Super-extended ergativity in Mam

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1 Introduction

- Mayan languages show ergative-absolutive alignment through head-marking.
  - **ergative** (Set A) cross-references transitive subjects
  - **absolutive** (Set B) cross-references objects and intransitive subjects

(1) Q'anjob'al matrix clauses → ergative/absolutive

a. Max**-ach** **w-**il-a'.
PFV-B2S A1S-see-TV
'I saw you.' (Mateo Pedro 2009: 47)

b. Max**-ach** way-i.
PFV-B2S sleep-ITV
'You slept.' (Mateo Pedro 2009: 48)

- They also show clause-type based **split ergativity** (Zavala Maldonado 2017):
- In nonfinite (aspectless) clauses, languages like Q'anjob'al show NOM/ACC alignment: Set A is extended to intransitive subjects → **extended ergativity**.

(2) Q'anjob'al non-finite clauses → nominative/accusative

a. Chi uj [**hin** **y-**il-on ix Malin].
IPFV able.to B1S A3-see-AF CLF Malin
'Malin is able to see me.' (Coon et al. 2014: 221)

b. Chi uj [**ko**-b'ey-i].
IPFV able.to A1P-walk-IV
'We are able to walk.' (Coon et al. 2014: 197)

- The most widely adopted analysis of extended ergative clauses is that they are possessed nominalizations.

  → **Set A** is possessive marking on the subject.

- Mayan languages of the Mamean sub-branch also show split ergativity, but it differs from that in Q'anjob'al: ergative is extended to *all* arguments.

(3) Ixtahuacán Mam matrix clauses → ergative/absolutive

a. Ma **chin** ok **t-**tzeeq'a-n=a.
PROX B1S DIR A2/3S-hit-DS=1S
'You hit me' (England 1983a:2)

b. Ma **chin** b'eet=a.
PROX B1S walk=1S
'I walked' (England 1983a:2)

(4) Ixtahuacán Mam non-finite clauses → neutral ergative

a. O chin ooq' aj [**n-**kub' **t-**tzeeq'a-n=a].
COM B1S cry when A1S-DIR A2/3S-hit-DS=1S
'I cried when you hit me' (England 1983a:14)

b. N-chi ooq' aj [**n-**poon=a].
INC-B2/3P cry when A1S-arrive.there=1S
'They were crying when I arrived there' (England 1983a: 21)

▶ England (2017) coined this pattern **super-extended ergativity**.

- To account for the *super*-extended pattern:
  - ▶ We adopt the **possessed nominal** analysis of extended ergativity.
  - ▶ Languages like Mam can nominalize a *larger* structure, allowing the *object* to control the nominalization and thus Set A agreement.
  - ▶ Languages like Q'anjob'al can only nominalize *v*P, forcing the object to remain low.

2 Background on Mam

- Mam (iso 639: mam) is a Mamean-branch Mayan language spoken predominantly in western Guatemala by over 500,000 speakers (Richards and Macario, 2003).
- It is a head-marking, ergative-absolutive language. Baseline word order is VSO, although Ā-operations can extract elements to the clausal periphery.
- Mam data comes from published materials on San Ildefonso Ixtahuacán Mam (e.g. England 1983b), but the facts pattern similarly in other dialects.

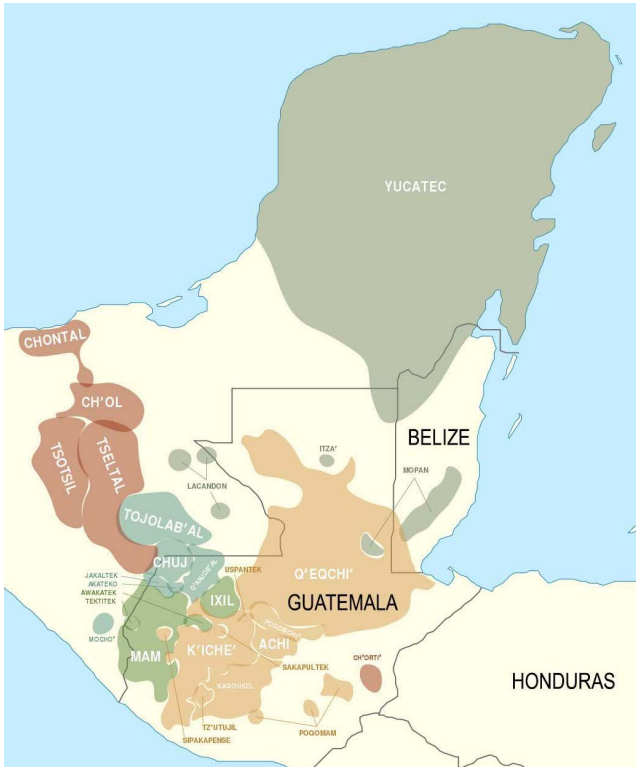


Figure 1: Current-day Mayan-speaking area (Law 2014, p. 25)

(5) **Set A** (ergative/possessive) marking in Mam (England, 1983b)

	SINGULAR	ENCL	PLURAL	ENC
1 excl	n- ~ w-	=a	q-	=a
1 incl			q-	
2	t-	=a	ky-	=a
3	t-		ky-	

(6) **Set B** (absolutive) marking in Mam (England, 1983b)

	SINGULAR	ENCL	PLURAL	ENCL
1 excl	chin	=a	qo	=a
1 incl			qo	
2	tz- ~ tz'- ~ ∅ ~ k-	=a	chi	=a
3	tz- ~ tz'- ~ ∅ ~ k-		chi	

- Mam is a "high-absolutive" Mayan language (Tada 1993, Coon et al. 2014):
  - ▶ **Set B** (absolutive) marker linearly precede **Set A**:

(7) Transitive verb template:
ASPECT – **Set B** (ABS) – DIR – **Set A** (ERG) – ROOT – SUFFIXES

(8) Ma **chin** ok **t-**tzeeq'a-n=a.
PROX B1S DIR A2/3S-hit-DS=1S
'You hit me'

- **Set A** is also used for possession:

(9) **t-**xaar Luuch
A2/3S-jug Pedro
'Pedro's jug' (England, 1983b, 330)

- It is **syntactically ergative**: transitive subjects cannot be Ā-extracted (10); an antipassive is used instead (10c) (data from England 1983a:4).

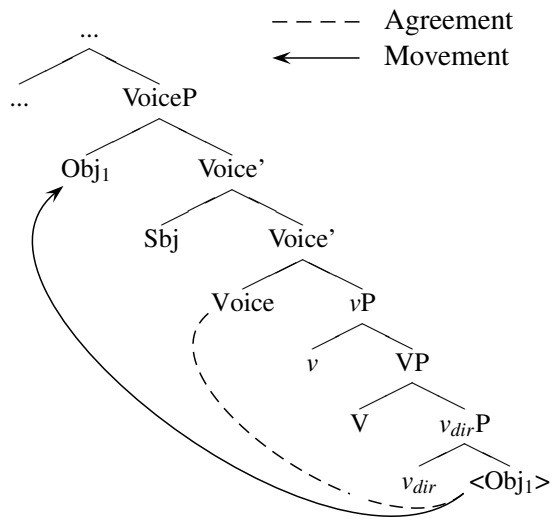
(10) a. **Qa=cheej** x-chi kub' t-tzyu-'n xiinaq.
PL=horse PROX.DEP-B2/3S DIR A2/3S-grab-DS man
'The man grabbed *the horses*.' (object extraction)

b. ***Xiinaq** x-chi kub' t-tzyu-'n qa=cheej
man PROX.DEP-B2/3P DIR A2/3S-grab-DS PL=horse
Intended: '*The man* grabbed the horses.' (failed agent extraction)

c. **Xiinaq** x-∅-kub' tzyuu-**n** t-e qa=cheej.
man PROX.DEP-B2/3S-DIR grab-AP A2/3S-RN:PAT PL=horse
'*The man* grabbed the horses.' (antipassive → agent extraction)

- We assume the follow structure for transitive clauses:

(11)



  - ▶ Object raising to spec,VoiceP following long tradition in Mayan (Campana 1992; Coon et al. 2014, 2021; Aissen 2017; Scott 2023).
  - ▶ Verb initiality achieved via head movement (Clemens and Coon 2018).
  - ▶ Extra VoiceP layer for transitives only; intransitives lack VoiceP (Ranero 2021, Burukina and Polinsky 2023).

3 (Super-)extended ergativity and nominalizations

- **Recall:** Our main goal is to derive the super-extended ergative pattern:

(12) O chin ooq' aj [**n-**kub' **t-**tzeeq'a-n=a].
COM B1S cry when A1S-DIR A2/3S-hit-DS=1S
'I cried when you hit me'

- We also want to explain variation within Mayan with respect to (super)-extended ergativity:

(13) Extended / super-extended ergative patterns in Mayan

	extended pattern (e.g., Q'anjob'al)	super-extended pattern (e.g., Mam)
Intrans. subject	**Set A**	**Set A**
Trans. subject	**Set A**	**Set A**
Trans. object	**Set B**	**Set A**

- We now show that these patterns follow if:

1. (Super-)extended ergative clauses are in fact **possessed nominalizations**, where unexpected cases of **Set A** reflect possessors.

   → This builds on a long tradition that has treated embedded clauses in split ergative contexts as such (Comrie 1978, Larsen and Norman 1979, Bricker 1981; Kaufman 1990; Coon 2010; Coon et al. 2014).

2. The size of the nominalization is **bigger** in languages with *super*-extended ergativity, explaining variation in (13).

   → This builds on a body of literature that shows the size of nominalizations can vary across (and within) languages (Grimshaw, 1990; Alexiadou, 2001; Coon and Royer, 2020).

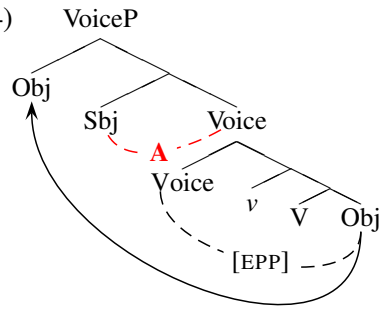
   → Bigger verbal structures allow for object raising which feeds object-controlled nominalizations, causing **Set A** for objects.

- We start with background assumptions about possessive structure and nominalizations in sections §3.1/3.2, turning to our analysis in §4.

3.1 Possessive structure and the source of Set A

- Recall: **Set A** tracks both ergative and possessive arguments in Mayan.
- We build on Coon 2013a and Deal and Royer 2023 in assuming a parallel syntax for VoiceP (14) and PossP (15); both involve raising of a nominal:

(14)

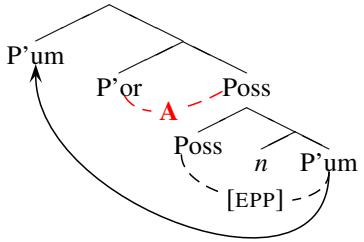


→ Large body of literature arguing for object raising.

→ Object raising is caused by Agree with [EPP] feature on Voice^0, already needed to explain syntactic ergativity (Coon et al. 2021).

→ Voice agrees the Subject resulting in **Set A** agreement

(15)



→ Possessum raising accounts for Possessum-Possessor word order throughout Mayan (see e.g., Coon 2013a: 139)

→ Possessum raising is caused by an [EPP] feature on Poss^0

→ Poss Agrees with the Possessor, resulting in **Set A** agreement

▶ See Deal and Royer 2023, which show that (14) and (15) are necessary to derive parallel hierarchy effects found in both VP and NP domains.

3.2 Possessed nominalizations as the source of extended ergativity

- A longstanding intuition in Mayan linguistics: split ergative clauses are in fact **possessed nominalizations** (Bricker 1981; Kaufman 1990; Coon 2010; Coon et al. 2014; Coon and Carolan 2017; Coon and Royer 2020; a.o.) .
- Consider this Ch'ol pattern, identical to the one for Q'anjob'al on page 1:

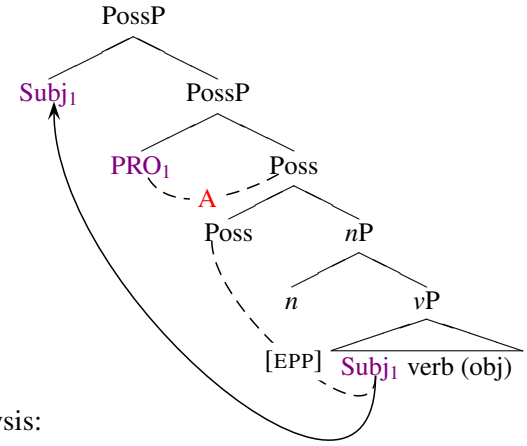
(16) a. Chonkol [**k**-mel-e' jiñi waj].
PROG [A1-make-DEP DET tortilla]
'I'm making the tortillas.' (Coon 2013b: 135)

b. Mi [**k**-majl-el].
IMPF [A1-go-NML]
'I go.' (Coon 2013b: 135)

- For Coon (2013a), these clauses are verbal projections which are nominalized at the *v*P level, just like English 'poss-ing' nominalizations.
- Adapting Coon 2013a to the syntax of PossP in (15):

1. Poss^0 attracts the closest nominal in its c-command domain, here the subject.
2. The subject then serves as the controller for a PRO in spec,PossP.
3. PRO is assigned **Set A**

(17)



▶ What's important about this analysis:

→ Source of **Set A** in (17) is actually "possessive", not "ergative";

→ It is the possessor that shows Set A agreement

▶ This derives the NOM/ACC "**extended ergative**" pattern.

- **Next:** With these assumptions in place, we now provide an analysis of ***super*-extended ergativity**.

4 Explaining super-extended ergativity

- **Recall again:** We want to derive super-extended ergativity:

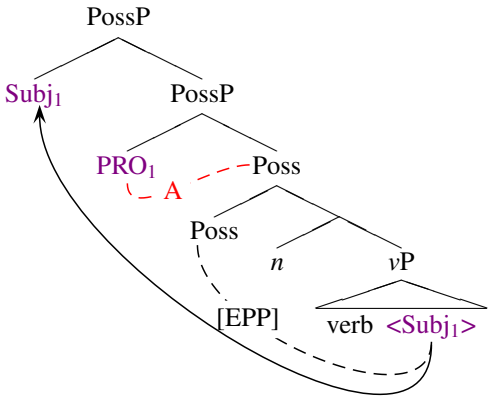
(18) a. O chin ooq' aj [**n**-kub' **t**-tzeeq'a-n=a].
COM B1S cry when A1S-DIR A2/3S-hit-DS=1S
'I cried when you hit me'

b. N-chi ooq' aj [**n**-poon=a].
INC-B2/3P cry when A1S-arrive.there=1S
'They were crying when I arrived there.'

- We adopt the analysis of possessed nominals for extended ergative clauses.

→ **Intransitive** nominalized clauses in Mam pattern as expected for extended ergativity:

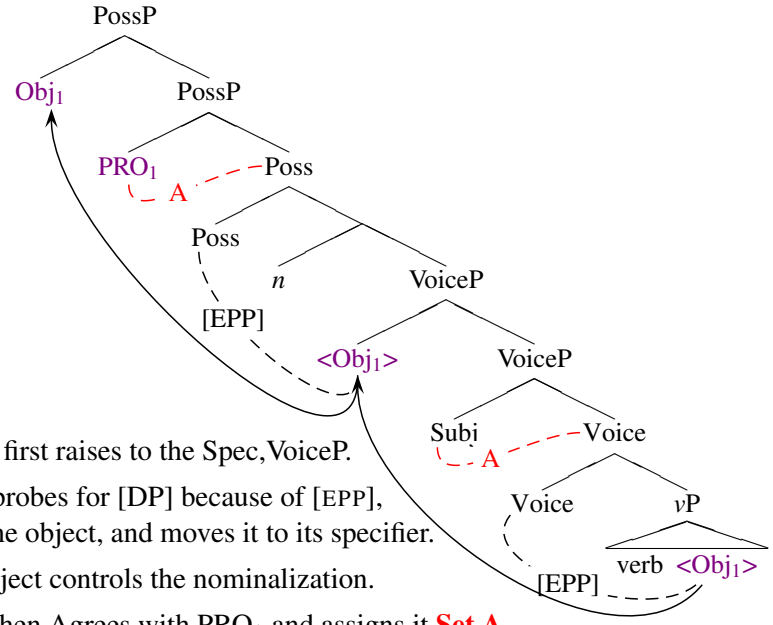
(19)



- ▶ Poss^0 searches for a DP in its c-command domain, finds the highest DP in the nominalized clause, and attracts it to its specifier.
- ▶ In its raised position, the subject now c-commands the possessor, and serves as the antecedent to PRO$_1$.
- ▶ Poss^0 then Agrees with PRO and assigns it **Set A**.

- The schema for a **transitive** nominalized clause is given in (20).

(20)



- Object first raises to the Spec,VoiceP.
- Poss^0 probes for [DP] because of [EPP], finds the object, and moves it to its specifier.
- The object controls the nominalization.
- Poss^0 then Agrees with PRO$_1$ and assigns it **Set A**.

➢ Crucially notice that in (20), there are two instances of **Set A** agreement.
→ Voice^0: assigns **Set A** to the transitive subject.
→ Poss^0: indirectly assigns **Set A** to the object (via Agree with PRO).

- In other words, given...
  1. consistent object raising in Mam (Coon et al. 2021; Scott 2023);
  2. the nominalization analysis of extended ergative clauses (many references)

  ... then super-extended ergativity is in fact *expected* in Mam.

- **Next:** Explain why super-extended ergativity only happens in Mamean languages, and not other Mayan languages.

5 Source of variation in (super-)extended ergativity in Mayan

- So far, our proposal gives rise to an important prediction: if a Mayan language's objects move high (high-ABS), super-extended ergativity is expected.
- However, other high-ABS Mayan languages like Chuj only show extended, not *super*-extended, ergativity.

(21) Chuj non-finite clauses display extended ergativity

a. Tz-yal [**hin**-**y**-il-an ix Malin].
IPFV-able.to B1S-A3-see-AF CLF Malin
'Malin is able to see me.'

b. Tz-yal [**ko**-b'ey-i].
IPFV-able.to A1P-walk-IV
'We are able to walk.'

- These high-ABS languages exceptionally license objects low in these nominalized clauses.

→ Absolutive case can be assigned low by means of Agent Focus (AF).

→ Agent Focus has been categorized in Mayan as a flavor of v^0 (along with active and passive); see e.g., Coon et al. 2014.

➢ **Proposal:** The locus of variation between these languages is in the **size** of nominalizations, which determines whether object raising occurs.

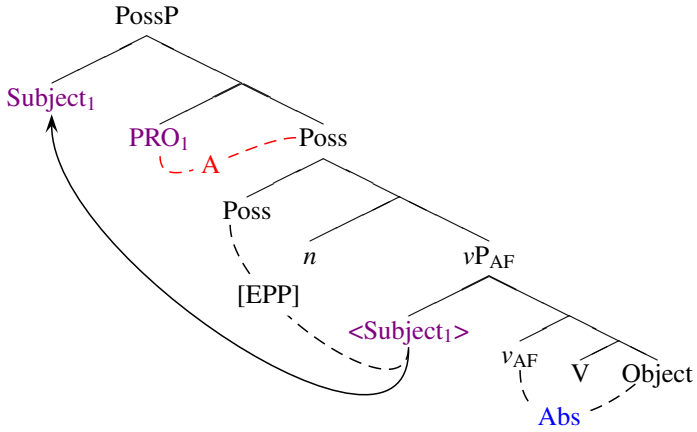
- **Extended ergativity:** small nominalizations; no object raising.
- **Super-extended ergativity:** larger nominalizations; object raising

- We first sketch this analysis in §5.1, defending it with two diagnostics for nominalization size in §5.2.

5.1 Extended *vs. super*-extended ergativity

- Chuj (also Q'anjob'al) is only able to nominalize *v*P as in (22); as a result, objects don't raise to a position from where they control the nominalization.
- Agent Focus is a type of v^0 that licenses objects low (Coon et al. 2014, 2021):

(22) Transitive embedded clause in Q'anjob'al/Chuj



➢ Mam, as opposed to Chuj/Q'anjob'al, is able to nominalize larger structures, as in (20); we take this larger structure to be at least VoiceP.
- The larger structure allows for object raising, feeding a nominalization controlled by the object, and thus super-extended ergativity.
- No need for objects licensed by Agent Focus.

5.2 Evidence for differences among nominalization sizes

- The types of "non-finite" clauses that (super-)extended ergativity vary greatly:
  - In Mam: *when*, *because*, *so that*
  - In Q'anjob'al/Chuj: progressive clauses, *can* clauses.
- "Nonfinite" → the lack of aspect marking; it has been argued for Mam that aspectless clauses encompass a range of clause sizes (Scott 2023:142-152).

Evidence 1: Directionals

- In **Mam**, recall that directional auxiliary verbs are required for almost all transitive verbs:

(23) O chin ooq' aj [**n-*(kub')** **t-**tzeeq'a-n=a].
COM B1S cry when A1S-DIR A2/3S-hit-DS=1S
'I cried when you hit me'

- Mamean languages are the only Mayan languages with "high" directionals—those appearing preverbally as in (23)—; see Mateo Toledo (2023).
- We assume this indicates additional functional structure above *v*P.

→ This builds on Elkins et al. 2024, where we show that directionals start low and obligatorily move above VoiceP.

- **Chuj/Q'anjob'al**: these languages lack "high" directionals—directionals appearing preverbally as in (23)—and show only extended ergativity:

(24) Tz-yal [**hin-y**-il-an ix Malin].
IPFV-able.to B1S-A3-see-AF CLF Malin
'Malin is able to see me.' (Chuj)

- **Awakateko (Mamean)**: shows both patterns, suggesting directionals indicate a larger structure has been nominalized → super-extended ergativity.

(25) Awakateko split ergativity (Larsen, 1981)
a. Ye **aw-**uul-e'n.
when A2S-arrive.here-NMLZ
'when you arrived.'
b. ye **a-**b'een-e'n **w-**uky'-aal.
when A2S-DIR-NMLZ A1S-carry-INF
'when I carried you off...'
c. ye **t-**il-ool **axh**.
when A3S-see-ACT.INF B2S
'when he saw you...'

Evidence 2: Negation

- In Mam, super-extended ergative clauses can be negated, indicating a bigger embedding:

(26) T-u'n [me'n ax **t-**kub' kyim] ...
A2/3S-RN:PURP [NEG same A2/3S-DIR dead]
'So that our crops do not die...' (Scott 2023: 280)

(27) ...t-u'n [mii'n **t-**xi' **t-**b'incha-'n jel carro].
A2/3S-RN:PURP [NEG A2/3S-DIR A2/3S-fix-DS CLF car]
'...so that she doesn't fix the car' (Todos Santos Mam fieldnotes)

- In Chuj, extended ergative clauses **cannot** be negated:

(28) * Tz-yal man-**w**-uk'-**an**-laj kape'.
IPFV-can NEG-A1S-drink-AF-NEG coffee
'I'm able to *not* drink coffee.'

- It's possible to negate such clauses, but with a **finite** (non-nominalized) clause:

(29) Tz-yal max-**w**-uk'-laj kape'.
IPFV-can NEG.IPFV-A1S-drink-NEG coffee
'I'm able to *not* drink coffee.'

- **In sum:**

→ **Larger nominalizations:** Mam nominalizations include directionals and negation, pointing to a larger structure, at least VoiceP.

→ **Smaller nominalizations:** Chuj-like nominalizations do not include directionals and cannot be negated, pointing to a small structure, such as *v*P.

- Nominalization size therefore correlates with the presence or absence of super-extended ergativity for a given high-ABS language.

6 Conclusions

- We presented an analysis of super-extended ergativity in Mam.
- We argued that the extension of **Set A** to objects in Mayan should be possible, but only if:
  - ▶ The language has high-ABS syntax (object raising).
  - ▶ The nominalization is big enough to facilitate object movement.
- Our proposal makes a prediction regarding high- vs. low-ABS syntax:
  - ▶ A low-ABS language (no object raising) should never show super-extended ergativity.
  - ▶ So far, this is true. Mamean-branch Mam and Awakateko (high-ABS) show super-extended ergativity; Mamean-branch Ixil (low-ABS) only has extended ergativity.

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A Abbreviations used for Mam

2/3 = second or third person; A = Set A (ergative/possessive); AP = antipassive voice; B = Set B (absolutive); CLF = classifier; COM = completive aspect; DEP = dependent clause aspect; DIR = directional auxiliary; DS = directional suffix; INC = incompletive aspect; NEG = negator; PAT = patientive; PL = plural; PROX = proximate aspect; PURP = purposive complementizer; RN = relational noun.