OBL spear 'The man hunts whilde pigs in the mountains with a spear.' (AV)
 - b. Qalup-en nua caucau a vavuy i gadu tua vuluq. hunt-pv см₁ man pivot pig Loc mountain овL 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 См₁ man См₂ 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 CM_1 man CM_2 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.
 - (54) 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 voice alternation and Ā-extraction restrictions in relativization.

▶ This variation mirrors *wh*-agreement in Abaza (Caucasian), which is always present regardless of whether the *wh*-phrase stays in-situ or undergoes overt Ā-movement (O'Herin 1993:35).

(55) *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)

- ▶ **Implication**: Move might not be a necessary outcome of Agree with [итор] just like the optionality observed with wh-in-situ.
 - Note: the Agree relation with [utop] is indexed by verbal morphology, analogous to the pattern seen with Abaza's wh-in-situ constructions (55b).

7 Conclusion and implications

- ▶ The following conclusions draw primarily from Philippine-type Formosan languages.
 - Since Formosan languages occupy the majority of AN primary branches with a Philippine-type voice system, I assume their characteristics represent the prototypical design of Philippine-type voice.



- I remain agnostic about whether the same analysis applies to various Malayo-Polynesian languages with a similar voice system.
- 1 Philippine-type 'voice' is distinct from the term *voice* used in the Indo-European-type literature:
 - ▶ IE-type voice: valency-indicating affixes hosted low in VoicePs.
 - ▶ PPT 'voice': topic/REL-indicating morphology hosted high in the left periphery.
- 2 Just like similar verbal affixes observed in other discourse configuration languages (e.g. Dinka, Kurmuk, Abaza), Philippine-type 'voice' tracks the grammatical role of the goal of [utop/REF].
 - 2 This design is independent of case alignment, attested in both accusative (e.g. Kurmuk, Formosan languages) and ergative (e.g. Abaza) languages.
- **3** Treating pronominal clitics in these languages as spell-out of φ -features of *topics* and *subjects* arrives at the view that Philippine-type Formosan languages are not only discourse-configurational but also agreement-based.

- A comparison with similar discourse configuration languages (e.g. Kilega, Dinka, Abaza) reveals that Philippine-type 'pivot-only' constraint may be viewed as agreement morphology employed by both topicalization and relativization.
- ▶ Philippine-type syntax is crosslinguistically unusual but not unique.
- ▶ Theoretical implications
 - Just like the case of *wh*-agreement, Move is not a necessary outcome of Agreeing with [urop]. The optionality is seen in a cline of Philippine-type languages with different word order patterns (as well as in Abaza).
 - Discourse configuration languages may employ verbal morphology indicating the grammatical role of the goal of an A-probe (e.g. [utop],[urel], [uwh].
 - φ-feature agreement can be triggered either by Agreeing an A or an Ā-probe (e.g. [utop]).
 - * * * * * * * * *
 - Whether or not voice/size restructuring exists in Philippine-type Formosan languages requires further evidence other than casemarking or clitic climbing.
- ➤ There are independent reasons for not postulating the absence of C/T split for these languages. Happy to talk about this at the Q&A.

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10 Appendices

10.1 Case pattern

(57) 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*	$P_2 \text{ or } CM_2$	$P_2 \text{ or } CM_2$	$P_2 \text{ or } CM_2$	Pivot

(Pivot of "AV"	external argument in simple transitives/unerga-		
		tives/ditransitives; internal argument in unac-		
		cusatives; causer in causatives		
	Pivot of "PV" internal argument of simple transitives;			
		causatives; recipient in ditransitives (in some lan-		
{		guages); controlle in object controls		
	Pivot of "LV"	ordinary locative phrases, recipient in ditransi-		
		tives (in some languages)		
		theme in ditransitives; theme in causatives; theme		
	PIVOLOI CV	in object controls; instrument; benefactor; reason;		
l		purpose; manner; degree; comitative, etc.		

10.2 Extraction facts

(58) a. Atayal

Nanuan kuʻ si-qihul=si' hiya' ʻi' Ø-pa-patas? what lk cv-force=2s.nom 3s.acc lk av-cau-write

'What did you force him to read?' (Wu 2013:155)

b. Paiwan

Anema a su=si-RuqeRuq tjay Kapi a Ø-pa-vay tjay Kivi? what LK 2s.gen-cv-force ACC Kapi LK AV-CAU-give ACC Kivi

'What did you force Kapi to give to Kivi?' (Wu 2013:252)

10.3 LV as locative topics-indicating morphology

(59) Paiwan

P<in>a-pana-an a icu a i maza ni palang tay kui ta CAU<PRF>-shoot-LV PIVOT this LK LOC here PN.NOM Palang PN.ACC Kui ACC zua venan. that deer

'Palang made Kui shoot that deer here.' (A. Chang 2006:195)

10.4 Why not postulating the absence of C/T split?

- Dinka (Nilotic) has been shown to lack A/Ā-distinction where Spec CP is simultaneously a topic and a subject position (van Urk 2015).
 - ▶ Promotion-to-pivot in Dinka shows both A- and Ā-properties
 - Promotion-to-pivot in Philippine-type languages (Puyuma, Amis, Seediq, Tagalog, Malagasy) shows only Ā-properties.

A-properties	Ā-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

► Since Philippine-type languages show independent evidence for a separate NOM position, postulating Spec CP as both an A- and Ā-position (or a pure A-position) would be difficult to maintain.

1 Reconstruction for Principle C

(60) Dinka
*R`t-dè_i à-nhi'r Bôl_i. self-sg.3sg 3s-love.ov Bol.gen
'Bol loves himeself.'
(61) Amis
Ma-palu ni Kulas cingra tu.

PV-beat PN.NOM 3SG.PIVOT REFL

'Kulas hit himself.'

(Patient Voice)

(Object Voice)

2	New	antecedent for	anaphors
~	11011	unicecuent for	unuprioro

(62) Dinka

Bol a-cii akekool-ti e rot-de pioolic. Bol 3s-prf.ov story-taht p self-sg.3sg criticize.nf

'That story about himself has criticized *Bol.*' (Object Voice)

(63) *Amis*

*Ma-palu	ı nira	tu	ci	kulas.	
Pv-beat	3sg.nom	I REFL	CN.PIVOT	Kulas	
(intended	l: Himsel	f hit	Kulas.')		(Patient Voice)

3 <u>Crossover effects</u>

(64) Dinka

	Dhùk éb´n _i à-cíi th´k-dè _i kâac. boy every 3s-prf.ov goat.cs-sg.3sg bite.nf			
	'His _i goat bit <i>every boy_i</i> .'	(Object Voice)		
(65)	Weakest Crossover effects			
	 ??M<in>amahal ng kanyang_i ama ang ba</in> ??love<pv.prf> NOM his father pivot ev</pv.prf> 	awat anak _i . 7ery child		
	'His _i father loves <i>every child_i</i> .' (Richards 2000)	(Object Voice)		
	 b. Malagasy ??Namangy ny rainy ny mpianatra tsirairay omaly. ??PST.PV.visit DET father-3 DET student each yesterday 'His_i father visited each student_i yesterday.' (Patient Volume) 			

 See Pearson (2001), Rackowski (2002), and Chen (2017) for more binding tests for pivothood. •