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# Reconstructing the possessive inflection of Proto-Zamucoan



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# Overview

- The Zamucoan family (a brief note)
- Zamucoan possessive inflection
- Reconstruction of Proto-Zamucoan possessive inflection
- Areal contact and morphological borrowing

- **The Zamucoan family (a brief note)**
- Zamucoan possessive inflection
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# The Zamucoan family



**Old Zamuco (OZ)**  
spoken in the XVIII  
century, extinct

**Ayoreo (AY)**  
ca. 4500 speakers

**Chamacoco (CH)**  
(tbitoso, Tomarâho)  
ca. 1800 speakers

# The Zamucoan family

The first stable contact with Zamucoan populations took place in the early 18th century in the reduction of San Ignacio de Samuco.

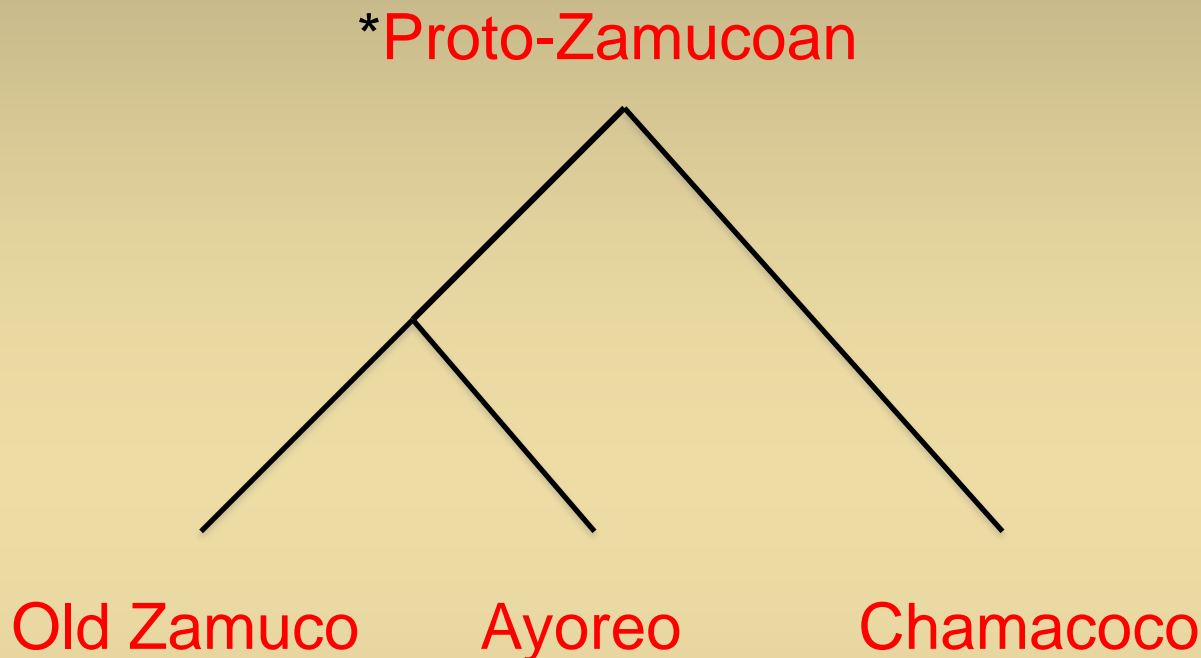
The Jesuit **Ignace Chomé** wrote a grammar of Old Zamuco (*Arte de la lengua zamuca*).

The **Chamacoco** established friendly relationships by the end of the 19th century.

The **Ayoreo** 'surrendered' at the middle of the last century; there are still a few small nomadic bands in Northern Paraguay.



# The Zamucoan family: internal classification



- Old Zamuco and Ayoreo are very close to each other, but share no more than 30% of their lexicon with Chamacoco.
- The split of Chamacoco from Old Zamuco and Ayoreo must have occurred long ago (Holman *et al.* 2011; Müller *et al.* 2013).

# The Zamucoan family



## Main typological features:

- Fusional structure
- Word order features:
- SVO
- Genitive + Noun
- Noun + Adjective

# The Zamucoan family



Chamacoco, my fieldwork



Ayoreo, Pier Marco Bertinetto's fieldwork

## Research goals at Scuola Normale Superiore:

- Description of Zamucoan inflectional morphology (Ciucci 2013)
- Descriptive grammar of Ayoreo
- Descriptive grammar of Ancient Zamuco (based on Chomé's data)
- Descriptive grammar of Chamacoco (Ibitoso)
- Reconstruction of [Proto-Zamucoan morphology](#)

- The Zamucoan family (a brief note)
- **Zamucoan possessive inflection**
- Reconstruction of Proto-Zamucoan possessive inflection
- Areal contact and morphological borrowing

# Possessive inflection: 3- vs. RFL-person

- In all Chaco languages, including the Zamucoan ones (Fabre 2007), nouns can be **possessable** or **non-possessable**.
- With **possessable nouns**, the morphology of possession is usually expressed by **prefixes** (or, with the CH plural persons, by **free pronouns**):
- All Zamucoan languages distinguish between:
  - **3-person** (= non coreferent with the subject)
  - **reflexive 3-person** (= coreferent with the subject; henceforth **RFL**)

CH: p-a-lokot (**1S**), Ø-a-lokot (**2S**), Ø-a-lokot (**3**), d-a-lokot (**RFL**),  
ejok Ø-a-lokot (**1Pinc**), òrjok Ø-a-lokot (**1Pexc**),  
olak Ø-a-lokot (**2P**) 'nickname'

# Possessive inflection: Generic Form (GF)

- Possessable nouns may present an additional form indicating **unspecified possessor**, here called **Generic Form** (henceforth **GF**). This feature characterizes most Chaco languages and has been proposed as a possible areal trait (Campbell & Grondona 2012: 646).

Ayoreo: **j**-i-go (1S), **b**-a-go (2S), **∅**-i-go (3), **d**-a-go (RFL),  
**jok**-i-go (1P), **wak**-a-go (2P), **∅**-∅-ko (**GF**) 'jar'

Old Zamuco: **j**-i-geda (1S), **a**-i-geda (2S), **∅**-i-geda (3),  
**da**-i-geda (RFL), **aj**-i-geda (1/2P), **g**-i-geda (**GF**)  
'house'

# Possessive inflection: Structure

- Depending on **3-person morphology**, one can distinguish between:

**PREFIX** + **THEMATIC VOWEL** + **ROOT**  
|-----|  
**THEME**

- (a) **PREFIXAL** nouns: prefix plus theme  
**CH** *l-a-tahatca* ‘stepmother’
- (b) **THEMATIC** nouns: theme  
**CH** *∅-e-tcit* ‘domestic animal’
- (c) **RADICAL** nouns: pure root  
**CH** *∅-∅-nerpta* ‘shirt’

# Possessive inflection: inflectional vowel

- In the **2-** and in the **RFL-person**, **high thematic vowels** are replaced by a **vowel originally belonging to the prefix**, i.e. /**a**/ or /**e**/:

AY j-**i**-go (1S), b-**a**-go (2S), Ø-**i**-go (3), d-**a**-go (RFL),  
jok-**i**-go (1P), wak-**a**-go (2P), Ø-Ø-ko (GF) 'jar'

CH p-**i**-tilta (1S), Ø-**e**-tilta (2S), Ø-**i**-tilta (3), d-**e**-tilta (RFL)  
'stick'

- Occasionally, the original **high thematic vowel** is not replaced by /**a**/ or /**e**/:

OZ j-**i**-geda (1S), **a**-**i**-geda (2S), Ø-**i**-geda (3),  
da-**i**-geda (RFL), aj-**i**-geda (1/2P), g-**i**-geda (GF) 'house'



- The Zamucoan family (a brief note)
- The Zamucoan possessive inflection
- **The reconstruction of Proto-Zamucoan possessive inflection**
- Areal contact and morphological borrowing

	Old Zamuco	Ayoreo	Chamacoco	Proto-Zamucoan
<b>1S</b>	j-V-root tɕ-/s-V-root	j-V-root	p-V-root	*j-V-root
<b>2S</b>	∅-a/V-root	b-a/V-root	∅-a/e/V-root	*a-V-root
<b>3</b>	∅-V-root ∅-∅-root d-V-root g-V-root	∅-V-root ∅-∅-root d-V-root g-V-root k-V-root p-V-root j-V-root	∅-V-root ∅-∅-root d-V-root w-V-root k-V-root j-V-root	*∅-V-root *∅-∅-root *d-V-root *g-V-root
<b>RFL</b>	d-a/V-root	d-a/V-root	d-a/e/V-root	*da-V-root
<b>1P</b>	aj-V-root as-V-root	jok-V-root	–	*aj-V-root *as-V-root [rare]
<b>2P</b>	aj-V-root as-V-root	wak-a/V-root	–	?
<b>GF</b>	p-V-root d-V-root ∅-∅-root	p-V-root dVk-V-root g-V-root k-V-root ∅-∅-root	dVk-V-root d-V-root k-V-root ∅-∅-root o-[3-person]	*p-V-root *dVk-V-root *k-V-root *d-V-root *∅-∅-root

# First-person singular

	Old Zamuco	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan
<b>1S</b>	<b>j</b> -V-root tə-/s-V-root	<b>j</b> -V-root	<b>p</b> -V-root	* <b>j</b> -V-root
<b>GF</b>	<b>p</b> -V-root d-V-root ∅-∅-root	<b>p</b> -V-root dVk-V-root g-V-root k-V-root ∅-∅-root	dVk-V-root d-V-root k-V-root ∅-∅-root o-[3-person]	* <b>p</b> -V-root *dVk-V-root *k-V-root *d-V-root *∅-∅-root

- Loss of **1S j**- in **CH**. However, **j**- is found in some **CH** relics:

**CH j**osi~rsi~rtə (non-possessable) ‘merciful person’

**AY j**-o-sōrasōri (1S), ∅-o-sōrasōri (3) ‘merciful person’

**CH j**-o-te (1S) ‘mother’ (Johann Natterer, first half of the 19<sup>th</sup> century)

→ Colonization of the **CH 1S** by the **GF** (prefix **p**-)

## Second-person singular

	Old Zamuco (OZ)	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan (PZ)
2S	∅-a/V-root	b-a/V-root	∅-a/e/V-root	*a-V-root
RFL	d-a/V-root	d-a/V-root	d-a/e/V-root	*da-V-root

- All Zamucoan languages show the vowel /a/ in the **2S-** and in the **RFL-**person; originally a prefix, it is now part of the theme.
- In many cases, **OZ/AY** /a/ > **CH** /e/.
- The **OZ** and **CH 2S-**person are **prefixless**. The **AY 2S-**prefix **b-** is an innovation, possibly deriving from the labial feature of the 2S-pronoun **wa** < **PZ** \***wa**

# Third person

	Old Zamuco (OZ)	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan (PZ)
<b>3</b>	∅-V-root ∅-∅-root d-V-root g-V-root	∅-V-root ∅-∅-root d-V-root g-V-root k-V-root p-V-root j-V-root	∅-V-root ∅-∅-root d-V-root j-V-root w-V-root k-V-root	*∅-V-root *∅-∅-root *d-V-root *g-V-root
<b>RFL</b>	d-a/V-root	d-a/V-root	d-a/e/V-root	*da-V-root

- All languages show the same inflectional classes:
  - thematic** nouns: ∅-V-root → CH ∅-e-*tɕit* ‘domestic animal’
  - radical** nouns: ∅-∅-root → CH ∅-∅-*nerpta* ‘shirt’
  - prefixal** nouns: C-V-root → CH *l-a-tahatɕa* ‘stepmother’
- The **3**-prefix **d-** is found in all languages (besides being the most common **RFL**-person marker).

# Third person: Marginal allomorphs

	Old Zamuco (OZ)	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan (PZ)
3	∅-V-root	∅-V-root	∅-V-root	*∅-V-root
	∅-∅-root	∅-∅-root	∅-∅-root	*∅-∅-root
	d-V-root	d-V-root	d-V-root	*d-V-root
	g-V-root	g-V-root	j-V-root	*g-V-root
		k-V-root	w-V-root	
		p-V-root	k-V-root	
		j-V-root		

- **CH** does not have the phoneme /g/. Regular correspondence **OZ/AY** /g/ ~ **CH** /j/ or ∅:
- **AY** g-a-nesõri (3) ~ **CH** j-i-nsĩrtɛ (3) ‘owner, master’
- **AY** g-a-tɛit (3) ~ **CH** ∅-e-tɛit (3) ‘pet, domesticated animal’
- **AY** k- and j- and **CH** k- and w- are rare allomorphs.
- **AY** p- stems from the most frequent **GF** allomorph

# First and second person plural 1

	Old Zamuco (OZ)	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan (PZ)
<b>1P</b>	<b>aj</b> -V-root <b>as</b> -V-root	<b>jok</b> -V-root	–	* <b>aj</b> -V-root * <b>as</b> -V-root [rare]
<b>2P</b>	<b>aj</b> -V-root <b>as</b> -V-root	<b>wak</b> -a/V- root	–	?

- In **OZ**, **1P** and **2P** coincided
- **CH** has lost the **1P/2P** inflection (free pronouns are used instead); **AY** created new person prefixes out of the free pronouns **jok** (**1P**) and **wak** (**2P**)
- It is not possible to reconstruct the **2P**-person of **PZ**

# 1P- and 2P-person: Historical data

	Old Zamuco (OZ)	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan (PZ)
<b>1P</b>	<b>aj</b> -V-root <b>as</b> -V-root	<b>jok</b> -V-root	–	* <b>aj</b> -V-root * <b>as</b> -V-root [rare]
<b>2P</b>	<b>aj</b> -V-root <b>as</b> -V-root	<b>wak</b> -a/V- root	–	?

- Some **CH** relics documented in the first half of the 20<sup>th</sup> century indicate that **CH** displayed the **1P**-prefixes **as-/aj-**

**CH as**-ut (**1P**) ‘mother’ (Baldus 1932: 393)

**OZ as**-ote (**1P**) ‘mother’

**CH aj**-r-u-m̩e (**1P**) ‘hands’ (Baldus 1932: 392)



# Reflexive person

	Old Zamuco (OZ)	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan (PZ)
RFL	<b>d</b> -a/V-root	<b>d</b> -a/V-root	<b>d</b> -a/e/V-root	* <b>da</b> -V-root
2S	∅- <b>a</b> /V-root	b- <b>a</b> /V-root	∅- <b>a</b> /e/V-root	* <b>a</b> -V-root

- The **RFL**-prefix **d**- is documented in all Zamucoan languages
- **d**- is preceded by the same **vowel** found in the **2S**-person (as already mentioned, part of the original prefix: \***a**- for **2S** and \***da**- for **RFL**-person)

# The generic form

	Old Zamuco (OZ)	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan (PZ)
<b>GF</b>	<p><b>p</b>-V-root</p> <p><b>d</b>-V-root</p> <p><b>∅-∅</b>-root</p>	<p><b>p</b>-V-root</p> <p><b>dVk</b>-V-root</p> <p><b>g</b>-V-root</p> <p><b>k</b>-V-root</p> <p><b>∅-∅</b>-root</p>	<p><b>dVk</b>-V-root</p> <p><b>d</b>-V-root</p> <p><b>k</b>-V-root</p> <p><b>∅-∅</b>-root</p> <p><b>o</b>-[3-person]</p>	<p>*<b>p</b>-V-root</p> <p>*<b>dVk</b>-V-root</p> <p>*<b>k</b>-V-root</p> <p>*<b>d</b>-V-root</p> <p>*<b>∅-∅</b>-root</p>
<b>1S</b>			<b>p</b> -V-root	

- In **OZ** and **AY** the most frequent **GF**-prefix is **p**-, reinterpreted as **1S**-prefix in **CH**
- **o**- is a **CH** innovation to compensate the pervasive loss of **GF**-inflection
- All Zamucoan languages have the ‘radical’ **GF** allomorph (**∅-∅**-root)

# GF: Intra-family correspondences

	Old Zamuco (OZ)	Ayoreo (AY)	Chamacoco (CH)	Proto-Zamucoan (PZ)
GF	<p><b>p</b>-V-root</p> <p><b>d</b>-V-root</p> <p><b>∅-∅</b>-root</p>	<p><b>p</b>-V-root</p> <p><b>dVk</b>-V-root</p> <p><b>g</b>-V-root</p> <p><b>k</b>-V-root</p> <p><b>∅-∅</b>-root</p>	<p><b>dVk</b>-V-root</p> <p><b>d</b>-V-root</p> <p><b>k</b>-V-root</p> <p><b>∅-∅</b>-root</p> <p><b>o</b>-[3-person]</p>	<p>*<b>p</b>-V-root</p> <p>*<b>dVk</b>-V-root</p> <p>*<b>k</b>-V-root</p> <p>*<b>d</b>-V-root</p> <p>*<b>∅-∅</b>-root</p>
1S			<b>p</b> -V-root	

- **dVk**- and **k**- are found in both **AY** and **CH**, and can thus be reconstructed for Proto-Zamucoan (although they are not documented in **OZ**)
- Similarly, **d**- can be traced back to Proto-Zamucoan, for it is observed in **OZ** and **CH** (although absent in **AY**)

# GF and 3-person interferences

	OZ		AY		CH	
	3-person	GF	3-person	GF	3-person	GF
p-		+	+	+		
dVk-				+		+
d-	+	+	+		+	+
g-	+	+	+	+		
k-			+	+	+	+
j-			+		+	
w-					+	
bare root	+	+	+	+	+	+
o- (pre-prefix)						+
thematic form	+		+		+	

- Since **3-** and **GF**-prefixes often coincide, an interaction may have occurred...
- It is however difficult to determine the direction of the change (except for the **AY 3-** prefix **p-**)

- The Zamucoan family (a brief note)
- The Zamucoan possessive inflection
- The reconstruction of Proto-Zamucoan possessive inflection
- **Areal contact and morphological borrowing**

# Areal contact in possessive inflection 1

- Zamucoan languages present no genetic relationship with other linguistic families. Yet, according to Comrie *et al.* (2010), the Chaco constitutes a **linguistic area** (but see Campbell & Grondona 2012b).
- **Some areal features:**
  - possessable vs non-possessable (Fabre 2007)
  - possessive affixes
  - possessive classifiers (Fabre 2007, Campbell & Grondona 2012)
  - elaborate deictic systems
  - para-hypotaxis (Bertinetto & Ciucci 2012)
- **Ciucci (2014) identified a number of morphological borrowings in the Zamucoan family...**

## Chaco languages

Family	Languages
Chiquitano	Chiquitano (Bésiro)
Enlhet- Enenlhet	Angaité, Enlhet, Enenlhet-toba, Enxet, Guaná, Sanapaná
Guaykuruan	†Abipón, Kadiwéu, †Mbayá, Mocoví, Pilagá, Toba
Lule-Vilela	Lule, Vilela
Mataguayan	Chorote, Maká, Nivaklé, Wichí
Tupí- Guaranían	Ava-Guaraní (Chiriguano), Tapiete
Zamucoan	†Old Zamuco, Ayoreo, Chamacoco

# Areal contact in possessive inflection 2

Proto-Zamucoan

**1S** \*j-V-root

**2S** \*a-V-root

**3** \*∅-V-root

\*∅-∅-root

\*d-V-root

\*g-V-root

**RFL** \*da-V-root

**1S**: **GUAYCURUAN**: Abipón *i-*, Kadiwéu *j-*, *ej-*, *i-*, Mocoví *j-*, *i-*, Pilagá *j-*, *ji-*, Toba *j(V)-*, *aj-*, *i-*. **MATAGUAYAN** Chorote *i-*, *j-*, Maká *ji-*, *j-*, *i-*, Nivaclé *i-*, *ji-*, Wichí (Weenhayek dialect) *j-*, *ja-*, *-ʔi* (Viegas Barros 2013b: 314, ex. 96).

**2S**: **MATAGUAYAN** Chorote *a-* (-C) / ∅- (-V) (2S), Maká *V-* / ∅-, Nivaclé *a-* / ∅-, Wichí *a-* (Ciucci 2014: 20-21).

**3**: **GUAYCURUAN** Abipón *l-*, Kadiwéu *l:(i)-*, *el:(i)-*, *al-*, Mocoví *l-*, *al-*, Pilagá *l-*, *hal-*, Toba *l-*, *al-*. **MATAGUAYAN** Chorote *t-*, *xi-*, Maká *t(V)-*, Nivaclé *t-*, *ta-*, Wichí *le-* (Viegas Barros 2013b: 315), Wichí (Bermejo) *la-* (Comrie *et al.* 2010).

\*// is absent in OZ and AY, and in free variation with /d/ in CH



**Eruej ute**

End this  
(Ayoreo)



**Shi ele no ma**

Only this no more  
(Chamacoco)

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