Mayan animacy hierarchy effects and the dynamics of Agree

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1 Introduction

- Many Mayan languages restrict combinations of subject/object arguments, based on hierarchies like (1).

  (1) HUMAN > ANIMATE > INANIMATE

- As seen in Justin & Pedro's talk yesterday, this is true in Chuj:

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

- Moreover, there are interesting claims concerning points of **microvariation** within the family, including variation in the articulation of scales:
  - Poqom (Benito Pérez 2016): (ANIM>INAN)
  - Chuj: three distinctions (HUM > ANIM > INAN, i.e. (1))
  - Cajolá Mam (Pérez Vail 2014): seven distinctions

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

Today: Account of Mayan animacy restrictions and microvariation

  ► Animacy restrictions reflect Agree, echoing much recent work, including on Algonquian (e.g., Oxford 2019, 2022; Hammerly 2020).

  ► Interaction/satisfaction model of Agree (Deal, 2015, 2024)

  ► *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
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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 by ≈80,000 speakers

- VOS, head marking, ergative-absolutive

- Set A = ergative/possessive | Set B = absolutive

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

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

- As seen yesterday, animacy hierarchy effects can be summarized as follows:

  (4)   Summary of Chuj animacy hierarchy restrictions given combinations of third person arguments

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

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

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

  (5)   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. (5b).

  (6)   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

  (7)   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:

  (8)   ✓ 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

(9)   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, one of two detransitivization strategies is generally used:

(10) a.   * Ix-y-il   winh winak nok' chan.
            PFV-A3-see CLF man   CLF snake
            Int. 'The snake saw the man.'   (active)

      b.   Ix-il-**j**-i   winh winak [_OBL_ yuj nok' chan].
            PFV-see-PASS-IV CLF man   by CLF snake
            'The man was seen by the snake.'   (passive)

      c.   [_FOC_ Ha nok' chan] ix-il-**an**   winh winak.
              FOC CLF snake   PFV-see-AF CLF man
            'It's the snake that saw the man.'   (agent focus)

- **Next:** Follow much recent work that models hierarchy effects via **Agree**

Core idea: The effects arise when *a single probe Agrees with two goals.*

▶ **Dynamic interaction**: A dynamic feature $[\alpha\uparrow]$ on a first goal alters the probe P such that P may only further Agree with goals bearing $[\alpha]$.

- To account for...

  1. Variation in the articulation scales (§4): there is variation regarding what features are dynamic.
  2. Reported variation in whether the hierarchy also holds in passives (not discussed here): in the paper we consider a pragmatic account.

## 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):

(11) Tseltal is a **low-abs** language
      TAM – Set A (ERG) – ROOT – (VOICE) – SS – $\boxed{\text{Set B (ABS)}}$
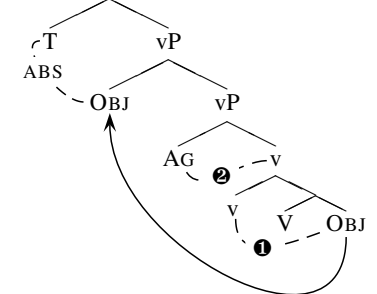
(12) Chuj is a **high-abs** language
      TAM – $\boxed{\text{Set B (ABS)}}$ – Set A (ERG) – ROOT – (VOICE) – SS

- 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 2017, 2019) in assuming that ERG reflects Agree with *v* across the family.
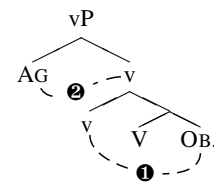
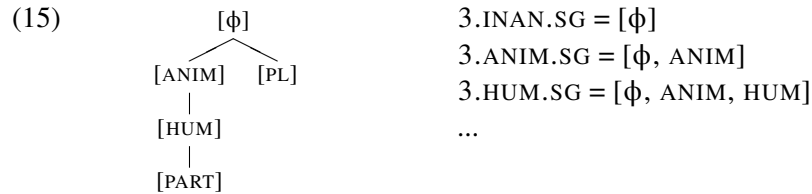(13)   Low-abs language   (14)   High-abs language

- 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 (low) "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 to appear)

     (15)

     [φ]

     [ANIM]   [PL]

     [HUM]

     [PART]

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

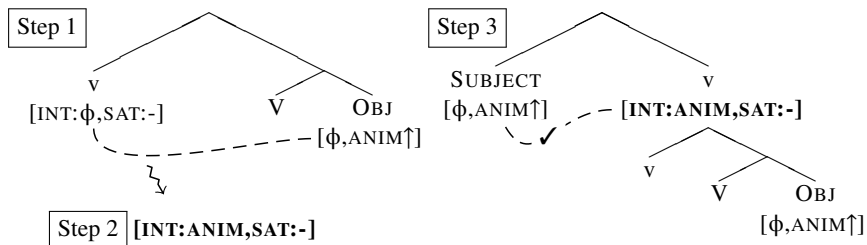 2. **Interaction and satisfaction model of Agree** (Deal 2015, 2024):
     - Probes have two specifications:
       (a) Interaction (INT); which features can be copied
       (b) Satisfaction (SAT); which features cause probing to stop

  3. **Dynamic Interaction [φ↑]** (Deal 2024)
     - A goal's features can change [INT:] on a probe that agrees with it:
       (a) Probe [INT:φ, SAT:-] Agrees with DP bearing [HUM↑]
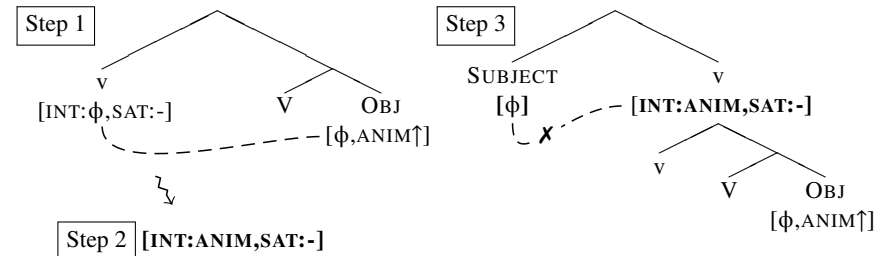   (b) This changes the probe specification to [INT:HUM, SAT:-]

- Example of an acceptable active sentence:

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

  Step 1

  v
  [INT:φ,SAT:-]   V   OBJ
                      [φ,ANIM↑]

  Step 2 [INT:ANIM,SAT:-]

  Step 3

  SUBJECT   v
  [φ,ANIM↑] – – [INT:ANIM,SAT:-]
         ✓
                  v
                  V   OBJ
                       [φ,ANIM↑]

- Now, if the Subject is inanimate and v first interacts with an ANIM Obj:

  (17) * 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

  Step 1

  v
  [INT:φ,SAT:-]   V   OBJ
                      [φ,ANIM↑]

  Step 2 [INT:ANIM,SAT:-]

  Step 3

  SUBJECT   v
  [φ] – – [INT:ANIM,SAT:-]
     ✗
                  v
                  V   OBJ
                       [φ,ANIM↑]

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

- This system can explain the **relativity** of animacy restrictions.

- If the object is...

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

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

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

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

  (20) **Inanimate** [φ, or trivially φ↑]: no restrictions.

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

4 Articulating and restricting the hierarchy

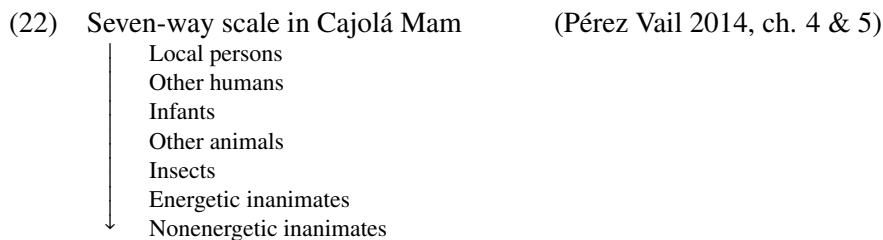§4.1 An account of variation in the articulation of scales

§4.2 An account of how local persons can be exempt from animacy hierarchy effects, and consequences for dynamic features.

4.1 Accounting for variation in the articulation of animacy scales

- Recall from yesterday: variation in the articulation of animacy scales.

(21)

	scale n.s. = not specified	reference
Chuj	HUM>ANIM>INAN	(data presented here)
Akatek	HUM>ANIM>INAN, other n.s.	Zavala 1992, 2007
Q'anjob'al	HUM>ANIM>INAN; other n.s.	Pascual 2007
Tojol-ab'al	ANIM>INAN; other n.s.	Curiel 2007
Mocho'	ANIM>INAN	Pérez González 2021
Cajolá Mam	7 distinctions, including PART	Pérez Vail 2014
Ch'ol	HUM>ANIM>INAN	Zavala 2007
Tseltal	HUM>BIG.ANIM>ANIM>INAN	Polian 2004, 2013
Tsotsil	HUM>NON.HUM	Aissen 1997, 1999
Poqom	ANIM>INAN	Benito Pérez 2016
Kaqchikel	no animacy hierarchy	Broadwell 2000
Yucatec Maya	HUM>ANIM>INAN; other n.s.	Bohnemeyer 2009

- We will illustrate how our analysis could account for this variation by taking the most extended hierarchy as an example:

(22) Seven-way scale in Cajolá Mam   (Pérez Vail 2014, ch. 4 & 5)

    Local persons
    Other humans
    Infants
    Other animals
    Insects
    Energetic inanimates
    Nonenergetic inanimates

- Local persons are part of the system:

(23) Cajolá Mam person hierarchy   (Pérez Vail 2014: 139)

  a. ✓ Ma   kub' n-tzyu-'n=e'   Leexh.
     PROX DIR A1S-grab-DS=1S Andrés
     'I grabbed Andrés.'   (1>3)

  b. ✓ Ma   kub' t-tzyu-'n=a   Leexh.
     PROX DIR A2S-grab-DS=2S Andrés
     'You grabbed Andrés.'   (2>3)

  c. * Ma   chin kub' t-tzyu-'n=e'   Leexh
     PROX B1S DIR A3S-grab-DS=1S Andrés
     Int. 'Andrés grabbed me.'   (*3>1)

  d. * Ma   kub' t-tzyu-'n=a Leexh
     PROX B1S DIR   A3S-grab-DS=2S Andrés
     Int. 'Andrés grabbed you.'   (*3>2)

- The effect is again relative: local person objects are fine as long as the subject is also a local person.

(24) Cajolá Mam: local/local cases   (Pérez Vail 2014: 139)

  a. ✓ Ma   kub' n-tzyu-'n=a.
     PROX DIR A1S-grab-DS=2S
     'I grabbed you.'   (1>2)

  b. ✓ Ma   chin kub' t-tzyu-'n=a.
     PROX B1S DIR A2S-grab-DS=2S
     'You grabbed me.'   (2>1)

- Again, this is not the case in Chuj (example repeated from (6b)):

(25) ✓ Ix-{in/ach/onh}-y-il   nok' chan.
    PFV-B1S/B2S/B2P-A3-see CLF snake
    'The snake saw me/you/us.'   (3>local)

- Cajolá Mam also has a more extended scale for third persons:

  (26) Illicit co-arguments in Cajolá Mam   (Pérez Vail 2014: 187-190)

      a. * Ma   t-il   ne'x xjaal.
            PROX A3S-see baby person
            Int. 'The baby saw the person.'   (*infant > adult)

      b. * Ma   b'aj-e'l k-ch'yo-'n   xeeni'l   waakx.
            PROX DIR-DIR A3P-sting-DS mosquito cow
            Int. 'The mosquitos bit the cow.'   (*insect > other animal)

      c. * Ma   t-maq   tze kyq'iq.
            PROX A3S-block tree wind
            Int. 'The tree blocked the wind.' (*non-energ. > energ. INAN)
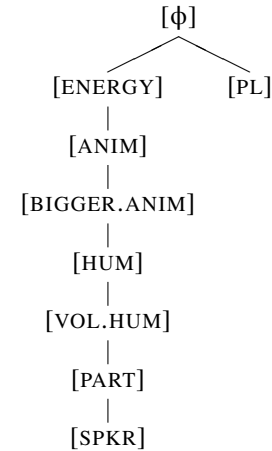
- These restrictions again don't apply in Chuj:

  (27) Chuj: licit third person combinations

      a. Ix-y-il   ix ix   ix nene.
          PFV-A3-see CLF woman CLF baby
          'The baby saw the woman.'   (compare (26a))

      b. Ix-s-chi'   nok' wakax nok' xe'en.
          PFV-A3-eat CLF cow   CLF mosquito
          'The mosquito bit the cow.'   (compare (26b))

      c. Ix-s-mak   ik' te' te'.
          PFV-A3-block wind CLF tree
          'The tree blocked the wind.'   (compare (26c))

- **Therefore:** there's clearly variation in the articulation of the relevant person/animacy scale across Mayan languages.

- To account for variation in the **articulation of scales**, we must first refine our feature geometry to include features relevant for Cajolá Mam, for instance:

  (28) Expanding the feature geometry

```
                    [ϕ]
                  /     \
            [ENERGY]    [PL]
               |
            [ANIM]
               |
        [BIGGER.ANIM]
               |
            [HUM]
               |
          [VOL.HUM]
               |
            [PART]
               |
            [SPKR]
```

  – This kind of geometry creates coherent sets of features semantically.

- To account for Cajolá Mam effects, all features but [SPKR] (see (24)) and maybe also [ϕ], *must be dynamic*:

  (29) ϕ-sets for a subset of 3rd person DPs in Cajolá Mam
      a. energetic inanimates = [ϕ, ENERGY↑]
      b. smaller animals (e.g., insects) = [ϕ, ENERGY↑, ANIM↑]
      c. bigger animals (e.g., cats, cows) =
          [ϕ, ENERGY↑, ANIM↑, BIG.ANIM↑]
      d. infants =
          [ϕ, ENERGY↑, ANIM↑, BIG.ANIM↑, HUM↑]
      e. other humans =
          [ϕ, ENERGY↑, ANIM↑, BIG.ANIM↑, HUM↑, VOL.HUM↑]
      f. second person =
          [ϕ, ENERGY↑, ANIM↑, BIG.ANIM↑, HUM↑, VOL.HUM↑, PART↑]
      g. first persons =
          [ϕ, ENGY↑, ANIM↑, B.ANIM↑, HUM↑, V.HUM↑, PART↑, **SPKR**]

- **Question:** Why are some of these features but not others relevant for animacy hierarchy effects in other languages, such as in Chuj?

6

- Two possible answers (or a combination of the two):

  1. **Feature activity**: a feature like [ENERGY] is "inactive" in Chuj:

     (30)   Featural representation of Chuj 3rd person human DPs
            [ɸ, ANIM↑, HUM↑]

       – As Harley and Ritter (2002, 486) write: "in any given language a subset of the possible features will be active—most languages will only use a portion of the features available."

  2. **Feature dynamicity**: features like [ENERGY] are active, but not dynamic:

     (31)   Featural representation of Chuj 3rd person human DPs
            [ɸ, ENERGY, ANIM↑, BIGGER ANIM, …, HUM↑]

- While we leave deciding between option 1 and 2 to future work, the behaviour of **local persons** shows that variation in feature dynamicity is otherwise attested (like option 2).

4.2   On the status of local persons

- Recall that local persons do not participate in hierarchy effects in Chuj:

  (32)   Chuj local persons do not participate in hierarchy effects
         a. ✓ Ix-{**in/ach/onh/ex**}-y-il   nok' chan.
             PFV-B1S/B2S/B1P/B2P-A3-see CLF snake
             'The snake saw me/you/us/y'all.'   ANIM > LOCAL
         b. * Ix-y-il   winh winak nok' chan.
             PFV-A3-see CLF man   CLF snake
             'The snake saw the man.'   ANIM > HUM

- Adopting option 1 from above (**feature inactivity**) would lead us to the assumption that local persons lack ANIM and HUM features.

(33)   Theory 1: local persons lack [ANIM] and [HUM] features
       a.   1st person: [ɸ,PART,SPKR]
       b.   2nd person: [ɸ,PART]
       c.   3rd person: [ɸ], [ɸ,ANIM↑], or [ɸ,HUM↑,ANIM↑]

- This treats local persons as inanimates, and so predicts that they be banned as subjects of sentences with animate objects, which is not borne out:

  (34)   Chuj
         a.   Ix-{**w/h/k/ey**}-il   ix   ix.
              PFV-A1S/A2S/A1P/A2P-see CLF woman
              'I/you/we/y'all saw the woman.'   LOCAL>HUM
         b.   Ix-{**w/h/k/ey**}-il   nok' tz'i'.
              PFV-A1S/A2S/A1P/A2P-see CLF dog
              'I/you/we/y'all saw the dog.'   LOCAL>ANIM

- Adopting option 2 (**feature dynamicity**), on the other hand, can account for data like (34):

  (35)   Theory 2: [ANIM] and [HUM] are not dynamic on local persons
         a.   1st person: [ɸ,PART,SPKR,**HUM,ANIM**]
         b.   2nd person: [ɸ,PART,**HUM,ANIM**]
         c.   3rd person: [ɸ], [ɸ,ANIM↑], or [ɸ,HUM↑,ANIM↑]
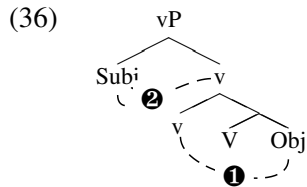
4.3   Summary

- It is possible to account for microvariation in the articulation of animacy scales in Mayan by:

  1. Refining our feature geometry
  2. Tweaking which features are active and/or dynamic.

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:
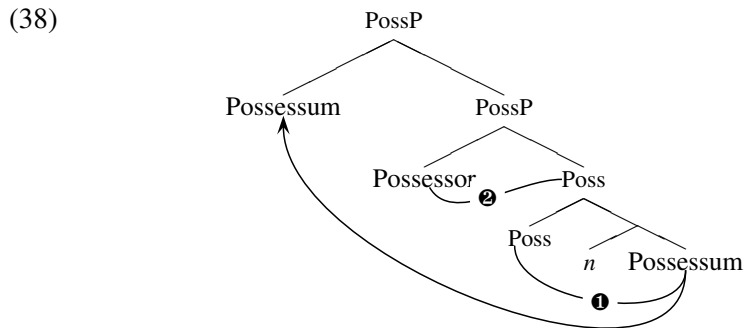
(36)

```
              vP
          ┌───┴───┐
        Subⁱ    ──v
          ╰ ❷  ┌──┴──┐
               v   ┌──┴──┐
                   V    Obj
                    ╰─❶─╯
```

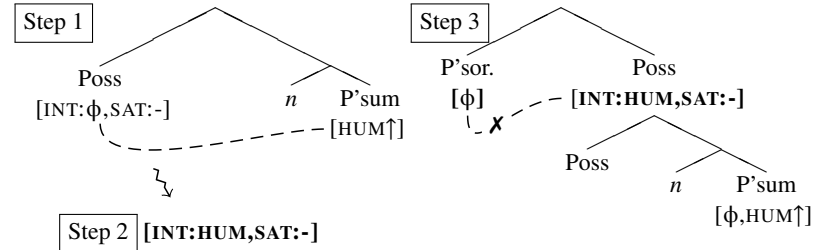Recall: ❷ generates Set A (ERG) in all relevant Mayan languages

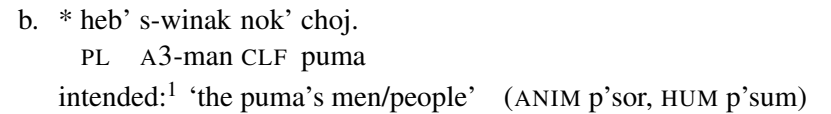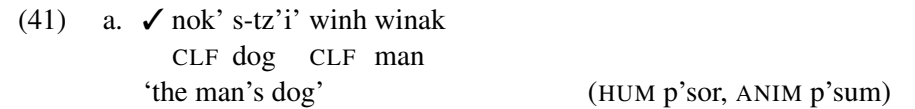- Across Mayan, Set A cross-references not only ergatives, but also possessors.
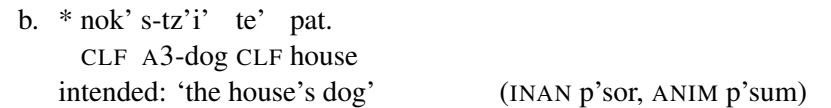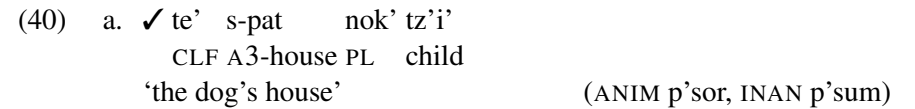
(37) [ix [s]-nun   [POSS waj Xun]]
        CLF A3-mother   CLF Xun

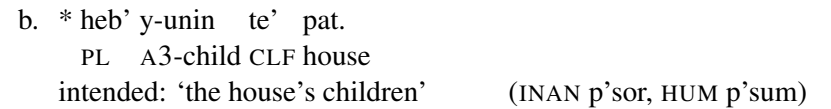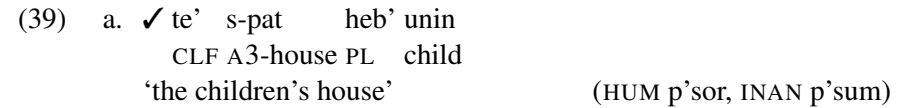'Xun's mother'   (Chuj)
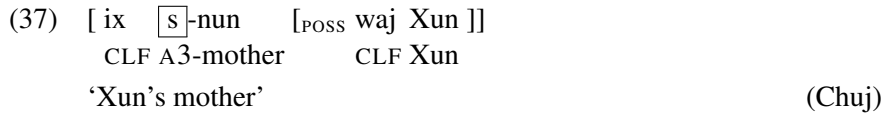
- **Proposal** (cf. Clem and Deal 2024): Mayan Set A (ERG/POSS) arises when a single probe on v/Poss Agrees with a *second* goal.

- **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 Poss⁰
    – Word order: the possessum comes first, across Mayan (Coon 2013)
    – Parallel to high-abs in vP – the probe's first goal is raised

(38)

```
                    PossP
               ┌──────┴──────┐
          Possessum        PossP
                        ┌─────┴─────┐
                   Possessor    ──Poss
                       ╰─❷    ┌───┴───┐
                             Poss
                          ┌───┴───┐
                          n    Possessum
                                ╰─❶─╯
```

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

```
┌────────┐
│ Step 1 │
└────────┘
         Poss
    [INT:φ,SAT:-]       n    P'sum
         ╰ ─ ─ ─ ─ ─ ─ ─ ─ [HUM↑]
              ↯
    ┌────────┐
    │ Step 2 │ [INT:HUM,SAT:-]
    └────────┘
```

```
┌────────┐
│ Step 3 │
└────────┘
    P'sor.            Poss
     [φ] ─ ─ [INT:HUM,SAT:-]
      ╰ ✗
                    Poss
                 ┌───┴───┐
                 n     P'sum
                     [φ,HUM↑]
```

- This prediction is borne out in Chuj.

(39) 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)

(40) 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)

(41) 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:[1] 'the puma's men/people'   (ANIM p'sor, HUM p'sum)

---

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

8

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

(42) 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	✓

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

(43) 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.

(44) **Main proposals**:
      a. Hierarchy effects arise when *a single probe agrees with two goals*, which we explained via Int/Sat model of Agree (Deal 2015, 2024).
      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 Subj second (Coon et al. 2021)

    ▶ A dynamic feature α on Obj bleeds further Agree with Subj if Subj does not bear α.

- **Variation in articulation of the scale**: arises because there is variation wrt which features are dynamic.

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

- **Other extension**: the factors traditionally associated to "obviation", restrictions based on coreference, definiteness, and topicality.

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Appendix

A   Accounting for coreference restrictions

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

  (45)   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 2022 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:

  (46)   * 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)

  (47)   * Tyi i-tyaj-a   *pro*   [$_S$ i-ñox'a   *pro*   ] tyi   Yermosaj.
        PFV A3-find-TV PRON   A3-husband PRON   PREP Villahermosa

        Intended: 'Her$_1$ husband found her$_1$ in Villahermosa.'   (Ch'ol)

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

  (48)   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].

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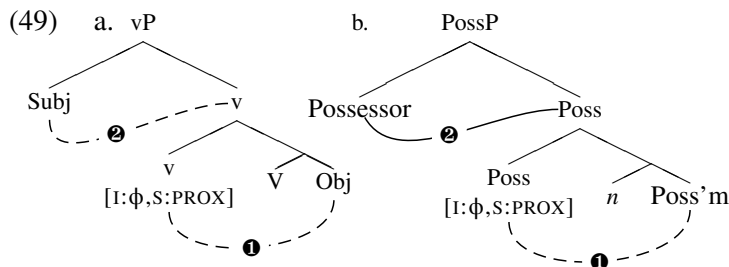
- This rules out structures with set A agreement and (i) proximate objects or (ii) proximate possessa—Agree would stop at the first goal and set A cannot be generated (for ERG or POSS).

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

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

  (51)   *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 (52), from above:

  (52)   * 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.

11