# Event structure and split intransitivity in Mazahua (Oto-Manguean)

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# Introduction

- Split intransitivity is a morphosyntactic alignment that distinguishes two classes of intransitive verbs whose arguments pattern differently with respect to morphosyntactic properties (e.g. case marking, agreement, movement) (also *active-inactive* (Sapir, 1917; Uhlenbeck, 1917; Klimov, 1977), *agentive-patientive* (Chafe, 1970b,a; Dahlstrom, 1983), *Split-S* (Dixon, 1979, 1994), and *semantic alignment* (Donohue and Wichmann, 2008)).
- In Mazahua, some intransitive verbs index their sole argument (S) via a proclitic (1a) while others do it via a suffix (1b)
- (1) Intransitives
  - a. **ró** = tôhõ A1.PST = sing.ITR 'I sang'
  - b. má = hó?o-zi
    PST.CONT = good-ST1
    'I am good/healthy'
  - Proclitic and suffix agreement are also observed in transitive clauses. Proclitics cross-reference transitive subjects (A) while suffixes cross-reference transitive objects (P):

(2) Transitives

- a. ró = hândi-ts'i A1.PST see-P2 'I saw you.SG'
- b.  $\mathbf{i} = \mathbf{h} < \mathbf{n} > \hat{\mathbf{a}}\mathbf{\eta} \cdot \mathbf{\gamma}\mathbf{i}$ A2.PST < NPS > see-P1 'You.SG saw me'

• Split intransitivity systems are usually represented by the diagram in Figure 1. Note that Mazahua has two series of suffix agreement.



Figure 1: Split intransitivity

• This contrasts with the accusative alignment, that treats all subjects alike (Figure 2) and ergative alignment, that treat S as P (Figure 3).









#### In this talk:

- I argue that **the split in Mazahua is conditioned by the event structure** of the predicate:
  - Predicates that have a state component/subevent (e.g. statives and change of states) combine with suffixes.
  - Other predicates combine with proclitics.

- This differs from work that has proposed other factors as relevant for splits in other languages:
  - *aktionsart* (i.e. dynamic vs stative) or theta-roles (i.e. agent vs patient) (Mithun, 1992; Donohue, 2008; Van Valin, 1990; Velázquez-Castillo, 2003, among others)
  - $\circ$  Argument structure  $\rightarrow$  unergatives are underlying transitives, unaccusatives are true intransitives (Marantz, 1991; Laka, 1993; Coon, 2010, 2013).
  - My account is based on the idea that event structure is built in the syntax through the combination of Roots with different types of eventintroducer *v*-heads (Harley, 1995; Pylkkänen, 2002, 2008; Cuervo, 2003, 2015; Ramchand, 2008).
  - I also offer an account for the spell-out of different agreement series (only considered in some syntactic accounts to the split):
    - 1. Proclitic vs suffix agreement: they spell-out different agreement loci (T vs v) (Chomsky, 2000, 2001).
    - 2. Different suffix series: they are the spell-out of different v-heads.

### **Overview**

- 1. Background on Mazahua
- 2. Split intransitivity in Mazahua
- 3. Previous accounts to split intransitivity systems
- 4. The role of event structure in Mazahua
- 5. Locus of agreement and agreement series

## **1** Background on Mazahua

### 1.1 Language and community

- Mazahua is the name used to refer to (at least) two mutually intelligible varieties belonging to the Oto-Pamean group of the Oto-Manguean family: Jñatjo or Western Mazahua (sometimes also called "Michoacán Mazahua") and Jñatrjo or Eastern Mazahua (also known as "Central Mazahua") (INALI, 2009).
- In 2010, these varieties were spoken by 135, 897 people in the states of Edo. de México and Michoacán in central Mexico (Figure 4) (INEGI, 2010; Embriz Osorio and Zamora Alarcón, 2012).



Figure 4: Location of Mazahua speaking communities (Modified from Eberhard et al. (2019))

#### **1.2 Previous work**

- The descriptive literature on both varieties is scarce and has focused on describing the morphophonology of the language.
- There is some descriptive work on the syntax of the language, but no work has been done from a formal approach except the own:

Area	Торіс	Papers		
Phonetics	Phonetic analysis of tone	Romero Hernández (2010)		
Dhonology	Inventory of sounds and	Pike (1951); Spotts (1953); Knapp Ring		
Filoliology	phonological processes	(2002); Romero Hernández (2013)		
	Dialectology	Knapp Ring (2002)		
Morphology	Historical comparison with	Knapp Ring (2007, 2011)		
Morphology	Old Mazahua			
	TAM and agreement	Nágera Yanguas (1637); Fidencio-Núñez		
	paradigm	(2013); Victoria Sebastián (2015, 2018);		
		Mora-Bustos (2018b)		
	Morpheme order	(Mora-Bustos, 2020)		
	Demonstratives and	Quintana Toribio (2016); Martínez Ál-		
Suntax	articles	varez and Díaz Yáñez (2017); Mora-Bustos		
Symax		(2018a)		
	Alignment and verb classes	Vargas Bernal (2013); López Reynoso		
		(2016); Partida-Peñalva (2017, 2018,		
		2019, 2021)		
	Grammar sketches and	Bartholomew (1965); Stewart (1966);		
	description of basic	Amador (1976, 1979); Mora-Bustos		
	constructions	(2016); Mora-Bustos et al. (2017)		

Table 1:	Previous	work	on	Mazahua
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### **1.3 Fieldwork and examples**

- Examples presented here were collected in both in-person and online elicitation sessions with 6 speakers of the language (2 speakers of Jñatjo and 4 of Jñatrjo) in Edo. de México state.
- Elicitation sessions included translations (from Spanish) and grammaticality judgment tasks. Some examples are taken from short narratives.

• There is no standardized writing system. Examples are presented in phonetic transcription. Diacritics in vowel represent tones: ['] high, [`] low, [^] falling, [`] rising).

#### **1.4** Phonotactics and syntax

- Most roots are disyllabic CV.CV (sometimes CVC.CV). Attaching a suffix to the root triggers sandhi rules that cause (1) the 2nd vowel of the root to be deleted, (2) changes in the 2nd consonant of the root and (3) allomorphy of the suffix attached.
- Most common word orders are VOS<sup>1</sup> and SVO (where S is topicalized) (Amador, 1979). It is a *pro*-drop language, so overt <u>full pronouns</u> and <u>weak pronouns</u> only appear for topicalization or focalization purposes:
- (3)  $(\underline{\text{nù}\text{zy}\text{zy}})$  ró = sǐ?i $(\underline{=k'\text{z}})$  ſéj'i I A1.PST = eat.TR = 1 tortilla 'I ate tortillas'
  - It is a head-marking language where **agreement morphemes in the verb cross**reference person and number features of the **arguments**. Arguments are **not** morphologically **case-marked**.
  - Person and Number agreement are encoded in different morphemes (4).<sup>2</sup>
- (4) a.  $\mathbf{ro} = \mathbf{s}\mathbf{i}\mathbf{?}\mathbf{i} \quad \mathbf{\int}\mathbf{\hat{\varepsilon}}\mathbf{j'}\mathbf{i}$ A1.PST = eat.TR tortilla 'I ate tortillas'
  - b.  $\mathbf{role} = \mathbf{sle} \beta \mathbf{i} = \beta \mathbf{i} = \beta \mathbf{i}$ A1.PST = eat.TR = DU.INCL tortilla 'The two of us.INCL ate tortillas' ~ 'I ate tortillas with you'

(Vargas Bernal, 2013, p. 49, ex. 64b. Trans. mine)

<sup>&</sup>lt;sup>1</sup>In transitive sentences where both subject and object are overt non-pronominal 3rd person DPs, equally definite and animate, and none of them is topicalized nor focalized, the constituent order is necessarily VOS.

<sup>&</sup>lt;sup>2</sup>There is only one slot in the verb template for Number morphology, which is *omnivorous* (i.e. a Number morpheme can cross-reference multiple arguments).

## 2 Split intransitivity in Mazahua

### 2.1 Intransitive clauses

- Mazahua has two series of agreement morphemes that appear in intransitive predicates: proclitic agreement or Set A and suffix agreement or Set ST.
- **Stative (5) and inchoative** (i.e. anticausative) (6) verbs index their arguments through **Set ST**. I refer to these verbs as "**P**(atient)-**verbs**".

#### (5) Stative P-verbs

- a.  $m\dot{a} = h\dot{0}?o-z\dot{i} = y\mathfrak{I}$ PST.CONT = good-ST1 = 1 'I was good/healthy'
- b. má = hó?o-ts'i = k'e PST.CONT = good-ST2 = 2 'You.SG were good/healthy'
- c.  $m\dot{a} = h\dot{o}?o-\emptyset \quad n\dot{u} = \int \hat{\ddot{u}}t'\dot{i}$ PST.CONT = good-ST3 DEF.DET = girl 'The girl was good/healthy'

#### (6) Inchoative P-verbs

- a.  $\delta = h \delta \gamma i \cdot z i = \gamma \sigma$ PST = get.better-ST1 = 1 'I got better'
- b.  $\delta = h \delta \gamma i t s' i = k' e$ PST = get.better-ST2 = 2 'You.SG got better'
- c.  $\delta = h \delta \gamma i \cdot \emptyset$   $n u = \int \hat{u} t' i$ PST = get.better-ST3 DEF.DET = girl 'The girl got better'
- Unergatives (7) and unaccusatives of change/motion (8) index their arguments via Set A proclitics, which fuse Person and Tense-Aspect-Mood (TAM) features. I refer to these verbs as "A(gent)-verbs".
- (7) Unergative A-verbs
  - a.  $r \circ = t \circ h \circ = k^h \circ$ A1.PST = sing.ITR = 1 'I sang'

- b.  $\mathbf{\hat{l}} = \mathbf{t} \tilde{\mathbf{o}} h \tilde{\mathbf{o}} = k^{h} e$ A2.PST = sing.ITR = 2 'You.SG sang' c.  $\mathbf{\hat{o}} = \mathbf{t} \tilde{\mathbf{o}} h \tilde{\mathbf{o}}$   $n \mathbf{\hat{u}} = \int \mathbf{\hat{u}} t' \mathbf{\hat{i}}$
- $\begin{array}{ccc}
  \text{A3.PST} = & \text{sing.ITR } \text{DEF.DET} = & \text{girl} \\
  \text{`The girl sang'}
  \end{array}$
- (8) Unaccusatives of change/motion A-verbs
  - a.  $\mathbf{rol} = \mathbf{ni}\mathbf{yi} = \mathbf{y}\mathbf{z}$ A1.PST = fall = 1 'I fell'
  - b. i = niyi = yeA2.PST = fall = 2 'You.SG fell'

  - About intransitive verb classes in Mazahua:
    - Unergatives: The participant acts with volition (e.g. 'sing', 'run', 'work') and some involuntary body processes (e.g. 'cough', 'sneeze', 'sleep') (Perlmutter, 1978).
    - **Unaccusatives**: Events where the argument is not an agent but a patient, theme (Perlmutter, 1978).
      - \* Statives: Non dynamic. In Mazahua they predicate a property of the argument (e.g. size, color, abstract).
      - \* Inchoatives: change of state ('to break', 'to warm up')
      - \* Unaccusatives of change/motion: change of location, other dynamic unaccusatives ('to fall', 'to arrive')

P-verbs				A-verbs				
	Statives	Inchoatives		Unergatives		Una	Unaccusatives of	
						cha	ange/motion	
mbàha	'to be red'	mbàyi	'to bec. red'	ne'me	'to dance'	k <sup>w</sup> é∫pe	'to slip'	
hó?o	'to be good'	hóyi	'to get better'	tõhõ	'to sing'	jóť i	'to slip	
							(wet surface)'	
k'a?a	'to be wet'	k'ayi	'to get wet'	təɓə	'to sew'	koņ <del>i</del>	'to slip	
						-	(in mud)'	
t'ó∫i	'to be white'	ť'ó <b>∫k</b> i	'to whiten'	nôn <del>i</del>	'to eat.ITR'	mbĭ?i	'to tremble'	
pòt <sup>h</sup> i	'to be black'	pòki	'to blacken'	w'éʒi	'to embroider'	p <sup>h</sup> êne	'to stumble'	
pò∫i	'to be dirty'	pò∫ki	'to bec. dirty'	wằmã	'to plow'	sâhə	'to arrive'	
?i∫i	'to be sour'	?i∫ <b>k</b> i	'to bec. sour'	∫ěp <sup>ň</sup> e	'to harvest'	nìɣi	'to fall'	
mǒs'i	'to be skinny'	mŏsk'i	'to bec. skinny'	pèp <sup>h</sup> i	'to work'	tàyi	'to fall (from	
0	·		·			Ŭ	high place)'	
nóho	'to be big'	nóki	'to grow'	pắ?ã	'to speak'	sô?o	'to fall (inside	
	U		č		*		something)'	
pă?a	'to be warm'	păt'i	'to warm up'	pă?a	'to go'			

• Table 2 shows a list of intransitive verbs from the 4 classes exemplified above.

Table 2: Intransitive verb classes

### 2.2 Transitive clauses

- In transitive clauses, Set A agreement cross-references the subject, while the object is cross-referenced via a suffix belonging to Set P:
- (9) a.  $\mathbf{r}\mathbf{o} = \mathbf{h}\mathbf{a}\mathbf{n}\mathbf{d}\mathbf{i}\mathbf{\cdot ts'}\mathbf{i} = \mathbf{k'}\mathbf{o}$ A1.PST = see-P2 = 1 'I saw you.SG' b.  $\mathbf{r}\mathbf{o} = \mathbf{h}\mathbf{a}\mathbf{n}\mathbf{d}\mathbf{i}\mathbf{\cdot}\mathbf{0} = \mathbf{v}\mathbf{o}\mathbf{n}\mathbf{u} = \int \mathbf{u}\mathbf{t'}\mathbf{i}$ A1.PST = see-P3 = 1 DEF.DET = girl 'I saw the girl'
- (10) a.  $\mathbf{\hat{l}} = \mathbf{\hat{h}} < \mathbf{\hat{n}} > \hat{\mathbf{a}}\mathbf{\hat{n}} \mathbf{\hat{y}}\mathbf{\hat{i}} = \mathbf{\hat{y}}\mathbf{\hat{o}}$ A2.PST =  $< NPS > see - \mathbf{\hat{p}}\mathbf{1} = \mathbf{1}$ 'You.SG saw me'
  - b.  $i = h and i Ø = ye nu = \int utility i$ A2.PST = < NPS > see - P3 = 2 DEF.DET = girl'You.SG saw the girl'

- (11) a.  $\grave{o} = \overset{h}{=} s a \eta \gamma i = \gamma \sigma$   $n \grave{u} = \int \hat{u} t' i$ A3.PST = <NPS > see-P1 = 1 DEF.DET = girl 'The girl saw me'
  - b.  $\hat{o} = {}^{h} < n > \hat{a}nd\hat{i}-ts'\hat{i} = k'e n\hat{u} = \int \hat{\hat{u}}t'\hat{i}$ A3.PST = < NPS > see-P2 = 2 DEF.DET = girl 'The girl saw you.SG'
  - c.  $\grave{o} = \frac{h < n > \hat{a}ndi \cdot \emptyset}{A3.PST = < NPS > see \cdot P2}$  DEF.DET = boy DEF.DET = girl 'The girl saw the boy'
  - Table 3 shows a simplified paradigm of Set A proclitics. Table 4 shows Set P and Set ST paradigms (Allomorph rules provided in the Appendix).

Set A						
Person	Tense-Aspect-Mood					
	PRS	PRS.CONT	PST	PST.CONT	PST.HAB	IRR
1	ſĺ	rá	òı	mà	mí	ſá
2	í	ná	ì	mà	mí	rì
3/default	Ø	nà	ò	mà	mí	ſà

Table 3: Set A agreement

	S	et P	S	Set ST
Person	Morpheme	Allomorph	Morpheme	Allomorph
1	/-yV/	[-k <sup>h</sup> V] [-kV] [-zV] [-zV] [-tsV] [-yV]	/-zV/	[-tsV] [-zV]
2	/-k'V/	[-ts'V] [-ts'V] [-k'V]	/-ts'V/	[-ts'V]
3	/-Ø/	[-Ø]	/-Ø/	[-Ø]

Table 4: Set P and Set ST agreement (Knapp Ring, 2008, p. 138)

## **3** Previous accounts to split intransitivity systems

#### 3.1 Syntactic approaches

#### 1. Unaccusativity Hypothesis:

- Two types of intransitive verbs *unergatives* and *unaccusatives* that differ structurally (Perlmutter, 1978).
- In GB, Minimalist Program: arguments of unergatives are underlying subjects; arguments of unaccusatives are underlying objects (Burzio, 1986). → Therefore, arguments of unergatives are treated like subjects and those of unaccusatives like objects (Partida-Peñalva, 2017).
- In Mazahua, however, there are unaccusatives in both P-verb (12) and A-verb groups (13), suggesting that unaccusativity is not what conditions the split.
- (12)  $\delta = p \check{a} t' \check{i} \cdot z \check{i}$   $k^h a \check{e} = {}^h j \hat{a} r \check{i}$ PST warm.up.ITR-ST1 LOC DET = sun 'I warmed up under the sun'

Modified from (Vargas Bernal, 2013, p. 99, ex. 13b. Trans. mine)

(13)  $\mathbf{roh} = \mathbf{shh} = \mathbf{k}^{h} \mathbf{o} \text{ màmi mà} = \int \tilde{\mathbf{o}} \tilde{\mathbf{m}} \mathbf{i}$ A1.PST = arrive = 1 while PST.CONT night 'I arrived while it was getting dark'

Modified from (Vargas Bernal, 2013, p. 41, ex. 50b. Trans. mine)

- 2. Argument structure: Unergative verbs are underlying transitive in languages with split intransitivity (i.e. they have a cognate or incorporated DO). The S argument of unergatives therefore patterns like an A argument (Marantz, 1991; Laka, 1993; Coon, 2010, 2013):
- In Ch'ol, for instance, **unergatives** cross-reference subjects via **subject agreement** (glossed 'A') (14a) while **unaccusatives** do it via **object agreement** (glossed 'B') (14b).
- Unergatives, however, are formed of a light-verb 'to do' that takes as a complement a noun while unaccusatives are real intransitives.

- (14) Ch'ol (Mayan)
  - a. Tyi **a**-cha'l-e k'ay PFV A2-do-DTRV song 'You sang'
  - b. Tyi jul-i-yety
     PFV arrive.here-INTRV-B2
     'You arrived here'

Unergative

Unaccussative

(Coon, 2013, 9, ex. 10-11)

- \* In Mazahua, however, **unergative stems need to be transitivized through a derivational process** to be combined with an object noun:
- me  $\emptyset =$  $t\tilde{o}h\tilde{o} = hi = \beta a$ k<sup>h</sup>a ne <sup>h</sup>pipi (15)a. a.lot A3.PRS = sing.ITR = PL = CIS LOC this town 'They sing a lot here in this town' da=t<sup>h</sup>ỗhõ  $t\tilde{o} < t > i - 0$  = hi b.  $\emptyset =$ k'i me na= A3.PRS = sing < TR > -P3 = PL IDEF.DET = song REL a.lot PRS.CONT zó?ɔ-Ø pretty-ST3 'They sing a song that is very pretty' Modified from Knapp Ring (2008, p. 109 - ex. 25a)
  - Crucially, the **unergative stem cannot be used as a transitive verb** and the presence of an object noun is ungrammatical in these contexts:
- (16)  $* \emptyset = t \tilde{o}h \tilde{o} = hi \quad da = t^h \tilde{o}h \tilde{o} \quad k'i \quad me \quad na = z 2 2 c 0$ A3.PST = sing.ITR = PL IDEF.DET = song REL/DEM a.lot PRS.CONT pretty-ST3 'They sang a song that is very pretty'
  - Moreover, unergative predicates cannot be built by combining a light-verb 'to do' with an object noun/nominalized verb:
- (17)  $*\mathbf{r}\acute{o} = k'a n\acute{a} = t^h \check{o}h\tilde{o}$ A1.PST = do IDEF.DET = song 'I did a song'

#### **3.2** Semantic approaches

- 1. Aktionsart: Split conditioned by stativity: activities, accomplishments and achievements (dynamic predicates in Vendler (1957)) treat S as the A argument, while stative verbs treat S as a P argument (Gregores and Suárez, 1967; Comrie, 1976; Mithun, 1991).
- 2. **Participant involvement:** volitionality/participant control (Seki (1990) for Kamaiurá (Tupí-Guaraní); Mithun (1991) and Pustet (2002) for Lakhota and Osage (Siouan)), agentivity (Dahlstrom, 1983) and affectedness of the argument (Mithun (1991) for Central Pomo (Pomoan); Vidal (2008) for Pilagá (Guaykuruan)).
- 3. Aktionsart + nature of the participant involvement (Van Valin, 1990; Mithun, 1991; Velázquez-Castillo, 2003).
- In Mazahua, the split is not driven by a difference between stative vs dynamic since P-verbs include both stative (18a) and dynamic predicates (18b).

(18)	a.	ná = k'á?a-zi = yə	
		PRS.CONT = wet-sT1 = 1	
		'I am wet'	Stative
	b.	ò= k'áyi-zi=yɔ	
		PST = get.wet-ST1 = 1	
		'I got wet'	Inchoative

Agentivity and volition do not condition the split either. A-verbs include volitional (19a) and non-volitional (19b) predicates. The also include verbs whose S argument is an agent (19a) and verbs where S is a patient (20).

(19)	a.	rí =	?ɛɓe	jò=	te∫e	jò=pá?a	ı				
		A1.PF	s = comb	.ITR DET	$\mathbf{PL} = \mathbf{a}$	ll det.pl =	day				
		'I con	nb every d	ay'			-		Agent	with vol	lition
	b.	= ò1	hễns'e								
		A1.P5	ST sneeze								
		'I sne	ezed'						Wit	nout vol	lition
(20)	òı	= nì	yi mà m	$\mathbf{i} =$	něm	ie=yɔ					
	A1	.PST fal	ll while A	1.PST.IPH	v dano	ce = 1					
	'I f	ell whi	le I was da	incing'						Pa	tient
					(Varga	as Bernal, 2	2013, p.	. 93, ex	. (6b). '	Frans. n	nine)

What conditions the split in Mazahua?

### 4 The role of event structure in Mazahua

#### 4.1 The stative component of P-verbs

- P-verbs have something in common:
  - Inchoative and stative verbs have a 'state' *meaning* in their event structure. Inchoatives are composed of two subevents: a change and an end result. Statives are just conformed of the result component (Cuervo, 2003, 2014, 2015).
  - In this sense, inchoative predicates are stative predicates plus a subevent of change.
- A-verbs, on the other hand, do not have a state component, they are conformed of dynamic durative events with either no clear end point or do not denote a resulting state.

#### 4.2 Event structure in the syntax

- In DM, event structure is argued to be built in the syntax and later interpreted compositionally by the semantics (Hale and Keyser, 1993, 2002; Harley, 1995; Pylkkänen, 2002, 2008; Cuervo, 2003, 2014, 2015, among others).
- Verbs are formed by combining a Root and a verbalizing *v*-head (Marantz, 1997).
- v-heads are event-introducers and can be of different types or "flavors" (Ramchand, 2008; Pylkkänen, 2002, 2008; Harley, 1995; Cuervo, 2003, 2015).

#### (21) Event introducers (Cuervo, 2003, 2015)

- a. $v_{DO}$  Activities:SING +  $[v_{DO}, -\emptyset] \leftrightarrow sing.ITR/TR$ b. $v_{GO}$  Verbs of change/happening/motion:FALL +  $[v_{GO}, -\emptyset] \leftrightarrow fall$ c. $v_{BE}$  States/existentials:BE.GOOD +  $[v_{BE}, -\emptyset] \leftrightarrow be.good$
- Two vs can be combined to form complex events (22).

#### (22) Complex event structures

a.	$v_{\rm DO} + v_{\rm BE}$ Causatives	BREAK + [ $v_{\rm BE}$ ,	$-\emptyset] + [v_{DO}]$	-Ø] $\leftrightarrow$ break.tr
1	· · · ·			Ø1 1 1

b.  $v_{GO} + v_{BE}$  Inchoatives BREAK +  $[v_{BE}, -\emptyset] + [v_{GO}, -\emptyset] \leftrightarrow break.ITR$ 

• Simplified event structures for the four types of predicates involved in the split are shown below. Arguments of unaccusative verbs/predicates are merged as internal arguments, the argument of unergatives is merged as an external argument, introduced by Voice (Kratzer, 1996).



#### 4.3 Inchoatives are complex predicates

- If **inchoatives** are bi-eventive predicates, some adverbial and aspectual modifiers like **iteratives can have scope over one subevent or both** (Cuervo, 2014).
- This is the case for Mazahua: inchoative constructions that have iterative morphemes are ambiguous between a restitutive reading (narrow scope over the end result only) and a repetitive reading (wide scope over the change and the end result) (27).

(27)  $ni = \delta = po \int ki - \emptyset \qquad \delta = p \partial^h n \partial$ ITER = PST = get.dirty-ST3 3.POSS = shirt 'His shirt got dirty again'

Repetitive: The shirt was clean, then it got dirty; then it was washed and got dirty again. Restitutive: The shirt was dirty. It got washed, and got dirty again.

- In other unaccusative constructions composed of a single event, only the reading corresponding to the interation of the change event is available (28).
- (28)  $ni = \delta = ni\gamma i nu = \delta \epsilon zo$ ITER = A3.PST = fall DEF = man 'The man fell'

Repetitive: The man fell, then stood up and fell again Restitutive: # The man was fallen, then stood up and fell again.

### **5** Locus of agreement and agreement series

#### 5.1 Agree and the spell out of agreement

- In the Minimalist Program (Chomsky, 1995) and Distributed Morphology (Halle and Marantz, 1993) the spell-out of agreement morphology is a consequence of the *Agree* operation (Chomsky, 2000, 2001).
- Agree: matching relation between a functional head bearing a *Probe* and a DP argument or *Goal* local to the head. The Probe has unvalued φ-features [φ\_], while the Goal has valued φ-features [φ] that value those in the Probe (29). Those features are then realized as agreement morphemes at PF.
- (29) Agree mechanism



- The Probe's c-command domain can be expanded cyclically by successive instances of Merge via *Cyclic Agree* (Béjar, 2003; Rezac, 2003, 2004) (i.e. A head can probe within its maximal projection more than once)
- This can occur in cases where a Probe cannot be valued by a DP because there is no DP in the head's c-command domain.
- (30) Cyclic Agree



#### 5.2 Loci in T and *v*

- Unvalued φ-features are distributed in the core functional heads *ν* and T, which constitute agreement domains.
- It is likely to think that **Set A** is **related to** the locus **T** because it fuses TAM in addition to Person features. Also, external arguments in transitive and unergative clauses are tracked by Set A morphology:
- (31)  $\begin{bmatrix} TP & [T & Set A & [VoiceP & DP_{Subj} & [Voice & [VP & [VP & Root & (DP_{Obj})]]] \end{bmatrix} \end{bmatrix}$ 
  - Suffixes, on the other hand, are likely to be associated with *v*, which is local to the direct object in transitive constructions (32) and to the internal argument in both statives and inchoatives (33):
- $(32) \qquad [_{\text{Voice}} [_{\nu P} [_{\nu} \text{ Set } P [_{\text{RootP}} \text{ Root } DP_{\text{Obj}}]]]]]]$
- (33)  $[_{T} [_{\nu P} DP_{Subj} [_{\nu} Set ST Root]]]$

 $\rightarrow$  Set A is the spell-out of a valued T (i.e. a T that entered an Agree relation with a DP).

- $\rightarrow$  Suffixes are the spell-out of a valued  $\nu$
- **\*** How are the different suffix series spelled-out?

- In Mazahua, certain *v*-heads are associated with specific suffix series:
  - $v_{\rm BE}$  is related to Set ST.
  - $v_{DO}$  is related to Set P (Will come back to unergatives)
  - $\circ v_{GO}$  is not related to any agreement suffix.

Classes	Verbs	v-head	Suffix	Proclitic
P-verb	Statives	$ u_{ m BE}$	Set ST	
P-verb	Inchoatives	$v_{\mathrm{BE}}$ + $v_{\mathrm{GO}}$	Set ST	
A-verb	Unaccusatives of	$v_{ m GO}$		Set A
	change/ motion			
A-verb	Unergatives	$ u_{ m DO}$		Set A
Transitive		$v_{ m DO}$	Set P	Set A

Table 5: v-heads and agreement

- Based on these associations, we can propose the following spell-out rules:
- (34) a.  $T[\pi] \leftrightarrow \text{Set A}$ 
  - b.  $v_{BE} [\pi] \leftrightarrow \text{Set ST}$
  - c.  $v_{\text{DO}} [\pi] \leftrightarrow \text{Set P}$
  - d.  $v_{GO} \leftrightarrow$  no agreement
  - Agreement loci T and v have been proposed to vary across languages with respect to their "active" or "inactive" status as Probes in transitive and intransitive clauses. This gives rise to different agreement patterns cross-linguistically (Chomsky, 2000, 2001; Béjar, 2003; Béjar and Rezac, 2009; Rezac, 2011) (also Levin and Massam (1985); Marantz (1991); Bobaljik (1993) for case alignments).
  - I take this idea further and propose different *v*-heads can also be active or inactive as Probes:
- (35) Mazahua loci of agreement
  - a.  $v_{BE}$  and  $v_{DO}$ : always a Probe  $\rightarrow$  Always spell out agreement.
  - b.  $v_{GO}$ : never a Probe (inactive/defective)  $\rightarrow$  never spells out agreement.
  - c. T: not merged with a Probe, but can be merged with one in certain contexts

### 5.3 P-verbs

- In **Statives**,  $v_{BE}$  is merged with a  $\pi$ -Probe. It fails to Agree with a Goal in a first cycle of Agree, but successfully Agrees with the internal argument when it is merged. This results in the spell-out of Set ST.
- (36) Statives



- Inchoatives have a stative base, but are built by merging a  $v_{GO}$  on top of  $v_{BE}P$ .
- When the structure is sent to Spell-out and it is linearized [[Root+ $v_{BE}$ ]+ $v_{GO}$ ],  $v_{GO}$  can be responsible of the stem change in stative roots (e.g.  $hó2o \rightarrow hóyi$  'to be good/healthy  $\rightarrow$  to get better')
- (37) Inchoatives



#### 5.4 A-verbs

- In **unergatives**, the Root combines with a  $v_{DO}$ . Since there is not DP in the ccommand domain of  $v_{DO}$ , it is left unvalued and does not spell-out as an agreement morpheme.
- The DP is introduced by Voice.
- If the derivation continues as it is, the DP in SpecVoiceP would not enter an Agree relation. This will cause a licensing problem (e.g. Case-assignment (Rezac, 2011) or Person Licensing Condition (Rezac, 2004; Béjar and Rezac, 2009))
- T is merged with a Probe and enters an Agree relation with the DP, resulting in the spell-out of Set A.
- (38) Unergatives

a.



- In **unaccusatives** of change/motion, the Root takes DP as a complement and projects. RootP is merged with  $v_{GO}$ , which is not merged with a Probe and, therefore, it does not probe for a DP and does not enter an Agree relation.
- Similar to unergatives, T has to be merged with a Probe to enter an Agree relation with the DP and license the argument.
- (39) Unaccusatives of change/motion

a.



#### 5.5 Transitives

- In **transitives**,  $v_{DO}$  enters an Agree relation with the internal argument, local to the head.
- The subject in SpecVoiceP is out of the domain of  $v_{DO}$ . T then merges with a Probe and triggers an Agree relation with the external argument.
- (40) Transitives a.  $r \phi =$



## 6 Conclusions

- Mazahua shows split intransitivity in its agreement system, where a group of intransitive verbs combine with proclitic agreement and others combine with suffix agreement.
- The split is not conditioned by aktionsart, theta-roles or argument structure, but the event structure of the verb. Specifically, whether the verb has a stative subevent in its even structure is relevant for the split.
- An syntactic approach to event structure that distinguishes different types of eventintroducer *v*-heads allows to account for the split and for the realization of different agreement series: proclitic and different suffix series.
- The idea that T and v can be active or inactive as Probes was extended further to the different types of v-heads and a typology of functional heads serving as Probes was proposed for Mazahua.

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## **Appendix - Contexts for allomorphy**

Person		Set P	Set ST			
	Morpheme	Allomorph	Morpheme	Allomorph		
		$[-k^hV]/VC^hV+$				
		$[-kV] /VC_{r,[vclcor]}V +$				
1	/-yV/	$[-zV] /V_{[front]}CV +$	/-zV/	[-tsV] /V <sub>[front]</sub> CV+ [-zV] /elsewh.		
T		$[-zV] /VC_{[velar]}V +$				
		$[-tsV] / V_{[front]} C_{r,[vclcor]} V +$				
		[-yV] /elsewh.				
		$[-ts'V]/VC_{[velar]}V+$				
2	/-k'V/	$[-ts'V]/V_{[front]}CV+$	/-ts'V/	[-ts'V]		
		[-k'V]/ elsewh.				
3	/-Ø/	[-Ø]	/-Ø/	[-Ø]		

Table 6: Set P and Set ST allomorphy

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