

CONDITION C, ANTI-CATAPHORA, AND “REVERSE CROSSOVER” IN ÄIWOO

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1 INTRODUCTION

- ▶ Big-picture question: **when can a pronoun co-refer with an R-expression?**
- ▶ Within one and the same language, the mechanism determining whether two nominals can co-refer or not shows a non-uniform pattern:
 - ▷ Sometimes, we see a **canonical Condition C** effect: a pronoun that doesn't c-command an R-expression can corefer with it, despite linear precedence (1a)
 - ▷ Other times, the only important factor is **linear order**: a pronoun that linearly precedes an R-expression can't corefer with it, even in the absence of c-command (1b)

- (1) a. **Pronoun doesn't c-command R-expression, can corefer:**

[*sipe-∅ⁿ*]_S *i-woi* [*nubole na Mak*]_O *ngä paveli enge*
 daughter-3MIN ASP-plant.AV taro POSS Mark in garden this
 'His_i daughter_i planted Mark_j's taro in this garden'

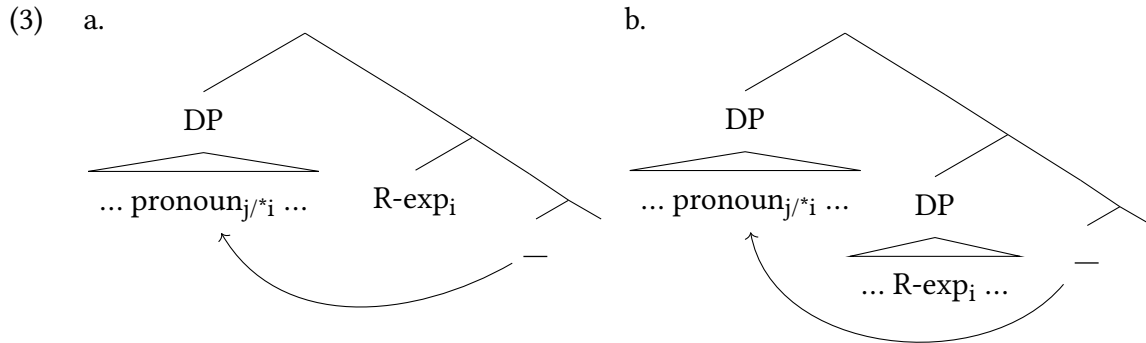
- b. **Pronoun doesn't c-command R-expression, can't corefer:**

[*nubole [i-kili-∅ⁿ bugulo]*]_O *ki-epavi* [*Mary*]_S
 taro ASP-dig.UV-3MIN yesterday IPFV-cook.UV Mary
 'Mary_i is cooking the taro that she_j/*_i harvested yesterday'

- ▶ **What this isn't:**
 - ▷ “You've found a language with a weird Condition C”: **no**, normal Condition C is clearly visibly at work.
 - ▷ “Cataphora is banned in this language”: **also no**, we know cataphora is allowed in certain configurations (1a).
- ▶ So is this a **selective ban on cataphora**? What's the crucial factor deciding when it's allowed or not?
 - ▷ Cataphora from α to β is only banned *when α has moved across β* .
- ▶ Descriptively, Äiwoo showcases a **novel “Reverse Crossover” effect** (2)-(3)

- (2) **Reverse Crossover:**

A pronoun that moves across (a DP containing) an R-expression cannot corefer with it.



1.1 ÄIWOO BASICS

- ▶ Oceanic (< Austronesian); Solomon Islands; about 8 000 speakers (Ross & Næss 2007, Næss 2006, 2015, 2021, Roversi 2019, 2020, to appear, a.o.).
- ▶ Philippine-type voice system: Actor Voice, Undergoer Voice, Circumstantial Voice
 - ▷ CV has some strange morphological properties and is not exactly in paradigmatic alternation with the two basic ones, but we can ignore that for now
 - ▷ Fairly rigid word order, and essentially V2:

(4) **Basic word orders:**

AV: **S** V =TAM **O** (PP) ...
 UV: **O** V **S** =TAM (PP) ...
 CV: **X** V **S** =TAM **O** (PP) ...

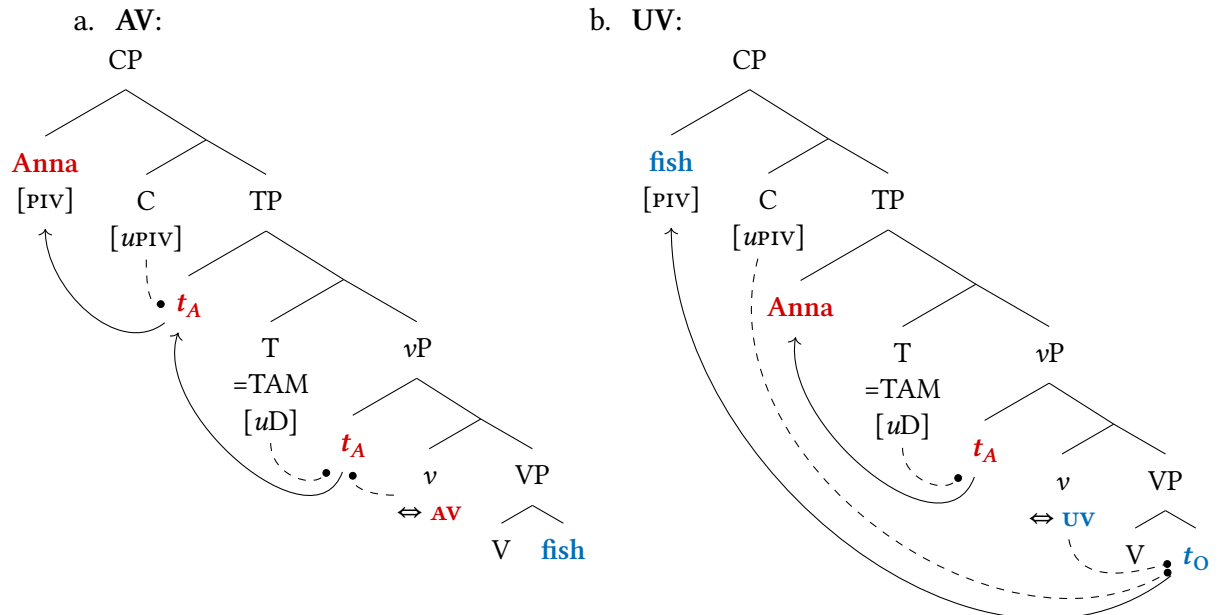
- ▷ X stands for the applied (DP) argument that CV introduces and promotes to pivot (locative, instrumental, etc.)
- ▷ “=TAM” stands for a template-y series of particles that cliticize to their left, and come in a fixed sequence. Includes TAM stuff, negation, and the CV marker

- | | PIVOT | V | (S) | =TAM | (O) | (PP) |
|-----|---|-------------------------------------|-----------------------------------|---------------------------|---------------------------------|---|
| (5) | [Anna]_S
Anna | <i>i-vängä</i>
ASP-eat.AV | | <i>=kaa</i>
=FUT | [si]_O
fish | [ngä täpilo enge]_{PP}
in bowl this |
| | ‘Anna will eat fish in this bowl’ | | | | | |
| (6) | [si]_O
fish | <i>i-ngä</i>
ASP-eat.UV | [Anna]_S
Anna | <i>=kaa</i>
=FUT | | [ngä täpilo enge]_{PP}
in bowl this |
| | ‘Anna will eat the fish in this bowl’ | | | | | |
| (7) | [täpilo enge]_X
bowl this | <i>i-vängä/ngä</i>
ASP-eat.AV/UV | [Anna]_S
Anna | <i>=kaa=kä</i>
=FUT=CV | [si]_O
fish | |
| | ‘Anna will eat (the) fish in this bowl’ | | | | | |

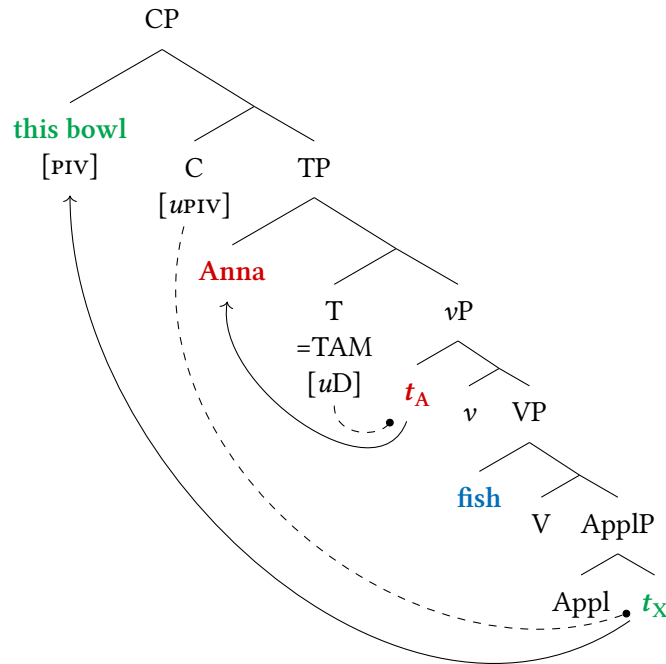
1.2 ASSUMPTIONS ABOUT CLAUSE STRUCTURE

- ▶ One DP per sentence carries an \bar{A} -feature [PIVOT], with information-structural correlates (following Hsieh 2020, 2023)
- ▶ Voice morphology is case agreement between v and the [PIV] nominal (Rackowski & Richards 2005, Hsieh 2020, 2023); however, nothing moves at this stage yet.
- ▶ Because the subject is to the left of =TAM material, I assume it has moved out of the v P to spec,TP (very standard subject movement)
 - ▷ Further evidence: in a few specific cases, the agent DP will show up to the right of the =TAM material (we won't see that in this talk, but it exists). I assume that's its in situ pre-movement position.
- ▶ A mixed A/ \bar{A} -probe in C attracts the [PIV] nominal (van Urk 2015)
- ▶ (Not represented for less busy trees: the verb undergoes (long) head movement up to C, stranding the TAM particles behind)

(8) Basic derivations



c. CV:



1.3 BASE-GENERATED POSITION OF THE ARGUMENTS

- ▶ The verbal quantifier *du* “all” tracks the base-generated scope of the arguments, *regardless of voice and later movements*
 - ▷ Morphologically it surfaces inside the verbal complex, but it can associate semantically to any argument of the clause (bold-faced in the examples below)
- ▶ Unsurprising: the subject can only scope above the object, even in UV (9b)

(9) O > S: never allowed with *du*

- a. [**mikilitei**]_S ku-lu-pwânu**bo-du**=kaa [nubââ mi=olo-mana]_O AV
 fishermen IPFV-3AUG-kill.AV-**all**=FUT shark REL=big-very

“Every fisherman will catch a big shark”

- ▷ ✓ $S_V > O_3$: they will each catch a different shark
- ▷ ✗ $O_3 > S_V$: they all together will catch one single shark

- b. [sii mi=olo]_O ku-wânu**bowâ-du** [**mikilitei**]_S=kaa UV
 fish REL=big IPFV-kill.UV-**all** fishermen=FUT

‘Every fisherman will catch one big fish’

- ▷ ✓ $S_V > O_3$: they each catch a different fish
- ▷ ✗ $O_3 > S_V$: they all catch one fish together

- ▶ In CV, the direct object can only scope *above* the applied DP
 - ▷ We can’t do fancy voice permutations because CV is the only way in the language to have three DP arguments

- ▷ We have no guarantee that a PP adjunct in AV/UV is base-generated in the same position as a CV applied argument/pivot (Rackowski 2002, Rackowski & Richards 2005), so they're not directly comparable (not trivially, at least)

- (10) *paveli i-woi-du-no=ngä nyenaa*
 garden ASP-plant-all-1MIN=CV tree
 'I planted every tree in a garden'
 ▷ ✓ $O_V > \text{Appl}_3$: I planted every tree in a different garden
 ▷ ✗ $\text{Appl}_3 > O_V$: I planted all trees in one same garden

1.4 PIVOT FRONTING IS MIXED A/\bar{A} (BUT QUITE A-Y)

- ▶ The movement that brings the pivot DP to specCP has **mixed A/\bar{A} -properties**
 - ▷ Similar to V2 + Austronesian voice in Dinka (van Urk 2015)
- ▶ **\bar{A} -properties:**
 - ▷ **Non-local movement:** we know the subject moves to specTP, so pivot is attracted from below there despite the subject intervening
 - ▷ **Information-structural correlates:** whether speakers choose one or the other voice is governed (among other things) by some not well-understood pragmatic-y discourse-y factors (see Holmen 2020 for Äiwoo specifically, and Riesberg et al. 2018, Evans et al. 2024 for recent overviews about Austronesian in general)
- ▶ **A-properties:**
 - ▷ **Only DPs:** unlike Germanic V2, the pivot position is only accessible to DPs, not other kinds of constituents
 - ▷ **No Condition C reconstruction (11); No WCO (12)**

- (11) **No Condition C reconstruction:**
 [*poi no Pita*]_O *i-dââ-[\emptyset^n]*_S *t*_O
 pig POSS Peter ASP-tie.UV-3MIN
 Lit. 'He_i tied Peter_i's pig'

- (12) **No WCO violation:**
- a. [*iie*]_O *ku-tu-mä* [*tumwä-\emptyset^n*]_S=*naa* *t*_O
 who IPFV-bring.UV-DIR1 father-3MIN=FUT
 Lit. 'Who_i will his_i father bring?'
- b. [*sigiläi dâuwângâ*]_O *ki-giââivevesii-gui=laa* [*tumwä-i*]_S *t*_O
 boy all IPFV-praise.UV-3AUG.O=FUT father-3AUG
 Lit. 'His_i father will praise every boy_i'

- ▷ Caveat: this *dâuwângâ* quantifier (12b) makes the DP plural, more like an "all" than like an "every". Unfortunately, there's no singular universal quantifiers in the language as far as I know, so this is the best we can do.

2 WHEN ÄIWOO SHOWS NORMAL STRUCTURAL CONDITION C

- In certain environments, Condition C works exactly how you would expect, being sensitive to c-command and not to linear order

C-COMMAND = NO COREFERENCE:

(13) AV:

- a. [*Anna*]_S *ki-epave=kaa* [*sii na-∅ⁿ*]_O *ile ngâ nuwopa enge*
 Anna IPFV-cook.AV=FUT fish POSS-3MIN PROX in house this
 ‘*Anna_i* will cook *her_i* fish in this house’
- b. [*∅*]_S *ki-epave=kaa* [*sii na Anna*]_O *ile ngâ nuwopa enge*
 (pro) IPFV-cook.AV=FUT fish POSS Anna PROX in house this
 ‘*She_j/*_i* will cook *Anna_i*’s fish in this house’

(14) CV:

- a. [*nuwopa enge*]_X *ki-epavi* [*Anna*]_S=*kaa=kä* [*sii na-∅ⁿ*]_O
 house this IPFV-cook.UV Anna=FUT=CV fish POSS-3MIN
 ‘In this house *Anna_i* will cook *her_i* fish’
- b. [*nuwopa enge*]_X *ki-epavi-∅ⁿ=naa=kä* [*sii na Anna*]_O
 house this IPFV-cook.UV-3MIN=FUT=CV fish POSS Anna
 ‘In this house *she_j/*_i* will cook *Anna_i*’s fish’

NO C-COMMAND = CAN HAVE COREFERENCE

- In the (b.) sentences you have cataphora, but that’s not a problem – like in English

(15) AV:

- a. [*sipe Mak*]_S *i-woi* [*nubole na-∅ⁿ*]_O *ngâ paveli enge*
 daughter Mark ASP-plant.AV taro POSS-3MIN in garden this
 ‘*Mark_j*’s *daughter_i* planted *her_i* taro in this garden’
- b. [*sipe-∅ⁿ*]_S *i-woi* [*nubole na Mak*]_O *ngâ paveli enge*
 daughter-3MIN ASP-plant.AV taro POSS Mark in garden this
 ‘*His_j* *daughter_i* planted *Mark_j*’s taro in this garden’

(16) CV:

- a. [*paveli enge*]_X *i-woi* [*sipe Mak*]_S=*kä* [*nubole na-∅ⁿ*]_O
 garden this ASP-plant.AV daughter Mark=CV taro POSS-3MIN
 ‘*Mark_j*’s *daughter_i* planted *her_i* taro in this garden’
- b. [*paveli enge*]_X *i-woi* [*sipe-∅ⁿ*]_S=*nä* [*nubole na Mak*]_O
 garden this ASP-plant.AV daughter-3MIN=CV taro POSS Mark
 ‘*His_j* *daughter_i* planted *Mark_j*’s taro in this garden’

- ... So far so good. Nothing surprising. Everything is fine.

3 WHEN ÄIWOO SHOWS “LINEAR CONDITION C”

- ▶ In UV: “Condition C” is only sensitive to linear order and disregards c-command
 - ▷ We have already seen that pivot fronting doesn’t reconstruct for Condition C.
 - ▷ In (17a) you would assume the subject *pro* c-commands Peter in its base-generated position, and yet they can corefer – in fact, it’s the only way to say this sentence
 - ▷ In (17b), Peter should c-command *pro* (in base-generated position), but they cannot corefer at all – and *pro* certainly doesn’t c-command Peter. This is the mysterious one!

(17) UV:

- a. [poi no **Pita**]_O i-dââ-∅ⁿ
 pig POSS Peter ASP-tie.UV-3MIN
 ‘**He_i** tied **Peter_i**’s pig’
- b. [poi no-∅ⁿ]_O i-dââ [Pita]_S
 pig POSS-3MIN ASP-tie.UV Peter
 ‘**Peter_i** tied **his_j/*_i** pig’

- ▶ It’s really about linear precedence, part 1: in (18b): *pro* can’t co-refer with either of the daughter and Mark

(18) UV:

- a. [nubole na **Mak**]_O i-vi [sipe-∅ⁿ]_S ngä paveli enge
 taro POSS Mark ASP-plant.UV daughter-3MIN in garden this
 ‘**His_j** **daughter_i** planted **Mark_j**’s taro in this garden’
- b. [nubole na-∅ⁿ]_O i-vi [sipe **Mak**]_S ngä paveli enge
 taro POSS-3MIN ASP-plant.UV daughter Mark in garden this
 ‘**Mark_j**’s **daughter_i** planted **their_k/*_i/*_j** taro in this garden’

3.1 WITH A RELATIVE CLAUSE BOUNDARY:

- ▶ It’s really about linear precedence, part 2: striking effects if you put a clause boundary in between the relevant nominals

PRELIMINARY BASELINE

- ▶ If an object in a UV clause itself contains a relative clause:
 - ▷ The whole object can be in the normal pre-verbal position
 - ▷ Or, often the speakers will first give you a sort of extraposed version, where the head of the RelC is in the pre-verbal pivot position but the RelC itself is post-verbal:

► Schematically:

[DP [RelC]]_O V S =CL = (19a)[DP]_O V S =CL [RelC] = (19b)

- (19) a. [sii [i-ngä pelivanou]_{RelC}] i-epavi-no (No extraposition)
 fish ASP-eat.UV children.1MIN ASP-cook.UV-1MIN
 ‘I cooked the fish that my children ate’
- b. [sii i-epavi-no [i-ngä pelivanou]_{RelC}] (With extraposition)
 fish ASP-cook.UV-1MIN ASP-eat.UV children.1MIN
 ‘I cooked the fish that my children ate’

► (Caveat: is this really extraposition? I don’t know. Looking for ways to test it.)

“EXTRAPOSITION” INTERFERES WITH COREFERENCE:

- This extraposition-looking phenomenon of course alters the linear order of things
- And since in UV linear order is the only thing that matters for coreference, then whether things can be coreferent or disjoint changes depending on whether you extrapose or not

(20) No extraposition:

- a. [nubole [i-kili-∅ⁿ bugulo]] ki-epavi **Mary**
 taro ASP-dig.UV-3MIN yesterday IPFV-cook.UV Mary
 ‘**Mary_i** is cooking the taro that **she_{j/*i}** harvested yesterday’
- b. [nubole [i-kili **Mary** bugulo]] ki-epavi-∅ⁿ
 taro ASP-dig.UV Mary yesterday IPFV-cook.UV-3MIN
 ‘**She_j** is cooking the taro that **Mary_i** harvested yesterday’

(21) With extraposition:

- a. [nubole] ki-epavi **Mary** [i-kili-∅ⁿ bugulo]
 taro IPFV-cook.UV Mary ASP-dig.UV-3MIN yesterday
 ‘**Mary_i** is cooking the taro that **she_j** harvested yesterday’
- b. [nubole] ki-epavi-∅ⁿ [i-kili **Mary** bugulo]
 taro IPFV-cook.UV-3MIN ASP-dig.UV Mary yesterday
 ‘**She_{j/*i}** is cooking the taro that **Mary_i** harvested yesterday’

- (20) works like what we’ve seen UV behave so far
- ▷ In (20b), Mary can corefer with *pro* despite being in an embedded clause
 - ▷ In (20a), *pro* is certainly c-commanded by Mary in its base-generated position, and certainly doesn’t c-command Mary after moving, and yet it can’t co-refer
- If you do extraposition (21), things become “normal” again:
- ▷ Now the matrix subject comes to the left of the relevant nominal in the RC

4 THE PICTURE FROM CV

- So far we've looked at co-reference between nominals in these positions (boxed):

- ▷ In these schemas, imagine a pronoun in the leftmost box and an R-expression in the second box; the pronoun doesn't c-command the R-expression

- (22) AV: \boxed{S} V =CL \boxed{O} ✓ cataphora, structural Condition C
 UV: \boxed{O} V \boxed{S} =CL ✗ cataphora, "linear Condition C"
 CV: \boxed{X} V \boxed{S} =CL \boxed{O} ✓ cataphora, structural Condition C

- Missing combinations: putting the pronoun in the CV pivot

- ▷ CV shows a non-uniform pattern: canonical Condition C between S and O, but "linear Condition C" (anti-cataphora effect) between X and S/O

- (23) CV: \boxed{X} V \boxed{S} =CL \boxed{O} ✓ cataphora, structural Condition C (= AV)
 CV: \boxed{X} V \boxed{S} =CL \boxed{O} ✗ cataphora, "linear Condition C" (= UV)
 CV: \boxed{X} V S =CL \boxed{O} ✗ cataphora, "linear Condition C" (= UV)

4.1 CV PATTERNING WITH AV (CANONICAL CONDITION C)

- (24) CV, co-reference between S and O: \boxed{X} V \boxed{S} =CL \boxed{O}
 [paveli enge]_X i-woi [sipe-∅ⁿ]_{S=nä} [nubole na Mak]_O
 garden this ASP-plant.AV daughter-3MIN=CV taro POSS Mark
 'In this garden his_i daughter_i planted Mark_j's taro'

- The possessor *pro* inside "his daughter" linearly precedes but doesn't c-command Mark, and they can co-refer

- ▷ AV-style profile: classic structural Condition C, cataphora is allowed

4.2 CV PATTERNING WITH UV ("LINEAR CONDITION C")

- If one of the two nominals we're evaluating is in the pivot position, then linear order matters instead of c-command = UV-style pattern:

- (25) CV, co-reference between X and S: \boxed{X} V \boxed{S} =CL O
- a. [nuwopa tä-∅ⁿ]_X ki-epavi [Anna]_{S=kaa=kä} sii
 house POSS-3MIN IPFV-cook.UV Anna=FUT=CV fish
 'Anna_i will cook fish in her_j/_i house'
- b. [nuwopa tä Anna]_X ki-epavi-∅ⁿ=naa=kä sii
 house POSS Anna IPFV-cook.UV-3MIN=FUT=CV fish
 Lit. 'She_i will cook fish in Anna_j house'

- (26) CV, co-reference between X and O: \boxed{X} V S =CL \boxed{O}
- a. $[paveli\ tä\ Mary]_X\ i-eâmoli-kä-de=ngä\ (inâ)$
 garden POSS Mary ASP-find.UV-DIR3-12AUG=CV 3MIN
 ‘We found her_i in $Mary_i$ ’s garden’ (*inâ* is optional)
- b. $[paveli\ tä-\emptyset^n]_X\ i-eâmoli-kä-de=ngä\ Mary$
 garden POSS-3MIN ASP-find.UV-DIR3-12AUG=CV Mary
 ‘We found $Mary_i$ in $her_{j/*i}$ garden’

5 A “REVERSE CROSSOVER” EFFECT

5.1 EMPIRICAL GENERALIZATION

- ▶ Summary: when do we have the linear effect?
 - ▷ When one of the relevant nominals is in a **non-AV pivot position**

- (27) AV: \boxed{S} V =CL \boxed{O} } cataphora, structural Condition C
 CV: \boxed{X} V \boxed{S} =CL \boxed{O}
-
- UV: \boxed{O} V \boxed{S} =CL }
 CV: \boxed{X} V \boxed{S} =CL \boxed{O} }
 CV: \boxed{X} V S =CL \boxed{O} }
 } cataphora, “linear Condition C”

- ▶ One way to formulate a generalization: the anti-cataphora ban is triggered from **nominals that have moved across another DP**
 - ▷ AV pivots: they don’t cross anything (28a)
 - ▷ UV pivots: they cross the subject (28b)
 - ▷ CV pivots: they cross the subject and the object (28c)
 - ▷ Non-pivots (S/O in CV): they don’t cross anything

- (28) a. AV: no crossing
 $[CP\ S\ V\ [TP\ t_S\ =TAM\ [vP\ t_S\ t_V\ [VP\ t_V\ O\]]]]$
- b. UV: O crosses S
 $[CP\ O\ V\ [TP\ S\ =TAM\ [vP\ t_S\ t_V\ [VP\ t_V\ t_O\]]]]$
- c. CV: X crosses S and O
 $[CP\ X\ V\ [TP\ S\ =TAM\ [vP\ t_S\ t_V\ [VP\ t_V\ O\ [AppIP\ \dots\ t_X\]]]]]]$

- ▶ Possible ways to test this:
 - ▷ Co-reference/c-command from different arguments into **PP adjuncts**
 - ▷ Exceptional **SVO sentences in UV**: More on this later

5.2 WHAT KIND OF CROSSOVER IS THIS (IF ANY)?

- ▶ None of the classic types (29) (Postal 1971, Wasow 1972, Koopman & Sportiche 1983, Safir 1984, Büring 2004, Safir 2004, 2017, Lasnik & Funakoshi 2017, Chierchia 2017, 2020, Keine & Bhatt 2023, among many many others)
 - ▷ For those, the offending configuration is a quantified expression moving across a coreferent pronoun (c-commanding or not: SCO vs. WCO)
 - ▷ Below, by “QP” I mean any quantificational expression, including quantified DPs, *wh*-phrases, relative clause-forming operators, etc.

(29) a. **Classic SCO configuration:**

*QP₁ ... pronoun₁ ... t_{QP}

b. **Classic WCO configuration:**

*QP₁ ... [... pronoun₁ ...] ... t_{QP}

- ▶ The Äiwoo case is sort of the other way around:
 - ▷ What is banned is a *pronoun moving across an R-expression*
 - ▷ It also doesn't matter whether anything is quantificational or not!
 - ▷ (The cases where the moved pronoun c-commands the R-expression from the landing site would already be ruled out by canonical Condition C, which we independently know is active in the language)

(30) “Reverse Crossover” configurations in Äiwoo:

a. * [... pronoun₁ ...]_i ... R-exp.₁ ... t_i

b. * [... pronoun₁ ...]_i ... [... R-exp.₁ ...] ... t_i

- ▶ Moreover, we independently know that pivot-fronting **doesn't trigger WCO!**

(31) [*iie*]_O *ku-tu-mä* [*tumwä-∅ⁿ*]_{S=naa} t_O
 who IPFV-bring.UV-DIR1 father-3MIN=FUT
 Lit. ‘**Who**_i will **his**_i father bring?’

WHAT THIS EFFECT ISN'T

- ▶ **Some kind of Condition C:**
 - ▷ The pronoun does *not* c-command the R-expression from the landing site!
- ▶ **A general ban on cataphora:**
 - ▷ It looks like it at first glance: a pronoun in the pivot position (not AV) just cannot corefer with anything to its right!
 - ▷ So that would be extensionally true, but...
 - ▷ We know that cataphora *is* allowed in the language, so we would need to motivate why a ban on cataphora is only selectively applied to certain configurations but not others
- ▶ ...So what is this?

6 TESTING THE CROSSING GENERALIZATION FURTHER

6.1 CO-REFERENCE WITH PP ADJUNCTS

- ▶ If the pronoun is inside a non-AV pivot, ✗ cataphora; else, ✓ cataphora
 - ▷ Confirms our crossing generalization!
 - ▷ ... with a small caveat: we need to accept that PP adjuncts are base-generated *above* the direct object (so that it crossing them will make a coreferent reading impossible), but linearized to the right

(32)	AV:	S	V	=CL	O	PP	}	cataphora, structural Condition C	
	AV:	S	V	=CL	O	PP			
	UV:	O	V	S	=CL	PP			
	CV:	X	V	S	=CL	O			PP
	CV:	X	V	S	=CL	O			PP
	UV:	O	V	S	=CL	PP	}	✗ cataphora, “linear Condition C”	
	CV:	X	V	S	=CL	O			PP

- (33) a. AV: S V =CL O PP – ✓ cataphora
 [sipe- \emptyset^n]_S i-woi nubole [ngä paveli tä Mak]_{PP}
 daughter-3MIN ASP-plant.AV taro in garden POSS Mark
 ‘His_i daughter planted taro in Mark_i’s garden’
- b. AV: S V =CL O PP – ✓ cataphora
 i-i-woi [nubole na- \emptyset^n]_O [ngä paveli tä Mak]_{PP}
 1MIN-ASP-plant.AV taro POSS-3MIN in garden POSS Mark
 ‘I planted his_i taro in Mark_i’s garden’

- ▶ Note about the judgments:
 - ▷ Sentences like (33b) were judged as “unclear” or “ambiguous” (“it’s unclear whether it’s Mark’s taro or someone else’s”), but coreference was definitely **possible** (if somewhat degraded, most likely due to the availability of a non-cataphoric alternative)
 - ▷ About (35b): “It’s not clear whether it’s Anna’s son or not, it could be her son or somebody else’s son. In a normal conversation if you’re talking in a house, then this would be ok, it would be clear from the situation.”
 - ▷ This very much contrasted with the sentences I’m marking as ✗ cataphora: those were judged as very much unambiguous - coreference was not degraded, it was completely **impossible**.
 - ▷ Not very different from the situation in English: *His_i mother loves John_i* is quite meh, but *She_i loves Mary_i* is completely out (though see [Ross et al. 2023](#))

- (34) a. UV: \boxed{O} V S =CL \boxed{PP} – ✗ cataphora
 [sipe- \emptyset^n]_O i-te-kä Pita [ngâ nuwopa tä **Mary**]_{PP}
 daughter-3MIN ASP-see.UV-DIR3 Peter in house POSS Mary
 ‘Peter saw **their**_{j/*i} daughter in **Mary**_i’s house’
- b. UV: O V \boxed{S} =CL \boxed{PP} – ✓ cataphora
 butete ki-bi [isä- \emptyset^n]_S=naa [ngä nyopwä tä **Mak**]_{PP}
 potato IPFV-bake.UV mother-3MIN=FUT in oven POSS Mark
 ‘**His**_i mother will bake the potatoes in **Mark**_i’s oven’
- (35) a. CV: \boxed{X} V S =CL O \boxed{PP} – ✗ cataphora
 [tebol no- \emptyset^n]_X i-tâbuwoli-no=ngä sii [go nuwoli na **John**]_{PP}
 table POSS-3MIN ASP-cut-1MIN=CV fish with knife POSS John
 ‘On **his**_{j/*i} table I cut the fish with **John**_i’s knife’
- b. CV: X V \boxed{S} =CL O \boxed{PP} – ✓ cataphora
 tebol enge i-tâbuwoli [gino- \emptyset^n]_S=nä sii [go nuwoli na **Anna**]_{PP}
 table this ASP-cut son-3MIN=CV fish with knife POSS Anna
 ‘On this table **her**_i son cut the fish with **Anna**_i’s knife’
- c. CV: X V S =CL \boxed{O} \boxed{PP} – ✓ cataphora
 tebol enge i-tâbuwoli-no=ngä [sii na- \emptyset^n]_O [go nuwoli na **Anna**]_{PP}
 table this ASP-cut-1MIN=CV fish POSS-3MIN with knife POSS Anna
 ‘On this table I cut **her**_i fish with **Anna**_i’s knife’

6.2 SVO CLAUSES IN UV

- An Äiwoo quirk. If the O in an UV-clause is an **overt pronoun**, you still get UV morphology on the verb but S V=CL O order (36a), not O V S=CL (36b), and also not V S=CL O (36c)

- (36) a. ✓UV: S V=CL O_{PRON}
 [mikilivaavee]_S ku-potaa-i=laa [iude]_O
 teachers IPFV-search.UV-3AUG=FUT 12AUG
 ‘The teachers will be looking for us’
- b. ✗UV: O_{PRON} V S=CL
 * [iude]_O ku-potaa(-i) [mikilivaavee]_S=kaa
 12AUG IPFV-search.UV(-3AUG) teachers=FUT
- c. ✗UV: V S=CL O_{PRON}
 * ku-potaa(-i) [mikilivaavee]_S=kaa [iude]_O
 IPFV-search.UV(-3AUG) teachers=FUT 12AUG

- Sentences like these can help us tease apart **effects of movement/word order** from effects of voice

▷ We’re in UV, so based on voice we would expect the linear anti-cataphora effect

- ▷ But the subject here has moved to pivot position locally (not across anything else), therefore we should expect structural Condition C = allowed cataphora. And it works!
- ▷ Compare (37a) to (37b). In (37a), we're in AV, and unsurprisingly cataphora from the S into a PP is allowed
- ▷ Crucially, (37b) is UV, but cataphora is judged as possible

(37) a. AV:

[pelivano-∅ⁿ]_S ki-li-tou-mä=kaa dekilingä [ngâ
 children-3MIN IPFV-3AUG-bring.AV-DIR1=FUT food in
 nuwopa tä **John**]_{PP}
 house POSS John
 'His_i children will bring food to John_i's house'

b. UV, exceptional SVO order:

[pelivano-∅ⁿ]_S ku-tu-mä-i=laa iu [ngâ
 children-3MIN IPFV-bring.UV-DIR1-3AUG=FUT 1MIN in
 nuwopa tä **John**]_{PP}
 house POSS John
 'His_i children will bring me to John_i's house'

(38) OVERVIEW OF CATAPHORA POSSIBILITIES:

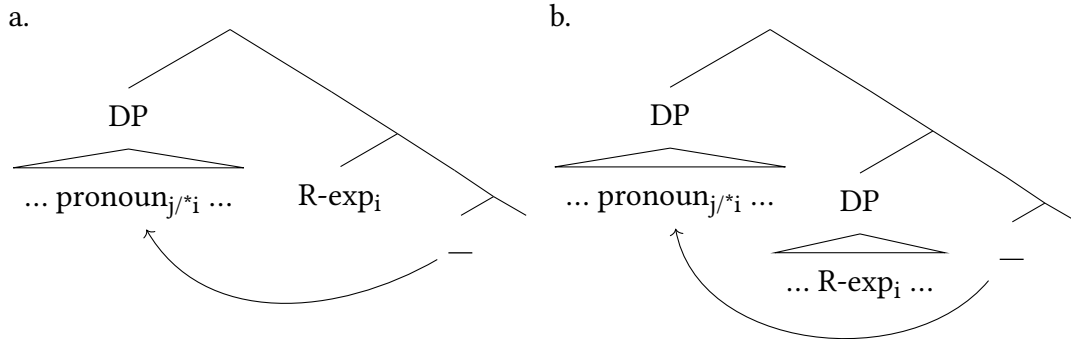
AV:	S	V	=CL	O	PP	} ✓ cataphora	
CV:	X	V	S	=CL	O		PP
CV:	X	V	S	=CL	O	PP	} ✗ cataphora
CV:	X	V	S	=CL	O	PP	
UV:	O	V	S	=CL		PP	} ← Not testable
UV:	S	V	=CL	O	PP		
AV:	S	V	=CL	O	PP	} ✓ cataphora	
AV:	S	V	=CL	O	PP		
CV:	X	V	S	=CL	O		PP
CV:	X	V	S	=CL	O		PP
UV:	O	V	S	=CL			PP
UV:	S	V	=CL	O	PP		
UV:	O	V	S	=CL		PP	} ✗ cataphora
CV:	X	V	S	=CL	O	PP	

7 CONCLUSION: WHAT ARE WE LOOKING AT?

- Descriptively: “Reverse Crossover” (39). What kind of effect is this?

(39) Reverse Crossover:

A pronoun that moves across (a DP containing) an R-expression cannot corefer with it.



- Is this actually some weird cousin of a crossover effect, just one that we’ve never seen before?
 - ▷ Just heuristically I don’t know how good a strategy it is to go from here, since even the canonical crossover effects are not exactly the best understood areas of syntax(-semantics)
 - ▷ Why would we never have seen it in any other language? Especially given how cross-linguistically robust the canonical crossover effects are
- Is this something that has to do with **linearization** and **PF constraints** on how to pronounce different things?
 - ▷ [Royer \(2023\)](#) on Mayan languages: despite first-glance impressions, if you look carefully you can see that Condition C is actually active, but there’s also a **language-wide ban on cataphora**
 - ▷ Implementation: **indices are present in the syntax**, and given two non-commanding (free) coindexed nominals (... α_7 ... β_7 ...), PF says “always pronounce the leftmost one (α_7) and reduce the rightmost one (β_7) to a pronoun/ \emptyset ”
 - ▷ For Äiwoo, we’d need a more complex rule, that is sensitive to the presence of multiple copies (40a)
 - ▷ This *is* a redescription of the facts; it doesn’t really explain anything

(40) Hypothetical PF constraint:

Given two free coindexed nominals α_7 and β_7 ...

- Given the configuration [... α_7 ... β_7 ... α_7 ...], pronounce (the uppermost) α and reduce β to \emptyset
- In any other configuration, including just [... α_7 ... β_7 ...], do what you please

- ▶ Is this an effect of the **module that deals with the interpretation of pronouns**?
 - ▷ Is there a (dynamic) semanticist in the room?
 - ▷ Whatever module it is that normally figures out anaphora (and/or cataphora), to be successful here it would need **access to information about linear order** – non-trivial consequences for the architecture of the grammar?
 - ▷ It can't be something as simple as “interpret the pivot first as an encapsulated thing, and if there's a pronoun in there, assume that anything else later in the sentence will be disjoint”
 - ▷ Pronouns inside AV pivots can refer cataphorically

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A AV PIVOTS ARE JUST AS HIGH AS OTHER PIVOTS

- ▶ Righting a wrong in the analysis proposed in the abstract!
- ▶ There, I assumed that AV pivots were actually lower in the clausal spine than UV/CV pivots (like how in some analyses of V2, subjects of SVO clauses are in specTP, whereas the initial XPs of XVS0 clauses are in specCP)
 - ▷ The argument was the differential position of φ -marking in the two cases: AV has prefixes (41a), UV/CV have suffixes (41b)

(41)	<p>a. AV: prefixes <i>de-ki-vängä=kaa</i> <i>sii</i> 12AUG-IPFV-eat.AV=FUT fish ‘We will eat fish’</p>	<p>b. UV: suffixes <i>sii ki-ngä-de=ngaa</i> fish IPFV-eat.UV-12AUG=FUT ‘We will eat the fish’</p>
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- ▶ The idea was: the φ -markers are in the same position in both constructions, and the verb is either higher than them (UV) or lower (AV)
 - ▷ And therefore an AV pivot would be lower than a UV/CV pivot
- ▶ Upon further investigation, this doesn’t hold too well.
- ▶ In ongoing work, I’m proposing that the two patterns of φ -marking are actually quite fundamentally different, and don’t reflect a difference in position
- ▶ Concretely: the prefixal series in AV is **actual φ -agreement**, whereas the “suffixes” in UV/CV are **clitic pronouns**.
 - ▷ Based on syntactic patterns of co-occurrence between these φ -markers and lexical DPs/full pronouns
 - ▷ Further (weaker) evidence: some of the markers are morphologically different

(42)	AV	UV
1MIN	<i>i</i> -ASP-verb	ASP-verb- <i>no</i>
1AUG	<i>me</i> -ASP-verb	ASP-verb- <i>ngo(pu)</i>
3AUG	ASP- <i>li</i> -verb	ASP-verb- <i>i</i>

A.1 AV: OBLIGATORY CO-OCCURRENCE

A.1.1 3RD PERSON SUBJECTS

- ▶ 3MIN is uninformative, because there’s no overt φ -marking anyway
- ▶ 3AUG: if there is a plural DP subject, you must have the 3AUG φ -marker on the verb

- ▷ (In the corpus sometimes you see stuff like (43b), but I'm somewhat skeptical about the "plurality" of those subject DPs, vs. whether they are actually interpreted as groups/collectives/...)
- ▶ It's also perfectly grammatical and very frequent to have no overt subject DP, just *kulutoumä=kaa sii*

- (43) a. *mikilitei* ku-**(tu)**-*tou-mä=kaa* *sii*
 fishermen IPFV-3AUG-bring.AV-DIR1=FUT fish
 'The fishermen will bring fish'
- b. **mikilitei* ku-**()**-*tou-mä=kaa* *sii*
 fishermen IPFV-bring.AV-DIR1=FUT fish

A.1.2 1ST/2ND PERSON SUBJECTS

- ▶ We won't have lexical DPs, but **standalone pronouns**
- ▶ The default choice is to "pro-drop": we only see the \varnothing -marker, and nothing else (44a)
 - ▷ Do we know there really is a *pro* in subject position? Well, we get V1 in an otherwise V2 language, and you can have an overt version of it... so yes?
- ▶ Adding a standalone pronoun is fine (44b), for pragmatic reasons (I believe??)
 - ▷ Can we be sure that this pronoun is in the normal pivot position, and not some kind of left-peripheral/topicalized item? Yes! (Ask me)
- ▶ Dropping the \varnothing -marker is impossible, both with an overt pronoun or with *pro* (44c)

- (44) a. (*pro*_{12AUG}) *de-ki-vängä=kaa* *sii*
 12AUG-IPFV-eat.AV=FUT fish
 'We.INCL will eat fish'
- b. *iude* *de-ki-vängä=kaa* *sii*
 12AUG 12AUG-IPFV-eat.AV=FUT fish
- c. * (*iude*) **()** *ki-vängä=kaa* *sii*
 12AUG IPFV-eat.AV=FUT fish

A.1.3 AV SUMMARY

- ▶ In every single case, **the \varnothing -markers are obligatory**
- ▶ Interpretation: **free subject pro-drop, obligatory \varnothing -agreement** (Äiwoo is Italian)

A.2 UV (AND CV): IMPOSSIBLE CO-OCCURRENCE

A.2.1 3RD PERSON SUBJECTS

- ▶ Different: here we **never** get co-occurrence of φ -marker and a subject DP
- ▶ Once again, 3MIN is uninformative because it's null
 - ▷ Normally, we know there is a 3MIN suffix because it leaves a “ghost”: it triggers the n-initial allomorph on a following clitic (45a)
 - ▷ But if we have a lexical DP, because of the syntax of the language it will go between the verb and the =TAM (45b)
 - ▷ The clitic is sensitive to what's immediately to its left. Because it's a DP, we'll have the default form (=kaa).
 - ▷ Therefore, we can't know whether or not the verbal suffix is also there

- (45) a. *sii ki-ngä* $(-\emptyset^n)$ =*naa*
 fish IPFV-eat.UV-3MIN=FUT
 ‘S/he will eat the fish’ (**sii kingä=kaa*)
- b. *sii ki-ngä* $(-\emptyset^n?)$ *Anna=kaa*
 fish IPFV-eat.UV(-3MIN?) Anna=FUT
 ‘Anna will eat the fish’ (*... *Anna=naa*)

- ▶ But, 3AUG is informative:
 - ▷ Either a lexical DP or the φ -suffix, **but not both! No co-occurrence** (46c).
 - ▷ Different from AV, where it was obligatory! (47)

(46) Undergoer Voice: co-occurrence impossible

- a. *sii ku-tu-mä* $(-i)$ =*laa*
 fish IPFV-bring.UV-DIR1-3AUG=FUT
 ‘They will bring the fish’
- b. *sii ku-tu-mä* $(mikilitei)$ =*kaa*
 fish IPFV-bring.UV-DIR1 fishermen=FUT
 ‘The fishermen will bring the fish’
- c. * *sii ku-tu-mä* $(-i)$ $(mikilitei)$ =*kaa*
 fish IPFV-bring.UV-DIR1-3AUG fishermen=FUT

(47) Actor Voice: co-occurrence obligatory

- mikilitei ku* $(*(lu))$ -*tou-mä=kaa* *sii*
 fishermen IPFV-3AUG-bring.AV-DIR1=FUT fish
 ‘The fishermen will bring fish’

A.2.2 1ST/2ND PERSON SUBJECTS

- ▶ Not only co-occurrence is impossible, but...
- ▶ **Standalone subject pronouns are just impossible**, with or without a φ -marker (48a)
 - ▷ Your only option is to use a φ -marker alone (48b)
 - ▷ You also can't pro-drop without any overt marking (48c)

- (48) a. * *sii i-ngä(-de)* *iude* = *ngaa*
 fish ASP-eat.UV(-12AUG) 12AUG=FUT
 Intended: 'We.INCL will eat the fish'
- b. *sii i-ngä(-de)* = *ngaa*
 fish ASP-eat.UV-12AUG=FUT
 'We.INCL will eat the fish'
- c. * *sii i-ngä* □ (*pro*_{12AUG}) = *Caa*
 fish ASP-eat.UV =FUT
 (Only interpretable as a 3MIN subject, with =*naa* as the future clitic)

A.2.3 UV SUMMARY

- ▶ **Complementary distribution of DPs and φ -markers:**
 - ▷ Unlike in AV, here it looks like these markers are more “the real arguments”, they're clitic-y in nature rather than just agreement?
- ▶ **Overt pronouns are impossible:** what's up with this?
 - ▷ A morphological story: “if you have a pronominal argument in this position, it must be spelled out as a clitic rather than as a full pronoun”?
- ▶ **What's the status of pro-drop here?**
 - ▷ Is it available at all? It depends on what you think these φ -markers are...
 - ▷ If they're just agreement, then yes, you can have pro-drop
 - ▷ If they're clitics, then no, here pro-drop is impossible (you need sth overt)
 - ▷ In AV, since we had co-occurrence of full pronouns and φ -markers, it was easier to think that you had free (subject) pro-drop but obligatory agreement... What about here?

A.3 GENERAL SUMMARY

	Actor Voice	Undergoer Voice
Position of φ -marker	Prefix <i>i-ki-vängä=kaa sii</i> 1MIN-IPFV-eat.AV=FUT fish 'I will eat fish'	Suffix <i>sii ki-ngä-no=ngaa</i> fish IPFV-eat.UV-1MIN=FUT 'I will eat the fish'
DP + φ -marker (3AUG)?	Obligatory <i>mikilitei ki-*(li-)vängä=kaa...</i> fishermen IPFV-3AUG-eat.AV=FUT 'The fishermen will eat...'	Impossible <i>ki-ngä(*-i) mikilitei=kaa</i> IPFV-eat.UV-3AUG fishermen=FUT 'The fishermen will eat it'
Overt 1st/2nd pronouns?	Possible <i>iude de-ki-vängä=kaa...</i> 12AUG 12AUG-IPFV-eat.AV=FUT 'We will eat...'	Impossible <i>ki-ngä(-de) (*iude)=ngaa</i> IPFV-eat.UV-12AUG 12AUG=FUT 'We will eat it'

- ▶ I'm currently working on extending this to the less canonical kinds of clauses in UV (the SVO ones we've seen, and types of clauses where we see *object* clitics instead of subject ones)

A.4 ANOTHER ARGUMENT FROM CLAUSAL ADVERBS

- ▶ Very few things can intervene between the pivot and the verb, in any voice.
- ▶ Adverbials like 'tomorrow', 'yesterday', 'every day', etc., can only precede the pivot, not follow it
 - ▷ The starred order DP - adverb - verb is only allowed if the DP is a topic, followed either by a prosodic break and/or an overt marker =Câ

- (49) a. ✓{*bulaape*} *John *{bulaape} ku-tou-mä=kaa sii* AV
 tomorrow John tomorrow IPFV-bring.AV-DIR1=FUT fish
 'Tomorrow John will bring fish'
- b. ✓{*bulaape*} *sii *{bulaape} ku-tu-mä John=kaa* UV
 tomorrow fish tomorrow IPFV-bring.UV-DIR1 John=FUT
 'Tomorrow John will bring the fish'
- c. ✓{*bulaape*} *nyibä *{bulaape} ku-tu-mä John=kaa=kä sii* CV
 tomorrow basket tomorrow IPFV-bring-DIR1 John=FUT=CV fish
 'Tomorrow John will bring (the) fish in the basket'

- ▶ However, some (few) adverbs *can* in fact intervene between the pivot and the verb, for example *lewâu* ‘just’
- ▶ If an AV pivot was lower than UV/CV pivots, we would expect different ordering effects with respect to these adverbs – and we don’t see that.

- (50) a. *John lewâu i-veve nuwopa* AV
 John just ASP-buy.AV house
 ‘John just bought a house’
- b. *nuwopa êângâ lewâu i-ve John* UV
 house that just ASP-buy.UV John
 ‘John just bought that house’
- c. *taun êângâ lewâu i-ve John=kä nuwopa* CV
 town that just ASP-buy John=CV house
 ‘John just bought a house in that town’

B JUST PROCESSING/PRAGMATICS/NOT GRAMMAR?

- ▶ Concerning? Embedding nominals deeper can obviate the anti-cataphora effect:

- (51) [*nubole [i-vii [isä-Øⁿ] ngâ dâlo mibââwää]] ki-epavi **Mary***
 taro ASP-plant.UV mother-3MIN in year last IPFV-cook.UV Mary
 ‘**Mary_i** is cooking the taro that **her_{i,j}** mother planted last year’

- ▶ Reminiscent of similar patterns in other languages where cataphora á la *His_i mother loves John_i* is bad, but embedding things deeper makes it easier (Huang 1982, Kazanina & Phillips 2001, Kazanina 2005, a.o.)

- ▶ Is this all just a processing/pragmatic thing? I don’t think. Some manipulations I’ve tried:

- ▷ Using inanimates instead of animates: still ✗ cataphora in UV (52)
- ▷ Introducing more referents (53)-(54)

- (52) Inanimate subject in UV: still ✗ cataphora

- a. [*nyike **John**]_O i-bâki [nyenaa no-Øⁿ]_S*
 leg John ASP-broke.UV tree POSS-3MIN
 ‘**His_i** tree broke **John_i**’s foot’
- b. [*nyike-Øⁿ]_O i-bâki [nyenaa no **John**]_S*
 leg-3MIN ASP-broke.UV tree POSS John
 ‘**John_i**’s tree broke **his_{j,*1}** foot’

- (53) More referents in UV: still ✗ cataphora

- a. [poi no **Pita**]_O i-dââ [ile_i mo Anna]_S
 pig POSS Peter ASP-tie.UV PROX and/with Anna
 ‘He_i and Anna tied Peter_i’s pig’
- b. [poi no-∅ⁿ]_O i-dââ [**Pita** mo **Anna**]_S
 pig POSS-3MIN ASP-tie.UV Peter and/with Anna
 ‘Peter_i and Anna_j tied their_{k/*i/*j} pig’
- (54) **More referents in AV: still ✓ cataphora**
 [**sipe**-∅ⁿ mo pelivalibete-∅ⁿ]_S lu-poi [nubole na **Mak**]_O
 daughter-3MIN and friends-3MIN 3AUG-plant.AV taro POSS Mark
 ngä paveli êângâ
 in garden that
 ‘His_j daughter and her friends planted Mark_j’s taro in that garden’