Optional agreement in Santiago Tz’utujil (Mayan) is syntactic

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1. Optionality of agreement in Santiago Tz’utujil

- 3rd plural agreement can be dropped in some configurations:

(1) Optionality of agreement

a. X–e–q–raqpij i–ke’ etzb’al.
   COM–3PL.ABS–1PL.ERG–break PL–two toy
   ‘We broke two toys.’

b. X–Ø–q–raqpij i–ke’ etzb’al.
   COM–∅–1PL.ERG–break PL–two toy
   ‘We broke two toys.’

- This optionality has been reported for many other Mayan languages (England 2011 for a summary; Smith-Stark 1974 for Poqomam, Mateo Toledo 2008 for Q’anjob’al, Zavala 1992 for Akateko, Aissen 1987 for Tzotzil, Dayley 1985 for Tz’utujil).

- We look at all constructions where agreement obtains.
- The optionality is found only in some morphosyntactic contexts.

Takeaways

(i) The optionality of agreement in ST cannot be conditioned by morphophonology.
(ii) The optionality of agreement in ST is conditioned by syntactic environment.
   a. Agreement is obligatory when the controller is base-generated in Spec-XP.
   b. Agreement is optional when the controller is base-generated in Compl-X₀.
(iii) In contexts where agreement is optional, the presence/absence seems to have no systematic consequences on semantics.
(iv) The presence/absence of agreement may mask a deeper systematicity that is uncovered only when the right factors are controlled.

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ABS</td>
<td>absolutive agreement</td>
</tr>
<tr>
<td>AUX</td>
<td>auxiliary</td>
</tr>
<tr>
<td>AP</td>
<td>antipassive voice</td>
</tr>
<tr>
<td>CAUS</td>
<td>causative</td>
</tr>
<tr>
<td>CLF</td>
<td>classifier</td>
</tr>
<tr>
<td>COM</td>
<td>completive aspect</td>
</tr>
<tr>
<td>DEM</td>
<td>demonstrative</td>
</tr>
<tr>
<td>DET</td>
<td>determiner</td>
</tr>
<tr>
<td>DIR</td>
<td>directional marker</td>
</tr>
<tr>
<td>DET</td>
<td>singular</td>
</tr>
<tr>
<td>EXS</td>
<td>existential</td>
</tr>
<tr>
<td>NMLZ</td>
<td>nominalization</td>
</tr>
<tr>
<td>PASS</td>
<td>passive voice</td>
</tr>
<tr>
<td>PL</td>
<td>plural</td>
</tr>
<tr>
<td>PREP</td>
<td>preposition</td>
</tr>
<tr>
<td>RN</td>
<td>relational noun</td>
</tr>
<tr>
<td>SS</td>
<td>status suffix</td>
</tr>
<tr>
<td>SG</td>
<td>singular</td>
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</table>
2. Santiago Tz’utujil - basic facts

- Santiago Tz’utujil (ST) is a K’ichean (Mayan) language spoken in Guatemala in Santiago Atitlán.
- ST is under-described:
  - There are grammars and dictionaries for other dialects: San Juan la Laguna Tz’utujil (Dayley 1985) and San Pedro la Laguna Tz’utujil (Garcia Ixmatá 1997)
  - Our work shows that contemporary ST varies substantially from other dialects.
  - Dayley (1985) provides a phonological sketch of ST.
- All our data is novel, based on fieldwork conducted in Guatemala in 2017-2019 with four native speaker consultants.
- Basic profile of ST:
  - Verb-initial, but surface word is flexible, with SVO being most frequent
  - Subject and object can be dropped
  - Presence of nominal number concord is orthogonal to agreement
- Regarding agreement:
  - Ergative-absolutive alignment
  - Head marking; prefixal agreement on the predicate:

(2) Agreement morphology in ST

<table>
<thead>
<tr>
<th></th>
<th>Ergative (Set A)</th>
<th>Absolutive (Set B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>singular</td>
<td>plural</td>
</tr>
<tr>
<td>1</td>
<td>inu-/w-</td>
<td>qa-</td>
</tr>
<tr>
<td>2</td>
<td>a-</td>
<td>i-</td>
</tr>
<tr>
<td>3</td>
<td>ru-</td>
<td>ki-</td>
</tr>
</tbody>
</table>
• ABS agreement is controlled by objects in transitives (3) and sole argument of intransitives (4).

(3) **3PL.ABS agreement in active transitive**
X–e–q–raqpîj  i–ke'  etzb'al.
COM–3PL.ABS–1PL.ERG–break  PL-two  toy
‘We broke two toys.’

(4) **3PL.ABS agreement in intransitive**
PL–two  3SG.ERG–ear  tree  COM–3PL.ABS–fall=DIR
‘Two leaves fell.’

• ERG agreement is controlled by subjects in transitives (5) and possessors (6).

(5) **3PL.ERG agreement in active transitive**
Jal  i–ke'  chi’  x–∅–ki–waq’  jun  ch'ech'.
‘These two trees smashed a car.’

(6) **3PL.ERG agreement with a possessor**
Xaq  k–tzb'alil  j'ewra  ch'tal.
black  3PL.ERG–color  DEM.PL  table
‘The color of these tables is black.’

3. **Optional agreement cannot be phonological**

• **Hypothesis:** Phonology conditions the optionality of agreement in ST.

• **Arguments against the hypothesis:**
  1. The optionality is sensitive to the animacy of the agreement controller.
  2. The vowel syncope reported for ST cannot account for the data.

• Minimal quadruples like the following show that the alternation is conditioned outside of phonology:

(7) **Obligatoriness of agreement with animate controllers**

a. I–ke’  ch’uch’–a  x–i–tzaq=pa.
PL–two  baby–PL  COM–3PL.ABS–fall=DIR
‘Two babies fell.’

b. *I–ke’  ch’uch’–a  x–∅–tzaq=pa.
PL–two  baby–PL  COM–∅–fall=DIR
*Intended:* ‘Two babies fell.’

(8) **Optionality of agreement with inanimate controllers**

PL–two  3SG.ERG–ear  tree  COM–3PL.ABS–fall=DIR
‘Two leaves fell.’

PL–two  3SG.ERG–ear  tree  COM–∅–fall=DIR
‘Two leaves fell.’
• Vowel syncope is attested in non-final syllables (Dayley 1985: 45 for ST)
  o \( V \rightarrow \emptyset \) \( /C_{-}C_{n}V(V)C\)
  o BUT not a systematic rule, if a rule at all: “There are a number of exceptions to this rule (all of which I do not fully understand yet.)” (Dayley 1985)
• Furthermore, there is optionality outside \( C_{-}C_{n}V(V)C\), contra Dayley (1985: 45)

(9) *Optionality of agreement non-conforming to \( C_{-}C_{n}V(V)C\)*)

a. \( I\)–k’ola ki’e’ ktz’ej chu jay.
   3PL.ABS–EXS two flower PREP garden
   ‘There are two flowers in the garden.’

b. \( \emptyset \)–k’ola ki’e’ ktz’ej chu jay.
   \( \emptyset \)–EXS two flower PREP garden
   ‘There are two flowers in the garden.’

• Additionally, there is no optionality in all \( C_{-}C_{n}V(V)C\), contra (Dayley 1985: 45)

(10) *Obligatoriness of agreement in \( C_{-}C_{n}V(V)C\)*)

   ‘Many poisonous mushrooms killed (that dog).’

b. *K’iy b’inien akox x–\( \emptyset \)–kum–sa–n–a r–xin.
   many poisonous mushroom COM–\( \emptyset \)–die–CAUS–AP–SS 3SG.ERG–RN
   Intended: ‘Many poisonous mushrooms killed (that dog).’

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Takeaway

The optionality of agreement in ST cannot be attributed to a phonological process.
4. Optional agreement cannot be morphological

4.1. Basic clause structure

- ST is a high-absolutive language; ABS-agreement is controlled by T (ABS=NOM in Legate 2008 terms).
- The internal argument moves to Spec-\(\nu\)P, where it can be targeted by T (Coon et al. 2014).

(11) *Syntactic structure of transitive in ST*

(12) *Syntactic structure of intransitive in ST*

4.2. How clause structure regulates agreement

**Empirical generalization (preview)**

Optional agreement in ST is conditioned by first Merge position:
- Arguments merged in Spec-XP agree obligatorily.
- Arguments merged in Compl-\(X^0\) agree optionally.
We can illustrate this with the contrasting behavior of agreement with the subject of a passive (13) and agreement with the subject an antipassive (14):

- Agreement in both of these cases is absolutive.

(13) Optionality of agreement in passive
a. Ki’e’ nu−po’t x−e−b’ik−taj−a r−wech k−mak ali’i’.  
   ‘My two guipiles got torn by the boys.’
b. Ki’e’ nu−po’t x−∅−b’ik−taj−a r−wech k−mak ali’i’.  
   ‘My two guipiles got torn by the boys.’

(14) Obligatoriness of agreement in antipassive
   ‘Many poisonous mushrooms killed (that dog).’
   many poisonous mushroom COM–∅–die–CAUS–AP–SS 3SG.ERG–RN  
   Intended: ‘Many poisonous mushrooms killed (that dog).’

4.3. Against a morphological account

- Both Lexicalist and DM approaches to morphology agree that the conditioning of morphological rules are formulated in MORPHOLOGICAL terms.
- Therefore, a problem arises immediately for any morphological account of this pattern:
  - A deletion rule would need to make reference to first Merge position, since both arguments are in a SpecXP position by the time they are targeted by Agree in (13) and (14).
  - In other words, the environment where the nominals in (13) and (14) are at the moment of Agree is the same.
- Let us assume for ease of exposition Distributed Morphology (DM).
- In principle, we could analyze optional agreement in ST as resulting from a morphological Obliteration rule (of some sort) targeting the relevant [FEATURE] on a Goal.
- **Hypothesis:** Agreement fails due to an optional morphological rule which deletes the relevant [FEATURE] borne by nominal goals.
- **Argument against the hypothesis:** The environment for the application of the rule cannot be formulated.
- A potential solution would be to posit that morphological operations occur throughout the course of the syntactic derivation.
  - However, this goes against the idea that morphological rules are independent of the syntactic module.
  - This blurs the line between morphology and syntax to the extreme.

**Takeaway**

The optionality of agreement in ST cannot be attributed to a morphological process.
5. Optional agreement is syntactic

5.1. Empirical generalization

Empirical generalization (complete version)
Realization of agreement in ST is conditioned by first Merge position:

- Arguments merged in Spec-XP agree obligatorily. Agreement is obligatory if controlled by:
  - Transitive subject
  - Sole argument of antipassive (Polinsky 2016)
  - Sole argument of non-verbal predicate (adjectival and nominal)
  - Possessor
  - Sole argument of positional predicate (Henderson 2018)
  - Agent Focus subject (Stiebels 2006, Aissen 2017)
  - Subject of progressive

- Arguments merged in Compl-X° agree optionally. Agreement is optional if controlled by:
  - Transitive object
  - Sole argument of intransitive (which are all unaccusative, Coon 2015)
  - Passive subject
  - Subject of existential (Aissen 1999)
  - Agent Focus object
  - Complement of a nominalized verb in a progressive

- NB: The optionality does not track absolutive vs. ergative morphology nor volitionality.

(15) Summary of agreement controllers and agreement realization in ST

<table>
<thead>
<tr>
<th>agreement controller</th>
<th>agreement status</th>
<th>ERG/ABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>transitive subject</td>
<td>mandatory</td>
<td>ERG</td>
</tr>
<tr>
<td>possessors</td>
<td>mandatory</td>
<td></td>
</tr>
<tr>
<td>subject of auxiliary in a progressive</td>
<td>mandatory</td>
<td></td>
</tr>
<tr>
<td>object in a nominalization in a progressive</td>
<td>optional</td>
<td></td>
</tr>
<tr>
<td>antipassive</td>
<td>mandatory</td>
<td></td>
</tr>
<tr>
<td>Agent Focus subject</td>
<td>mandatory</td>
<td></td>
</tr>
<tr>
<td>positionals</td>
<td>mandatory</td>
<td></td>
</tr>
<tr>
<td>non-verbal (adjectival and nominal)</td>
<td>mandatory</td>
<td></td>
</tr>
<tr>
<td>transitive object</td>
<td>optional</td>
<td>ABS</td>
</tr>
<tr>
<td>intransitive</td>
<td>optional</td>
<td></td>
</tr>
<tr>
<td>passive</td>
<td>optional</td>
<td></td>
</tr>
<tr>
<td>Agent Focus object</td>
<td>optional</td>
<td></td>
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<tr>
<td>existential</td>
<td>optional</td>
<td></td>
</tr>
</tbody>
</table>
5.2. Ergative agreement: both obligatory and optional

(16) **Obligatory **3PL.ERG agreement controlled by transitive subject

a. Jal i–ke' chia x–∅–ki–waq' 
   ‘These two trees smashed a car.’

   *Jal i–ke' chia x–∅–ru/∅–waq' 
   *Intended: ‘These two trees smashed a car.’

(17) **Optional **3PL.ERG agreement controlled by object of a nominalization

   1SG 1SG.ARG–AUX 3PL.ERG–search–PASS–NMLZ PL–two 1SG.ERG–table
   ‘I’m in search of my two tables.’

   1SG 1SG.ARG–AUX ∅–search–PASS–NMLZ PL–two 1SG.ERG–table
   *Intended: ‘I’m in search of my two tables.’

(18) **Obligatory **3PL.ABS agreement controlled by the sole argument of a positional

a. I–k’iy ab’aj e–q’eela chwech tz’aq.
   PL–many stone 3PL.ABS–lean.against PREP wall
   ‘Many stones are against the wall.’

   *I–k’iy ab’aj ∅–q’eela chwech tz’aq.
   PL–many stone ∅–lean.against PREP wall
   *Intended: ‘Many stones are against the wall.’

(19) **Optional **3PL.ABS agreement controlled by a sole argument of an intransitive

   PL–two 3SG.ERG–ear tree COM–3PL.ABS–fall=DIR
   ‘Two leaves fell.’

   I–ke' ru–xaq chia x–∅–tzaq=pa.
   PL–two 3SG.ERG–ear tree COM–∅–fall=DIR
   ‘Two leaves fell.’

5.3. Absolutive agreement: both obligatory and optional

5.4. Analysis

(20) Proposal (to be revised)

a. In order to agree, a DP controller must bear the right feature [ARG(UMENT)]

b. X^0 selects only for a DP *specifier* bearing [ARG].

c. Y^0 selects for a DP *complement* and does not care about the presence of [ARG].
• Observe (21) below:
  o In (21)a, DP bears [ARG] and Agree obtains.
  o In (21)b, there is a selectional violation.

(21)  
Obligatory 3PL.ABS agreement in positional

a. I–k’iy  ab’aj  e–q’eela  chwech  tz’aq.
   PL–many   stone  3PL.ABS–lean.against  PREP  wall
   ‘Many stones are against the wall.’

   TP
   \[ T^0 \]
   \[ PredP \]
   \[ EA_{[ARG]} \]
   \[ Pred^0 \]

b. *I–k’iy  ab’aj  ∅–q’eela  chwech  tz’aq.
   PL–many   stone  ∅–lean.against  PREP  wall
   Intended: ‘Many stones are against the wall.’

   TP
   \[ T^0 \]
   \[ PredP \]
   \[ *EA_{[0]} \]
   \[ Pred^0 \]

• Now, observe (22):
  o In (22)a, DP bears [ARG] and Agree obtains
  o In (22)b, DP does not bear [ARG]; Agree fails but the derivation converges

(22)  
Optional 3PL.ABS agreement with object in transitive

a. X–e–q–raqpij  i–ke’  etzb’al.
   COM–3PL.ABS–1PL.ERG–break  PL–two  toy
   ‘We broke two toys.’

   TP
   \[ T^0 \]
   \[ iP \]
   \[ IA_{[ARG]} \]
   \[ VP \]

b. X–∅–q–raqpij  i–ke’  etzb’al.
   COM–∅–1PL.ERG–break  PL–two  toy
   ‘We broke two toys.’

   TP
   \[ T^0 \]
   \[ iP \]
   \[ Agree Fails \]
   \[ IA_{[0]} \]
   \[ VP \]

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5.5. Predictions

(23)  Proposal (final):
   a. In order to agree, a DP controller must bear the right feature [ARG(UMENT)].
   b. X⁰ selects only for a DP specifier bearing [ARG].
   c. Y⁰ selects for a DP complement and does not care about the presence of [ARG].
   d. [ARG] feature is located on D⁰ - structurally, arguments can be larger (contain D⁰) or smaller (no D⁰) (Baker 1996, Massam 2001, Levin 2015).

   • No D⁰ → no [ARG]
   • Assuming pronouns are D⁰ we predict the following:

(24)  Prediction 1
   Pronouns must agree.

   • This prediction is borne out.
      o A transitive object agrees optionally if it is a full nominal (25), but agrees obligatorily if it is a pronoun (26):

(25)  Optional agreement with object of transitive
      yesterday CO–3PL.ABS–1SG.ERG–see PL–two baby–PL
      'Yesterday, I saw two babies.'
   b. Iwir x–∅–in–tz'u' i–ke' ch'uch'–a.
      yesterday COM–∅–1SG.ERG–see PL–two baby–PL
      'Yesterday, I saw two babies.'

(26)  Mandatory agreement with overt pronouns
   a. Iwir x–i–nu–tz'et j'iye'
      yesterday COM–3PL.ABS–1SG.ERG–see 3PL
      'Yesterday, I saw them.'
   b. *Iwir x–∅–in–tz'et j'iye'
      yesterday COM–1SG.ERG–see 3PL
      Intended: ‘Yesterday, I saw them.’

(27)  Mandatory agreement with null pronouns
   a. Iwir k'oła ki’e’ ktz'ej chu jay
      yesterday EXS two flower PREP garden
      ‘Yesterday, there were two flowers in the garden.’
      DET CLF Maria COM–3PL.ABS–3SG.ERG–tear
      ‘Maria tore (them).’
   c. *Ja ya Mriy x–∅–u–b'ok.
      DET CLF Maria COM–∅–3SG.ERG–tear
      Intended: ‘Maria tore (them).’

(28)  Prediction 2
   All local persons are pronouns → Local persons must agree.
• This prediction is borne out.

(29)  
**Local persons agree obligatorily**  
\[
\text{J’iye’} \quad \text{x–oq–/*in–/*Ø–ki–tzu’} \quad \text{(joj).}
\]
\[
\text{3PL} \quad \text{COM–1PL.ABS–/*1SG.ABS–/*Ø–3PL.ERG–see} \quad \text{1SG}
\]
‘They saw us.’

5.6. No semantic consequences


• The [ARG] feature resides on D^0.
  - Lack of D^0 → Lack of [ARG]; i.e. invisibility to the Agree probe and therefore failure to agree

• **Hypothesis**: the choice of the variants within the optionally agreeing constructions matches the interpretive differences found in DOM

• However, we found no correlation between agreement and (i) the presence/absence of determiners or (ii) an embedded relative clause in the nominal.

• Telicity or temporal/spatial proximity play no role either.

• We tentatively conclude that optionality of agreement in ST is syntactic BUT does not have any effect on interpretation.
  - Similar to English particle-stranding in particle verb constructions: *I looked up the answer vs. I looked the answer up*.

<table>
<thead>
<tr>
<th>Takeaway</th>
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<tbody>
<tr>
<td>Some syntactic optionality has no consequence for interpretation.</td>
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</tbody>
</table>

6. Summary

• We have shown that the realization of agreement in ST depends on the base-generated position of the agreement controller:
  - DP controllers generated in Compl-X^0 agree optionally.

• We proposed that agreement requires the DP controller to bear [ARGUMENT] feature:
  - All DPs generated in the specifier position must bear [ARGUMENT] and must agree.
  - DPs generated in the complement position may bear [ARGUMENT], and if they do, they must agree.
    - In other words, given a generated structure, agreement is fully predictable.
  - We predicted correctly that pronouns must bear [ARGUMENT] and must agree.
7. Methodological considerations

- There is optionality in agreement in ST, but agreement as a whole is not optional.
  - Instead of concluding that optionality of agreement holds across the board, we explored possible conditioning factors
    - We found that the distinction between Specifier vs. Complement base position is the determining factor.
  - This subregularity proved to be a theoretically relevant and informative point.
- The pattern proved to be persistent and robust for a group of speakers we worked with.
  - However, we also encountered inter-speaker variation.
  - Pooling the judgments across speakers would have prevented us from uncovering the pattern.

Takeaway

Apparent optionality may disguise hidden regularities.

References


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