Mayan animacy restrictions and dynamic interaction[1]

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1 Introduction

- In some languages, combinations of agents/objects are regulated by animacy hierarchy restrictions, given a scale like (1).

  (1) HUMAN > ANIMATE > INANIMATE

- This is true of many Mayan languages (Aissen 1997, 1999; 2007, 2017; Curiel 2007; Pascual 2007; Vázquez Álvarez 2011; Polian 2013; Pérez Vail 2014), which show two interesting points of microvariation:

  1. **Articulation of the scale:**
     - Tsotsil (Aissen 1997,1999) (HUM>NON.HUM)
     - Chuj: three distinctions (HUM > ANIM > INAN)
     - Cajolá Mam (Pérez Vail 2014): seven distinctions
  2. **Where the hierarchy effect holds**
     - Ch'ol, Tsotsil: hierarchy effects in both actives and passives
     - Chuj: hierarchy effects in actives but not passives

- Aissen (1997, 1999) connected these effects to **obviation** in Algonquian, with an analysis in terms of an obviation tier.

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Today: Account of Mayan animacy restrictions and microvariation

- Animacy restrictions reflect Agree, echoing much recent work, including on Algonquian (e.g., Oxford 2019, to appear; Hammerly 2020).
- Interaction/satisfaction model of Agree (Deal, 2015, 2022)
- *Dynamic interaction*: a probe's Agreement with a first goal (G1) can change the probe's specification, such that it may only further agree with a G2 that has features in common with G1

Plan

§2 Novel data on animacy restrictions in Chuj, and variation within Mayan
§3 Account of restrictions in active sentences
§4 Account of restrictions in passive sentences
§5 A broader look at Set A (ergative/possessive) morphemes: extension to a novel description of possessum-possessor hierarchy effects in Chuj

2 Mayan animacy restrictions

2.1 A concrete example: San Mateo Ixtatán Chuj

- Mayan; Q'anjob'alan sub-branch
- Primarily spoken in Guatemala and Mexico
- ≈70,000 to 80,000 speakers
- VOS, head marking, ergative-absolutive
- Set A = ergative/possessive | Set B = absolutive
- Data come from Justin's fieldwork (2017-2023)

- Combinations of **third person arguments** in active sentences are subject to the following restriction:

  (2) *Chuj animacy restriction in actives*:
  Objects cannot outrank agents on the hierarchy
  HUMAN > ANIMATE > INANIMATE

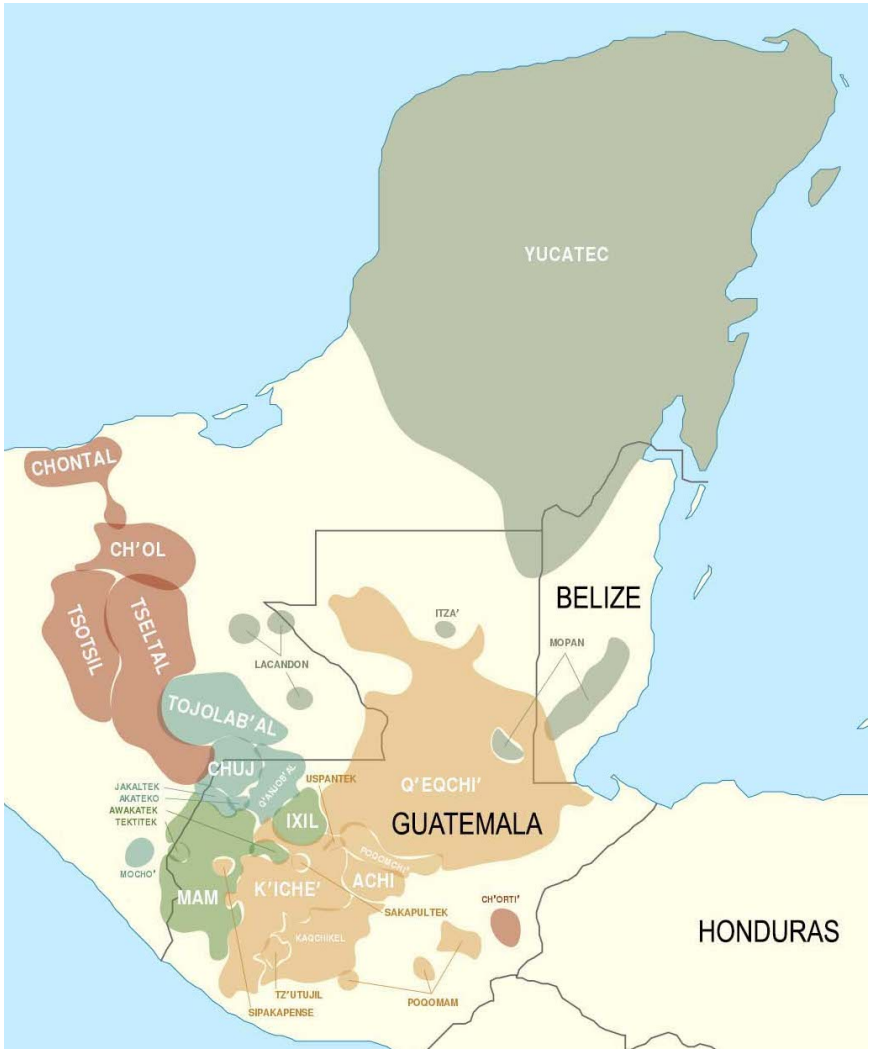


Figure 1: Current-day Mayan-speaking area (Law 2014, p. 25)

- **Active sentences:** ✓HUM>ANIM, *ANIM>HUM

(3) a. ✓ Ix-y-il nok' chan winh winak.
PFV-A3-see CLF snake CLF man
'The man saw the snake.' HUM A, ANIM Obj

b. * Ix-y-il winh winak nok' chan.
PFV-A3-see CLF man CLF snake
Int. 'The snake saw the man.' ANIM A, HUM Obj

– Note: *nok' chan* 'the snake' *can* be the agent of 'see'; it just can't be the agent of a "3rd person human-seeing" active, e.g. (3b).

(4) a. ✓ Ix-y-il nok' much nok' chan.
PFV-A3-see CLF bird CLF snake
'The snake saw the bird.' ANIM A, ANIM OBJ

b. ✓ Ix-{in/ach/onh}-y-il nok' chan.
PFV-B1S/B2S/B2P-A3-see CLF snake
'The snake saw me/you/us.' ANIM A, LOCAL OBJ

Active sentences: ✓HUM>INAN, *INAN>HUM

(5) a. ✓ Ix-y-il k'en kamera waj Xun.
PFV-A3-see CLF camera CLF Xun
'Xun saw the camera.' HUM A, INAN OBJ

b. * Ix-y-il waj Xun k'en kamera.
PFV-A3-see CLF Xun CLF camera
Int. 'The camera saw/filmed Xun.' INAN A, HUM OBJ

– Again, note that INAN>INAN is fine:

(6) ✓ Ix-y-il te' pat k'en kamera.
PFV-A3-see CLF house CLF camera
'The camera filmed the house.' INAN A, INAN OBJ

- **Active sentences:** ✓ANIM>INAN, *INAN>ANIM

(7) a. ✓ Ix-y-il k'en kamera nok' chab'in.
PFV-A3-see CLF camera CLF monkey
'The monkey saw the camera.' ANIM A, INAN OBJ

b. * Ix-y-il nok' chab'in k'en kamera.
PFV-A3-see CLF monkey CLF camera
Int. 'The camera saw/filmed the monkey.' INAN A, ANIM OBJ

- To express the desired meaning for the ungrammatical sentences above, a passive is used (a common strategy to circumvent hierarchy effects; Zavala 2007).

(8) Ix-il-j-i winh winak [$_{OBL}$ yuj nok' chan].
PFV-see-PASS-IV CLF man by CLF snake
'The snake saw the man.' cf. (3b)

> Important: no animacy restrictions with passives in Chuj (the oblique agent *can* outrank the passive subject):

(9) Ix-il-j-i nok' chan [$_{OBL}$ yuj winh winak].
PFV-see-PASS-IV CLF snake by CLF man
'The snake was seen by the man.'

– This holds for all kinds of HUM/ANIM/INAN DPs.

In sum, (im)possible combinations of 3P in Chuj actives:

(10)

AG	OBJ		AG	OBJ		AG	OBJ	
HUM	HUM	✓	ANIM	HUM	✗	INAN	HUM	✗
HUM	ANIM	✓	ANIM	ANIM	✓	INAN	ANIM	✗
HUM	INAN	✓	ANIM	INAN	✓	INAN	INAN	✓

2.2 Mayan microvariation

Thanks to the large amount of existing work on the topic (Aissen 1997, 1999; Zavala 1997, 2007 2017; Curiel 2007; Pascual 2007; Vázquez Álvarez 2011; Polian 2013; Pérez Vail 2014), we know there's variation w.r.t.:

1. Articulation of the scale
2. Whether hierarchy effects also hold in passives

	scale n.d. = not determined	effects in: ACT	 PASS	reference
Chuj	HUM>ANIM>INAN	Yes	No	-
Cajolá Mam	seven distinctions	Yes	No	Pérez Vail 2014
Akatek	ANIM>INAN; other n.d.	Yes	?	Zavala 2007
Q'anjob'al	ANIM>INAN; other n.d.	Yes	?	Pascual 2007
Tseltal	ANIM>INAN; other n.d.	Yes	?	Polian 2013
Tojol-ab'al	ANIM>INAN; other n.d.	Yes	Yes	Curiel 2007
Ch'ol	ANIM>INAN	Yes	Yes	Zavala 2007
Tsotsil	HUM>NON.HUM	Yes	Yes	Aissen 1997, 1999

- For example, Zavala (2007) and Vázquez Álvarez (2011) show Ch'ol animacy restrictions (ANIM>INAN) in both active and passive sentences.

- **Active sentences:** ✓ANIM>INAN, *INAN>ANIM

(11) Ch'ol (Zavala 2007, (79)/(83))

a. ✓ Tyi i-mel-e waj k-ña'jel.
PFV A3-make-TV tortilla A1-aunt
'My aunt prepared the tortilla.' ANIM A, INAN P

b. * Tyi i-jats'-ä aj-Pedro li chajk.
PFV A3-hit-TV CLF-Pedro DET lightning
'The lightning hit Pedro.' INAN A, ANIM P

> Ch'ol is notably different from Chuj in also showing restrictions in passives—the oblique agent *cannot* outrank the passive subject.

(12) Ch'ol (Zavala 2007, (80)/(82))

a. * Tyi mejl-i waj [$_{OBL}$ tyi k-ña'jel]
PFV make+PASS-IV tortilla PREP A1-aunt
Int. 'The tortilla was prepared by my aunt.' cf. (11a)

b. ✓ Tyi jajts'-i aj-Pedro [$_{OBL}$ tyi chajk].
PFV hit+PASS-IV CLF-Pedro PREP lightning
'Pedro was hit by the lightning.' cf. (11b)

Rest of this talk:

- We follow much recent work that models hierarchy effects via **Agree** (Béjar and Rezac 2003, 2009; Nevins 2007, 2011; Coon and Keine 2021; Deal 2022...).

> **Core idea:**
> Hierarchy effects arise when *a single probe Agrees with two goals.*
>
> ▶ **Dynamic interaction** (Deal to appear):
> A dynamic feature [α↑] on a first DP goal alters the probe P such that P may only further Agree with goals bearing [α].

- To account for...
  1. Variation in the articulation of the scale: there's variation regarding which features are dynamic.
  2. Variation in where the hierarchy effects hold:
     (i) ACTIVES (all relevant Mayan languages):
     v agrees 1st with the object and 2nd with the agent.
     (ii) PASSIVES (a subset of Mayan languages):
     T agrees 1st with the oblique agent and 2nd with passive subject.

▶ (ii) only happens in a subset of Mayan languages.

3 Deriving hierarchy effects in Mayan actives

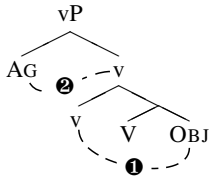
- While all relevant Mayan languages show animacy effects in actives, Mayan actives are syntactically diverse (Coon et al. 2014, 2021; Aissen 2017; Royer 2022):

(13) Ch'ol is a **low-abs** language
TAM – Set A (ERG) – ROOT – (VOICE) – SS – Set B (ABS)

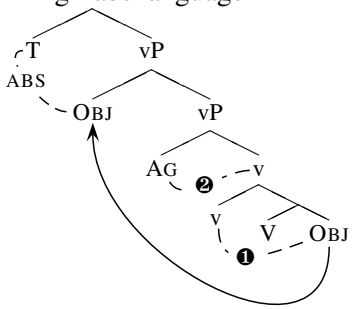
(14) Chuj is a **high-abs** language
TAM – Set B (ABS) – Set A (ERG) – ROOT – (VOICE) – SS

- Following Coon et al. (2014), we assume ABS varies across Mayan in whether it reflects a probe on *v* (low-abs) or T (high-abs).
- We also follow this and other work (Coon 2017a, 2019) in assuming that ERG reflects Agree with *v* across the family.

(15) Low-abs language



(16) High-abs language



- Low-abs: ❶ produces Set B (ABS), while ❷ produces Set A (ERG)
- High-abs: ❶ produces Obj movement (Coon et al. 2021), and ❷ again produces Set A (ERG); Set B (ABS) results from Agree with T.
- Given Cyclic Agree, we assume v always Agrees with the Obj first.

> **Our proposal:** this "one-head/two goals" configuration—present in all Mayan languages—is the source of animacy restriction effects.

- Three theoretical tools:
  1. **Feature geometry with animacy features** (Harley and Ritter 2002; Toosarvandani 2023)

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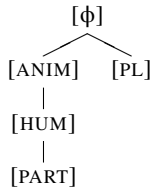
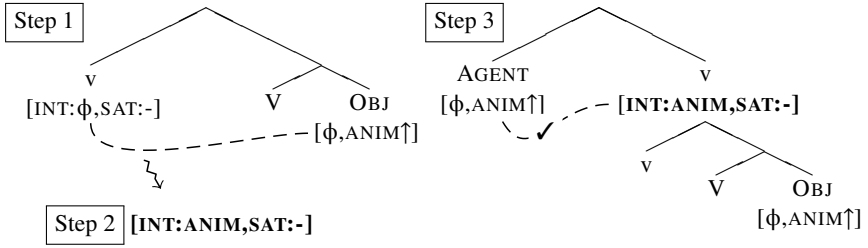


3.INAN.SG = [ϕ]
3.ANIM.SG = [ϕ, ANIM]
3.HUM.SG = [ϕ, ANIM, HUM]
...

  2. **Interaction and satisfication model of Agree** (Deal 2015, 2022):
     - Probes have two specifications:
       (a) Interaction (INT); features copied by the probe
       (b) Satisfaction (SAT); features that make the probe stop
  3. **Dynamic Interaction [ϕ↑]** (Deal 2022)
     - A goal's features can change [INT:] on a probe that agrees with it:
       (a) Probe [INT:ϕ, SAT:-] Agrees with DP bearing [HUM↑]
       (b) This changes the probe specification to [INT:HUM, SAT:-]

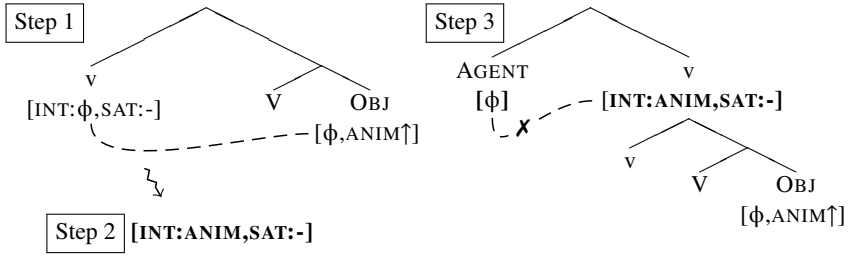
- Example:

(18) ✓ Ix-y-il nok' much nok' chan.
PFV-A3-see CLF bird CLF snake
'The snake saw the bird.' ANIM A, ANIM P



- Now, if the Agent is inanimate and v first interacts with an anim Obj:

(19) * Ix-y-il nok' chab'in k'en kamera.
PFV-A3-see CLF monkey CLF camera
Int. 'The camera saw/filmed the monkey.' INAN A, ANIM P



  - Dynamic Interaction with [ANIM↑] bleeds Agree with the Agent. If the Agent can't Agree with *v*, **Set A (ERG) can't be derived :(**.

- This system can explain the relative animacy restrictions and the points of microvariation within the family.

- If the object is...

(20) **Human** [HUM↑,ANIM↑,ϕ]; the Agent must also be human.

A	Obj		A	Obj		A	Obj	
HUM	HUM	✓	ANIM	HUM	✗	INAN	HUM	✗

(21) **Animal** [ANIM↑,ϕ]; the Agent must be animate (human or animal).

A	Obj		A	Obj		A	Obj	
HUM	ANIM	✓	ANIM	ANIM	✓	INAN	ANIM	✗

(22) **Inanimate** [ϕ/or trivially ϕ↑]: no restrictions.

A	Obj		A	Obj		A	Obj	
HUM	INAN	✓	ANIM	INAN	✓	INAN	INAN	✓

- As for the microvariation w.r.t. **articulation of the scale**, we simply need to modify the kinds of features that matter, and which ones are dynamic.
  - > [HUM>NON.HUM] (Tsotsil) = only [HUM↑] is dynamic.
  - > [ANIM>INAN] (Ch'ol) = only [ANIM↑] is dynamic.
  - > Cajolá Mam (7 way distinction): [PART↑, ELDER↑, HUM↑...]
- See the Appendix on how local persons (which we think also bear human and animate features) are best treated in most Mayan languages.

4 Deriving variation in passive sentences

- Recall that Chuj and Ch'ol animacy restrictions diverge in passives:

(23) ✓ Ix-b'o'-j-i ixim wa'il [$_{OBL}$ yuj ix w-icham].
PFV-make-PASS-IV CLF tortilla by CLF A1S-aunt
'The tortillas were made by my aunt.' (**Chuj**: no restrictions)

(24) * Tyi mejl-i waj [$_{OBL}$ tyi k-ña'jel]
PFV hacer+PASS-IV tortilla PREP A1-aunt
Int. 'The tortilla was made by my aunt.' (**Ch'ol**: animacy restrictions)

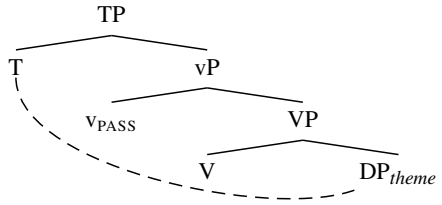
Our proposal: keeping to a "one-head/two goals" analysis of hierarchy effects—there is variation within the family in whether:

1. T agrees only with passive Subj (Chuj; no hierarchy effects)
2. T agrees with both Obl Agent and passive Subj (Ch'ol, hierarchy effects)

Assumptions about Mayan passives

- We follow others (e.g., Coon et al. 2014; Coon 2017b, 2019) in assuming that Set B (ABS) in intransitives (passives included) comes from Agree with T.

(25) Set B (ABS) assignment in passive



- While T Agrees with the underlying Obj in both Ch'ol and Chuj, two ways T could vary in also Agreeing—or not—with the oblique Agent:
  1. Distinct syntactic position and probe accessibility, e.g.:

(26) Ch'ol:
[T OBL Subj]
❶ ❷

(27) Chuj:
[OBL] [T Subj]
❶

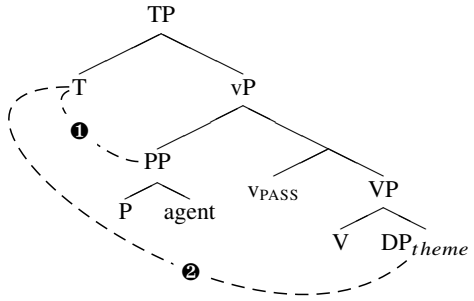
  2. The internal composition of the oblique Agent is structurally distinct in both languages, e.g., it is a DP in Ch'ol but a PP in Chuj.

- We explore option 1 here, but there's empirical evidence for both options (see Coon et al. 2021, 291-2)

Ch'ol passives (hierarchy effects)

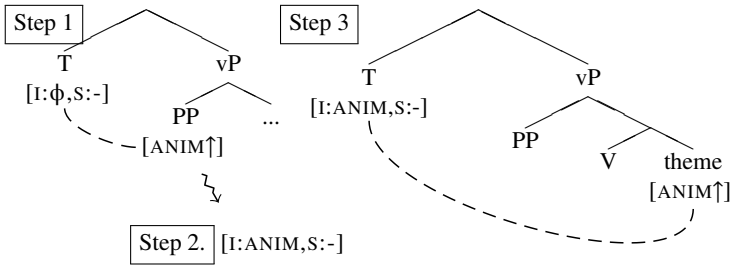
- By-phrase is generated in agent position, Spec,vP (Collins 2005, i.a.)

(28)



- T Agrees first with PP, then with the theme (if possible) (1 probe, 2 goals).[2]
- As above, [ANIM↑] interacts dyanmically

(29) Tyi il-än-ty-i li wiñik tyi x-'ixik.
PFV see-DTV-PASS-IV the man PREP CLF-woman
'A woman was seen by the man.'

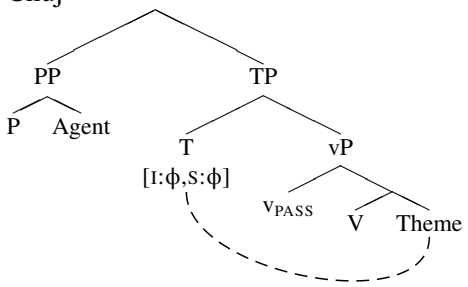


- If the OBL has [ANIM↑] and not the theme, the theme cannot Agree with T; Set B is not derived (presumable Case assignment problem for the theme)

Chuj passives (no hierarchy effects)

- If oblique phrases in Chuj are first Merged outside the c-command domain of T, T will only find the Theme; no animacy restrictions.

(30) Chuj (see Royer 2023)



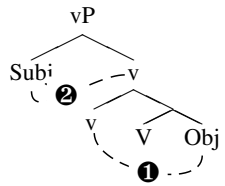
[2] ϕ-features are accessible on the by-phrase: either it's a PP that has agreed with an internal DP (Rezac, 2008), as we show here, or it's itself a DP (as per Coon et al. 2021 for Ch'ol).

- Independent evidence that PPs are lower in Ch'ol than Chuj in Royer 2023:
  1. Subjects can bind inside PPs in Ch'ol, but not in Chuj.
  2. PPs in Chuj vs Ch'ol have a distinct distribution: must be peripheral in Chuj but not Ch'ol, where V-O-PP-S is possible ((68)-(69) in Royer 2023).
- **In sum:** We can capture variation in animacy restrictions in Mayan passives by keeping to a one probe/two goals analysis of hierarchy effects.
- Several ways to work this out formally, but one way comes from varying the syntactic position of the oblique agent.

5 Mayan Set A and possessor-possessum hierarchy effects

- To capture the Mayan animacy hierarchy effect via Agree, we've followed the standard analysis for hierarchy effects via Agree: one probe/two goals:

(31)



Recall: ❷ generates Set A (ERG) in all relevant Mayan languages

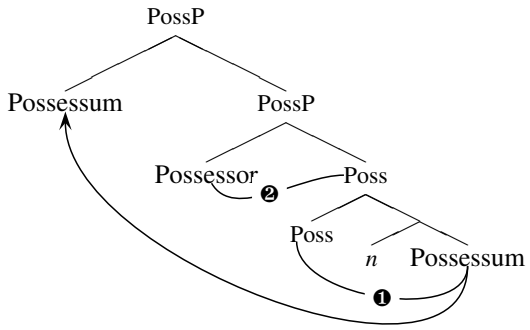
- Across Mayan, Set A cross-references not only ergatives, but also possessors.

(32) [ix s-nun [POSS waj Xun]]
CLF A3-mother CLF Xun
'Xun's mother'

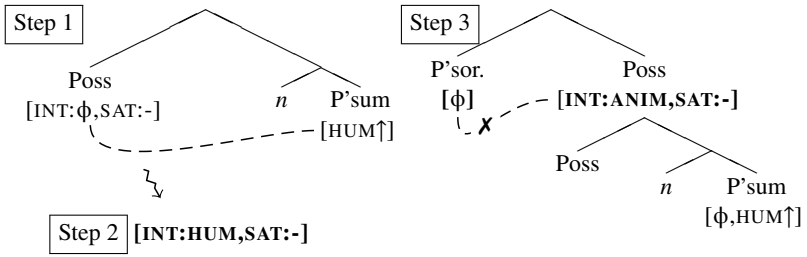
- **Proposal** (based on Deal 2010, Clem 2019): Mayan Set A (ERG/POSS) arises when a single probe on v/Poss Agrees with a *second* goal.

- **Consequence**: Set A in the nominal domain also results from Agree with two goals; the possessor gets Set A because it's second to agree with Poss^0
  - Word order: the possessum comes first, across Mayan
  - Parallel to high-abs in vP – the probe's first goal is raised

(33)



- **Prediction**: if this is the right analysis (and dynamic features are borne by DPs), we expect animacy restrictions in possessive constructions as well:



- This prediction is borne out in Chuj.

(34) a. ✓ te' s-pat heb' unin
CLF A3-house PL child
'the children's house' (HUM p'sor, INAN p'sum)

b. * heb' y-unin te' pat.
PL A3-child CLF house
intended: 'the house's children' (INAN p'sor, HUM p'sum)

(35) a. ✓ te' s-pat nok' tz'i'
CLF A3-house PL child
'the dog's house' (ANIM p'sor, INAN p'sum)

b. * nok' s-tz'i' te' pat.
CLF A3-dog CLF house
intended: 'the house's dog' (INAN p'sor, ANIM p'sum)

(36) a. ✓ nok' s-tz'i' winh winak
CLF dog CLF man
'the man's dog' (HUM p'sor, ANIM p'sum)

b. * heb' s-winak nok' choj.
PL A3-man CLF puma
intended:[3] 'the puma's men/people' (ANIM p'sor, HUM p'sum)

- Again, note lack of any restriction when DPs rank equally:

(37) a. ✓ s-kuxinu te' pat
A3-kitchen CLF house
'the house's kitchen' (INAN p'sor, INAN p'sum)

b. ✓ nok' y-une' nok' kaxlan
CLF A3-child CLF hen
'the hen's chicks' (ANIM p'sor, ANIM p'sum)

c. ✓ ix s-nun winh winak
CLF A3-mother CLF man
'the man's mother' (HUM p'sor, HUM p'sum)

- **In sum:** we find the exact same pattern as in Chuj actives:

P'SOR	P'SUM		P'SOR	P'SUM		P'SOR	P'SUM	
HUM	HUM	✓	ANIM	HUM	✗	INAN	HUM	✗
HUM	ANIM	✓	ANIM	ANIM	✓	INAN	ANIM	✗
HUM	INAN	✓	ANIM	INAN	✓	INAN	INAN	✓

[3] Intended given cultural concept of *moj spixan* (non-human entities that possess humans).

- Several kinds of repairs for different kinds of nouns, but for the ones above:

(38) a. y-unin-**al** te' pat
A3-child-INAL CLF house
'the house's children'

b. s-tz'i'-**al** te' pat
A3-dog-INAL CLF house
'the house's dog'

c. s-winak-**il** nok' choj
A3-man-INAL CLF puma
'the puma's men' (those whose "moj spixan" is a puma)

- Possessa all appear with *-Vl* suffix, an "inalienable" suffix; and Set A is preserved, which we could account in different ways:

1. *-Vl* overrides ANIM and HUM features on the noun.
2. *-Vl* overrides *dynamic features* on the noun.

6 Conclusion

We proposed a new analysis of animacy restrictions that accounts for points of uniformity and microvariation with the Mayan family.

(39) **Main proposals**:

a. Hiearchy effects arise when *a single probe agrees with two goals*, which we explained via Int/Sat model of Agree (Deal 2015, 2022).

b. Goals can bear *dynamic features*, e.g., [ANIM↑], altering the kinds of goals with which the probe can subsequently Agree.

- **Uniformity in active sentences:** Across Mayan, v Agrees with Obj first and Agent second (Coon et al. 2021)
  - A dynamic feature α on Obj bleeds further Agree with Agent if Agent does not bear α.

- **Variation in articulation of the scale**: Arises because there is variation wrt which features are dynamic (see appendix A on local pronouns).

- **Variation in passives**: The one probe/two goals analysis can be extended, if in some languages (e.g., Ch'ol) T Agrees with both the OBL agent and passive Subj, whereas in others (e.g., Chuj) T only Agrees with passive Subj.

- **Extension to possessive constructions**: Our analysis predicts hierarchy effects in possessive constructions, a prediction which we showed is borne out.

- **Other extensions**, e.g.:

1. the status of local persons (see appendix A)
2. other factors traditionally associated to "obviation", restrictions based on coreference, definiteness, and topicality (see appendix B).

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Appendices

A On the status of local persons

- For most Mayan languages, **animacy hierarchy restrictions hold only when both arguments are 3rd person**.
  - Local persons are outside the restriction, despite denoting humans:

(40) a. * Ix-y-il winh winak nok' chan.
PFV-A3-see CLF man CLF snake
'The snake saw the man.' ANIM>HUM

b. ✓ Ix-{in/ach/onh}-y-il nok' chan.
PFV-B1S/B2S/B2P-A3-see CLF snake
'The snake saw me/you/us.' ANIM>LOCAL PERSON

- We consider two classes of approaches to this fact:
  1. No Agree-visible animacy features on local persons
  2. Agree-visible animacy features on local persons, but not dynamic

- On theory 1, local persons either lack animacy features in the syntax (their semantics notwithstanding), or these features are shielded from Agree

(41) If local persons simply lack animacy features:
  a. 1st person: [ϕ,PART,SPKR]
  b. 2nd person: [ϕ,PART]
  c. 3rd person: [ϕ], [ϕ,ANIM↑], or [ϕ,HUM↑,ANIM↑]

> The problem: this makes local persons like inanimates! They lack the features [ANIM] and [HUM] (as far as Agree can see)

- This makes a false prediction concerning local person subjects with animate objects. These combinations are well-formed:

(42) Ix-k-il nok' tz'i' *pro*.
PFV-A1P-see CLF dog 1PL
'We saw the dog.' (Chuj)

  - We proposed that the animate object dynamically interacts, requiring an [ANIM] feature on the subject in order for the subject to Agree
  - We must therefore conclude from (42) that local persons *do* have an [ANIM] feature accessible to Agree

- Theory 2: local persons have animacy features, but not dynamic ones

(43) a. 1st person: [ϕ,PART,SPKR,HUM,ANIM]
b. 2nd person: [ϕ,PART,HUM,ANIM]
c. 3rd person: [ϕ], [ϕ,ANIM↑], or [ϕ,HUM↑,ANIM↑]

- This theory predicts that local persons aren't outside the system – they just don't have the same behavior for Agree as objects as 3rd persons do.

  - We expect that if the 2nd person were clearly non-human, it should be ruled out as subject with a human object.
    (Hard to assess because e.g. dogs may well be honorary humans)

- Implications for macro-variation:

  - Aissen (1997) notes that Chamorro includes both 2nd and 3rd persons in its animacy hierarchies; Algonquian includes all persons.
  - We suggest that languages vary as to whether they confine their dynamic features to their third persons, extend them to 2nd persons, or extend them to all persons

B Obviation, topicality, and coreference

- Aissen (1997) and much subsequent work have related Mayan animacy restrictions to Algonquian patterns of obviation.

(44) Obviation scale:
(local) > proximate > obviative

  - In Algonquian, direct voice is required whenever the subject is proximate and the object obviative.
  - **Aissen's core thesis**: in Tsotsil, active voice is required whenever the subject is proximate and the object obviative.
  - Otherwise, an inverse/passive is needed.

- While proximate vs obviative DPs are overtly distinguished in Algonquian, they are not in Mayan. So why connect the Mayan patterns to obviation? Three reasons:

1. The same animacy effects hold in Algonquian languages: the obviation scale aligns with the animacy scale, i.e., for combinations of 3rd person animates/inanimates (and only for such combinations), the animate must be proximate (otherwise inverse voice is required).
2. Proximates in Algonquian are generally more "topical/definite" than obviatives (see Oxford to appear and references therein), and Aissen (1999) argues that might also be the case for Tsotsil.
3. Given additional assumptions, two constraints on the distribution of coreferential nominals can be made to follow, in particular:
   (a) *Possessives.* Sentences of the type [*x*'s *y* V *x*] are not possible when *x* and *y* are third persons. (e.g. *Her$_i$ friend helped her$_i$*)
   (b) *Attitudes.* Sentences of the type [*x* V$_{speech/attitude}$ [CP that *y* V *x*]] are also not possible when *x* and *y* are third persons. (e.g. *Maria$_i$ said that Juan helped her$_i$*)

- We focus on possessives, but we believe our analysis can be extended to attitudes.

- Possessive coreference effects in Chuj and Ch'ol:

(45) * Ix-y-il waj Xun [S ix s-nun *pro*].
PFV-A3-see CLF Xun CLF A3-mother PRON
Intended: 'His$_1$'s mother saw Xun$_1$.' (Chuj)

(46) * Tyi i-tyaj-a *pro* [S i-ñox'a *pro*] tyi
PFV A3-find-TV PRON A3-husband PRON PREP
Yermosaj.
Villahermosa
Intended: 'Her$_1$ husband found her$_1$ in Villahermosa.' (Ch'ol)

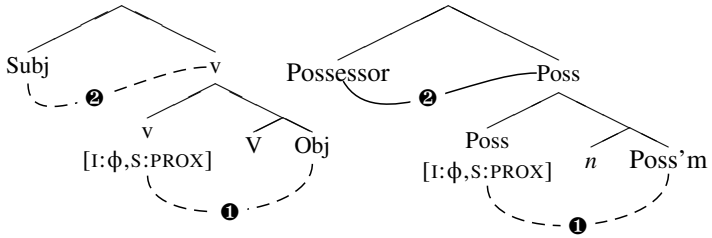
- Like for animacy effects in these languages, local persons don't count:

(47) a. Ix-in-y-il ix hin-nun.
PFV-B1S-A3-see CLF A1S-mother
'My mother saw me.' (Chuj)

b. Tyi i-ts'äk-ä-y-oñ k-alo'b-il.
PFV A3-cure-TV-EPEN-B1 A1-son-NML
'My son cured me.' (Ch'ol, Zavala 2007: 77)

- To capture these data, we take two steps. First, what we previously analyzed as an insatiable probe on *v* and Poss should instead be [SAT:PROX].

(48) a. vP b. PossP



- This rules out structures with set A agreement and (i) proximate objects or (ii) proximate possessa—Agree would stop at the first goal and set A cannot be generated (for ERG or POSS).

- Second, we make two additional assumptions, which match parts of the analysis of Aissen (1997)

(49) *Obviation tracks reference*
If two expressions co-refer, they must match wrt the feature [PROX]. (Ideally this is derivable from a proper semantics from obviation features)

(50) *Third person dissimilation*
If there are two third persons in a clause, one must be proximate (i.e. bear the feature [PROX]).

- This rules out the generation of examples like (51), from above:

(51) * Ix-y-il waj Xun [SUBJ ix s-nun *pro*].
PFV-A3-see CLF Xun CLF A3-mother PRON
Intended: 'His$_1$'s mother saw Xun$_1$.' (Chuj)

  - Given set A agreement in the clause and the possessive DP, neither the object (*Xun*) nor the possessum ('mother') is proximate.
  - The pronominal possessor cannot be proximate because it is coreferential with a non-proximate (*Xun*)
  - This means that no argument is proximate, which violates Third Person Dissimilation

- Local persons are outside this generalization because the constraint is specifically *third person* dissimilation.

  - This is part of a broader pattern of dissimilation effects specifically in 3/3 contexts, within Mayan and beyond
  - E.g. in Tsotsil, agent focus is only used in 3/3
  - Could be related, as Aissen has suggested, to processing issues arising in a verb-initial, *pro*-drop language.