

Luca Ciucci

INFLECTIONAL MORPHOLOGY IN THE ZAMUCOAN LANGUAGES



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PRESENTACIÓN

Es una gran satisfacción para el Centro de Estudios Antropológicos de la Universidad Católica de Asunción presentar esta investigación sobre las Lenguas Zamuco. Se llena así un enorme vacío, porque se trata de lenguas muy poco estudiadas. De los zamuco permanecen ahora solo los pueblos Ayoreo y Chamacoco; este último desde hace unas pocas décadas se subdivide en ishí ybytosó (ebitosó) y tomaraho. En el Censo Nacional del 2002 y del 2012 se ha reflejado también esta subdivisión, adscribiéndose a la familia zamuco los tres pueblos: ayoreo, ybytosó y tomaraho.

Los ybytosó y tomaraho están en el Chaco paraguayo sobre la rivera del río Paraguay, en varias comunidades: Puerto Diana, Karcha Bahlut, Puerto Esperanza, Puerto María Elena y Fuerte Olimpo, todas ubicadas frente al pantanal del Brasil. Mientras que los ayoreo se extienden en un territorio mucho más amplio en el Oriente boliviano, en el Chaco Central del Paraguay y en la rivera del río Paraguay frente a Mato Grosso. Hemos visto a Luca Ciucci por varios años recorrer incansable y pacientemente los pueblos zamucos de Paraguay y de Bolivia para realizar la excelente investigación lingüística publicada en este volumen. Las difíciles condiciones climáticas, geográficas y logísticas del Chaco Boreal, añaden a este trabajo de campo un extraordinario valor agregado. Debemos reconocer también la labor lingüística del profesor Pier Marco Bertinetto de la Scuola Normale Superiore di Pisa (Italia), quien desde hace varios años ha optado por investigar en esta remota región de América del Sur. En el presente estudio se compara la antigua y extinta lengua zamuco con las lenguas ayoreo y chamacoco, investigando la morfología infleccional.

Estamos convencidos que las investigaciones lingüísticas, a pesar de parecer desvinculadas de los problemas y dificultades cotidianas de los pueblos de la selva, acosados por la penuria y la escasa alimentación, contribuyen sin duda a fortalecer sus culturas y sus identidades. Si un pueblo es orgulloso de su “ser colectivo” y de sus “profundos saberes”, encontrará el camino para el “quehacer colectivo”. Mejorarán así sus

condiciones de vida aún en el acelerado cambio del ambiente tradicional y en el contacto con otras culturas más fuertes y agresivas.

La Unesco ha colocado las lenguas ayoreo y chamacoco en la lista de las “lenguas en peligro”; de aquí la necesidad de apoyar toda iniciativa que promueva las investigaciones y la revitalización de dichas lenguas.

No queremos olvidar que la lengua ayoreo es hablada también por un grupo de ayoreo que viven en la selva chaqueña sin ningún contacto con otros pobladores, ni siquiera con los mismos ayoreo asentados en aldeas. Son los últimos representantes de la cultura tradicional de la selva que viven en profunda armonía con la naturaleza, con los espíritus, y con el cosmos entero.

José Zanardini

This study is dedicated to my beloved grandparents, who left this world while I was writing the present dissertation.

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I alone am responsible for all mistakes and oversights which the present work may contain.

Abbreviations

ABL	ablative	GPI	greater plural
ACC	accusative	.	inclusive
ADP	adposition	IF	indeterminate form
BF	base form	IGNOR	ignorative
COMP	complementizer	IMP	imperative
CONJ	conjunctive coordinator	IND	indicative
COP	copula	INT	interrogative
DAT	dative	INTERJ	interjection
DET	determiner	INTRANS	intransitive
DIM	diminutive	IRLS	irrealis
DISJ	disjunctive coordinator	(M/F), [M/F]	epicene
DM	discourse marker	LOC	locative
DUR	durative	M	masculine
ELAT	relative	MOD	modal
EMPH	emphatic	MP	masculine plural
EPENT	epenthesis	MS	masculine singular
EPST	epistemicity	NEG	negative
EVID	evidential	NFUT	near future
EXIST	existential	NOM	nominative
F	feminine	NP	noun phrase
FF	full form	NPS	non-possessable
FFP	full-form present	P	plural
FFI	full-form imperfect	PCL	possessive classifier
FP	feminine plural	PE	plural exclusive
FS	feminine singular	PI	plural inclusive
FUT	future	POL	polarity
GEN	genitive	PREP	preposition
GF	generic form	PRES	present
GP	greater plural	PST	past

QUOT	quotative	SP	syntactically
RFL	reflexive		possessable
RFUT	remote future	SUB	subordinator
RLS	realis	TRANS	transitive
S	singular	VA	valency
SN	syntactically	VOC	vocative
	non-possessable	VOL	volitional

Languages

AY, Ay.	Ayoreo	CH, Ch.	Chamacoco
O.Z, O.Z.	Old Zamuco		

Examples:

- 1S-person = first person singular
- 2S-prefix = second person singular prefix
- MS-FF / MS.FF = masculine singular full form

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FIRST PART: INTRODUCTION

§1. The Zamucoan family

According to the traditional classification, the Zamucoan family consists of two living languages, Ayoreo and Chamacoco, spoken in the Chaco Boreal area, in southeastern Bolivia and northwestern Paraguay. The family also includes an extinct language, Old Zamuco, spoken during the 18th century in the Jesuit reduction of San Ignacio de Samucos. Old Zamuco is closer to Ayoreo than to Chamacoco, but Ayoreo does not seem to stem directly from Old Zamuco. The previous tradition, based solely on lexical comparison and ethnographic criteria, has always supported the theory that Ayoreo and Chamacoco belong to the same language family.

This work aims at describing the inflectional morphology of the Zamucoan languages in order to demonstrate their genetic relationship. The Zamucoan languages are poorly described, although a series of scientifically oriented studies have appeared very recently as part of a project at Scuola Normale Superiore di Pisa, which began in 2007 and aims at providing an accurate synchronic and diachronic description of the Zamucoan languages and investigating the language contact with the surrounding languages (see, among others, Bertinetto 2009, Bertinetto & Ciucci 2012, Bertinetto, Ciucci & Pia 2010, Ciucci 2007/08, Ciucci 2009, Ciucci 2010a, 2010b). The need for a scientific description of Ayoreo and Chamacoco is motivated by the fact that both languages are considered endangered by UNESCO (see Crevels & Adelaar 2000/06). For this reason, I hope that the present investigation could contribute to preserve the languages and the

cultural memory of Chamacoco and Ayoreo speakers and to raise awareness about the history of their respective languages.



Figure 1.1

§1.1 The structure of this study

The present study aims at describing the inflectional morphology of Old Zamuco, Ayoreo and Chamacoco. The inflectional morphology of the Zamucoan languages can be divided into:

- (i) Verb morphology (§4, §5, §6, §7, §8)
- (ii) Possessive inflection (§9, §10, §11)
- (iii) Nominal suffixation (§12, §13, §14).

The present chapter (§1) introduces the Zamucoan family (§1.2-1.7), the previous studies (§1.8) and the sources of data used in this investigation (§1.9). Chapter §2 illustrates the phonology of each language and the orthographic conventions used in this work. Chapter §3 gives an overview of free pronouns in the Zamucoan languages. The verb inflection of the Zamucoan languages is discussed in the second part (§4-§8), while the possessive inflection and the nominal inflection of the Zamucoan languages are described in the third part (§9-§11) and the fourth part (§12-§14), respectively. Further data are provided in the appendices. In each part, after the description, the inflectional mechanisms are compared in order to demonstrate the genetic relationship between the Zamucoan languages.

§1.2 Ayoreo

Ayoreo is spoken by about 4500 people according to Fabre (2007a) and Combès (2009).¹ The Ayoreo traditionally lived a nomadic life moving in the Northern Chaco area, in today's Santa Cruz Department (Bolivia), in the Alto Paraguay Department (Paraguay) and the Boquerón Department (Paraguay).² Although some uncontacted Ayoreo groups still live their traditional nomadic life in the Paraguayan Chaco, the vast majority of the Ayoreo have abandoned their nomadic life and live in rural communities built around missions established in their traditional territory. The city of

¹ The Ayoreo speakers are only 3070 according to ETHNOLOGUE.

² For more details, see Fabre (2007a). I am grateful to Alain Fabre and Harald Hammarström, for providing me with some rare publications on the Zamucoan languages.

Santa Cruz de la Sierra (Bolivia) hosts a big Ayoreo community.³

Their endonym *Ayorei* /ajorej/ (MS.FF) means ‘real person’. This term is often used in opposition to *cojñoi* /koɲoj/ (MS.FF),⁴ used as a derogatory term to indicate the outsiders. *Ayoreo* /ajoreo/ is morphologically a MP base form.⁵ There are many other names traditionally used to refer to these people and their language: *Moro*, *Morotoco*, *Samococio*, *Takrat*, *Coroino*, *Potureros*, *Guarañoca*, *Yanaigua*, *Tsirákua*, *Pyêta Yovai*, etc.⁶

§1.3 Chamacoco

Chamacoco is spoken by approximately 2000 people according to DGEEC 2014. Chamacoco is an exonym whose etymology is uncertain. It is also used by the Chamacoco themselves when they speak Spanish.⁷ Their endonym is *Ishiro* /iɕiro/ (often reduced to *Ishir* /iɕir/), MP of *Ishirc* /iɕirtɕ/ (MS.FF) ‘person’, and the name of their language is *Ishir(o) ahwoso* /iɕiro aɣoso/ (lit. ‘the words of the *Ishiro* people’). The Chamacoco mainly live in the Alto Paraguay Department (Paraguay) on the west bank of the River Paraguay, but there are Chamacoco living in the suburbs of Asunción and in Brazil.⁸ The Chamacoco are divided into two

³ About the Ayoreo settlement in Santa Cruz, see Roca Ortiz (2008).

⁴ Its O.Z cognate, *coyoc* /kojok/ (MS.BF), means ‘enemy’, cf. AY *cojñoc* /koɲok/ (MS.BF).

⁵ The MP-FF is *cojñone* /koɲone/.

⁶ See Combès (2009), ETHNOLOGUE and Fabre (2007a).

⁷ About the first attestations of the term Chamacoco and the other names referring to these people, see Fabre (2007a). According to Boggiani, *Chamacoco* derives from *Zamuco* (Boggiani 1894: 17).

⁸ For more information about the Chamacoco communities, see Fabre (2007a).

groups, each with its own dialect: Ebitoso (or Ibitoso) and Tomarãho (also spelled Tomaraho, Tomárãho or Tomaraxo).⁹ The same division was reported by Boggiani (1894: 21-22) at the turn of the 19th century. According to Boggiani, there were two groups, living in a state of continuous warfare against each other: *Chamacoco Mansos* and *Chamacoco Bravos* (1894: 21-22), probably corresponding to the present-day Ibitoso and Tomarãho, respectively. The vast majority of the Chamacoco are Ibitoso, while the Tomarãho only consist of 103 people according to Fabre (2007a). The data reported in this work refer to the *Ibitoso* dialect, spoken by the vast majority of the Chamacoco. The term *Ebitoso* is used in literature, but it is just the Spanish adaptation of the Chamacoco word *Ibitoso*,¹⁰ the proper endonym of these people. It is a compound formed by *ibita* ‘at the corner of; at the bottom of’ (FS.FF) and *oso* (MP) ‘people’, thus meaning ‘the people who live at the corner’. According to the informants, it refers to the geographical location of their communities.¹¹ The Ibitoso refer to their language as *Ibitoso òr ahwoso* or *Ibitos(o) ahwoso* (lit. ‘the words of the Ibitoso’) in order to distinguish it from the Tomarãho dialect. Note that, according to some speakers, the Chamacoco term *Ishiro* (MP), theoretically may also refer to other indigenous people, although it is generally used as an endonym by the

⁹ The Tomarãho dialect is under investigation by Tracey Carro Noya, with whom I established a scientific cooperation. According to her, the inflectional morphology of both dialects is very similar (Carro Noya, personal communication).

¹⁰ Another correct transcription of this word is *Ybytoso*, using the Guaraní grapheme <y> to indicate /i/.

¹¹ The name *Ibitéssa*, which refers to a group of Chamacoco people, is reported in Boggiani (1894: 20).

Chamacoco, especially in opposition to *Maro* ‘Paraguayan people’ (MP).

§1.4 History and first contacts

Although the first ethnonyms which could refer to Zamucoan populations date back to the 16th century,¹² the first stable contact with the Zamucoan people was established by Jesuit missionaries from the Missions of the Chiquitos. In 1724 they founded the reduction of *San Ignacio de Samucos* in order to evangelize the Zamucoan tribes. Owing to intertribal conflicts, the reduction was abandoned in 1745 and today nothing remains, so that its exact location is unknown. When *San Ignacio de Samucos* was abandoned, some groups returned to their previous way of life in the Northern Chaco, while other groups went to live in other Jesuit missions, gradually losing their language and their cultural identity.¹³ Traces of the cultural influence exerted by the Jesuits are still to be found in the Ayoreo (Fischermann 1996), but not in the Chamacoco culture. This suggests that the Chamacoco have probably never been contacted by the Jesuits (Combès 2009). During this period, the presumed dominant language among the Zamucoan people at that time, Old Zamuco (a.k.a. Ancient Zamuco), was studied and described by Jesuit missionaries, especially by the Jesuit father Ignace Chomé, who wrote a remarkable *Arte de la lengua zamuca* (Chomé 1958 [*ante* 1745]), only published in 1958 by Lussagnet. The data in Chomé’s

¹² About the ethnonyms which were probably used for the Zamucoan people, see the accurate investigation by Combès (2010).

¹³ For a detailed account of the history of the Zamucoan people, see Combès (2009).

grammar represent almost all currently available documentation on Old Zamuco.¹⁴

The ethnonym *Xamicocos* is reported for the first time in 1795 (Baldus 1927: 18). The Chamacoco had already been contacted when the Italian explorer, photographer and painter Guido Boggiani described the Chamacoco culture for the first time and began to analyze the language (Boggiani 1894) with the intention to continue his linguistic studies (Boggiani 1894: 80). His death during an expedition in 1902 made all of this impossible.

Almost two hundred years after the short period in *San Ignacio de Samuco*, the Ayoreo were contacted by Evangelical missionaries from the USA at the end of the Forties and began to abandon their traditional way of life. However, the level of integration of the Ayoreo in Bolivian and Paraguayan society is still low.

§1.5 Genetic classification

As one can see in the Swadesh list in Appendix A, Ayoreo and

¹⁴ Two short texts and some words are reported in Hervás y Panduro's linguistic works (see Hervás y Panduro 1784: 31-32, 1786: 91, 1787a: 163-223, 1787b: 101-102, 229-230) and in his correspondence (see Clark 1937). Unless otherwise indicated, all data used for Old Zamuco in the course of this investigation come from Chomé's grammar. Chomé was also the author of an Old Zamuco dictionary, which is still unpublished and inaccessible to scholars. Pier Marco Bertinetto and I recently had the occasion to see the manuscripts of Old Zamuco and Chiquitano kept in La Paz and attributed to Chomé. As of the final revision of the present work, we have obtained from the institution which owns them the permission to publish a critical edition of these manuscripts (including the O.Z dictionary), which I am going to prepare in the years to come, in order to make the interesting data contained in these documents available to scholars.

Chamacoco have a low lexical similarity. According to a calculation by Pier Marco Bertinetto and the present author, Ayoreo and Chamacoco share about 30% of their lexicon and this is confirmed by an independent calculation by Matthew and Rosemary Ulrich (personal communication). As will be shown in the course of this study, despite a low lexical similarity, Ayoreo and Chamacoco have noteworthy morphological similarities which will be discussed in the present work.

Old Zamuco and Ayoreo, insofar as there are data available, are very close to each other and share most of their lexicon. Although Old Zamuco is very similar in some respects to Ayoreo, Chamacoco and Old Zamuco share some characteristics not to be observed in Ayoreo, such as the distinction between realis vs. irrealis in the 3-person (see §7.1) and the preservation of the original singular full-form suffixes (see §14.1). The morphological comparison confirms that Ayoreo, Old Zamuco and Chamacoco derive from a common ancestor, Zamuco or Proto-Zamucoan.¹⁵ It is difficult to establish whether Ayoreo derives from Old Zamuco, as suggested by Kelm (1964), or from a cognate language spoken by the other Zamucoan people who were contacted by the Jesuits. This second hypothesis should be preferred (Figure 1.2). Hervás y Panduro (1784: 31-32) names several dialects spoken by Zamucoan population, such as *caipotorade*, *morotoco* and *ugaroño*. Note,

¹⁵ This investigation provides the morphological basis for a possible reconstruction of Proto-Zamucoan, but it will not be reconstructed in the present study. For the first attempt to reconstruct some aspects of Proto-Zamucoan, see Bertinetto (2011b). An important part of the research project at *Scuola Normale Superiore di Pisa* also concerns diachronic reconstruction, see Ciucci & Bertinetto (2015b), Ciucci & Bertinetto (submitted) and Ciucci & Bertinetto (in preparation).

however, that even among Hervás y Panduro's informants there is no consensus about the number of dialects spoken by Zamucoan tribes (Hervás y Panduro 1784: 31-32). There is no documentation for these dialects, with the exception of some words collected by d'Orbigny (see Lussagnet 1961, 1962) in 1831.¹⁶

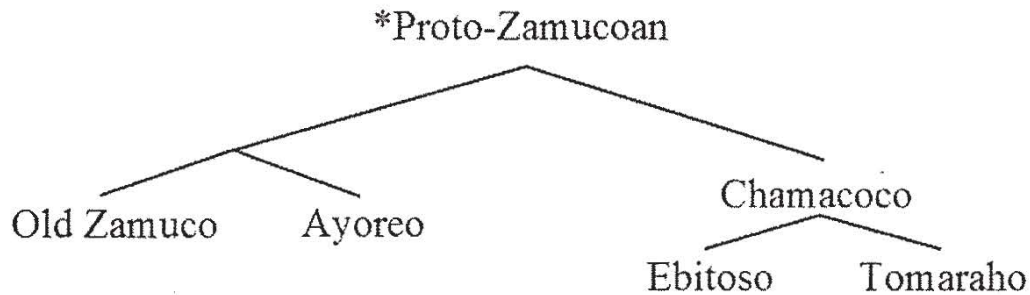


Figure 1.2. Internal classification of Zamucoan

The term *Zamuco* is reported for the first time in a document which refers to the year 1717-1718 (Combès 2009: 13) and could be connected with the term *Samacocis*, attested in the 16th century (Fabre 2007a), but it is not sure that the people referred to as *Samacocis* spoke a Zamucoan language.¹⁷ *Zamuco* probably derives from the Chiquitano word for dog; cf. the Chiquitano *tamocos* /tamokoʃ/ ‘dog’, attested in the 18th century (Adams & Henry 1880: 120) and the modern Chiquitano term *tamacorr* /tamakoʃ/ ‘dog’ (Galeote Tormo 1993: 355) or *tamokóx* /tamokoʃ/ (Sans 2013: 11).¹⁸

¹⁶ It is also possible that Ayoreo derives from the fusion of some dialects spoken at the reduction, but it is impossible to verify this hypothesis owing to the scarcity of data on the dialects spoken by the Zamucoan people.

¹⁷ For a detailed discussion of this word, see Combès (2010: 271-278).

¹⁸ About the etymology of *Zamuco*, see Combès (2009: 13-15). For possible language contact with Chiquitano, see Ciucci (2014b) and Ciucci &

Although the Zamucoan languages show loans and areal features shared with the surrounding languages (such as the parhypotaxis, see Bertinetto & Ciucci 2012), no language family or single language which could have genetic relationships with the Zamucoan family has been identified. According to a glottochronological investigation on lexical similarity among more than 4000 of the world's languages (Müller *et al.* 2010), the Zamucoan languages separated from the other South-American families in a very remote period, so that they are completely isolated from the other South-American languages. The investigation by Müller *et al.* (2010) is based on a list of 40 words referring to the core vocabulary items. The data for Ayoreo were provided by Pier Marco Bertinetto, while the data for Chamacoco were provided by the present author. According to Holman *et al.* (2011: 35), based on the database of Müller *et al.* (2010), Ayoreo and Chamacoco split 2765 years BP.

The long isolation of the Zamucoan populations seems to be confirmed by biologists who analyzed the DNA of South-American populations. According to Demarchi & García Ministro (2008), the Gran Chaco population investigated can be considered genetically homogeneous, but the Ayoreo constitute “a population with unique genetic and morphological patterns, being an outlier not only in relation to the rest of the Gran Chaco populations, but also to any other native group of South America” (Demarchi & García Ministro 2008: 131).¹⁹ However, this last study does not consider the Chamacoco. A study by Rickards *et al.* (1994) on red cell antigens of Native American populations confirms the genetic

Bertinetto (submitted).

¹⁹ For other genetic studies on Ayoreo, see Salzano *et al.* (1978) and Dornelles *et al.* (2004).

proximity between Ayoreo and Chamacoco, but shows that these populations are genetically rather distant from the other Native American populations analyzed.

§1.6 Common characteristics of the Zamucoan languages

This section briefly introduces some common linguistic features of the Zamucoan family. The Zamucoan languages are characterized by vowel harmony, to be found in particular in suffixation. Vowel nasality is phonologically distinctive. The basic word order is SVO, but the Zamucoan languages employ genitive-noun order, associated with the presence of nominal elements working as locative postpositions. This suggests that the prototypical constituent order has probably changed. In the Zamucoan languages there are also prepositions. Prepositions and postpositions may form adpositional locutions.

The Zamucoan languages are fusional languages surrounded by highly agglutinating languages. Traces of agglutination in the Zamucoan languages seem to suggest that the Zamucoan family has been characterized by agglutinating morphology in the past (Bertinetto 2009: 6). Inflectional morphology can be divided into three areas, which will be discussed in the following chapters: (i) Verb morphology, expressing person, number and mood (see chapters §4, §5, §6, §7 and §8); (ii) Noun prefixation, which expresses the possessor of the noun (see chapters §9, §10, §11); (iii) Nominal prefixation, expressing the gender, the number and the form of nouns and adjectives (see chapters §12, §13 and §14). The morphological comparison (see chapters §7, §11 and §14) confirms the genetic relationship between the Zamucoan languages.

The verb systems of the Zamucoan languages lack temporal and

aspectual inflection but may display a realis vs. irrealis distinction. In the terminology used by Bhat (1999) all Zamucoan languages are mood-prominent languages.²⁰ Temporal reference is expressed by adverbial elements. An areal characteristic shared by the Zamucoan family is the existence of an inflection for possessable nouns (see Fabre 2007b).

In the Zamucoan languages there is no morphological difference between the suffixation of adjectives and nouns (both will be referred to as ‘nominals’). In all Zamucoan languages nominals inflect for number (singular and plural), gender (masculine and feminine) and form. The “form” is a peculiar feature of the Zamucoan languages, which distinguish between “base form”, “full form” and “indeterminate form”.²¹ The base form is called so because it very often coincides with the root and, in Ayoreo “is the starting point for any inflectional or derivational operation” (Bertinetto 2009: 17). It is often used as the predicative form of nominals in opposition to the full form. The indeterminate form is generally used for a non-specific referent. The exact use of each form depends on the single language and will be discussed in chapters (§12, §13 and §14).

Both Ayoreo and Chamacoco are characterized by the presence of para-hypotactical structures (Bertinetto & Ciucci 2012). Para-hypotaxis “seems to be an areal feature fairly wide-spread in the Chaco region” (Bertinetto & Ciucci 2012: 107).

²⁰ About mood-prominence in Ayoreo, see Bertinetto (2009: 50). About Chamacoco, see Ciucci (2010c) and Ciucci (2012).

²¹ This terminology has been introduced by Bertinetto (2009) for Ayoreo and will be used for the whole language family in this work. Moraire (1980) and Higham *et al.* (2000) use a different terminology.

§1.7 Sociolinguistic situation

Both Ayoreo and Chamacoco are endangered languages. Theoretically all Ayoreo are fluent in their language. Bilingualism is increasing, especially among men, but the language shows little Spanish influence so far, although some aspects of their cultural identity are gradually disappearing. There is a valuable translation of the New Testament in Ayoreo, NTM (1982). Some textbooks for the Ayoreo schools are available: Barrios *et al.* (1992), Briggs & Moraire (1973), Bogado (2001), Bogado & Barrios (1999), GUIA (2003), Zanardini (1994). There are also bilingual collections of texts: Amarilla-Stanley (2001), QQCB (1972), Riester & Zolezzi (1985), Zanardini & Amarilla (2007). In particular, QQCB (1972) has been a useful source of examples for this work. Other Ayoreo texts are: Chiqueno *et al.* (2000), Etacore *et al.* (2000), Picanerai *et al.* (2001), Szabó & Stierlin (2005), Wilke (1995).

According to Fabre (2007a), most Chamacoco speak their language at home. Many elements of their traditional culture have disappeared and are poorly understood by middle-aged people. The Chamacoco were contacted long before than the Ayoreo and are somewhat more integrated in Paraguayan society. This also has an impact on currently spoken Chamacoco, in which a process of Hispanization has already begun:²² many words of the traditional lexicon can alternate with Spanish loans (which are more frequently used) and some syntactic structures have severely been contaminated by Spanish, so that, although the language will probably not disappear with the next generation of speakers, its

²² At least in the in the Itaitoso dialect, which is referred to in this investigation. The Tomarãho have been contacted far more recently and for this reason their dialect is probably more conservative.

degree of Hispanization will increase and many traditional grammatical and lexical elements will disappear. Moreover, the Chamacoco are exposed to Guaraní, the second national language of Paraguay, and to Portuguese, because they live at the boundary with Brazil, so that not infrequently they have an active competence of Guaraní and/or of Portuguese.

Chamacoco has a transcription system established by Matthew and Rosemary Ulrich and the indigenous community. It is based on Spanish and is known by most Chamacoco speakers and used in Chamacoco schools.²³ The American missionaries Matthew and Rosemary Ulrich spent more than twelve years working with Chamacoco, mainly in order to translate the Bible. A valuable translation of the New Testament is now available in Chamacoco (Ulrich & Ulrich 2000a), along with some parts of the Old Testament (Ulrich & Ulrich 1992a, 1994b). During this period, they translated or edited most Chamacoco texts available, such as stories by indigenous authors (Roy 1990, 1991, Balbuena 1991a, 1991b, 1993, Balbuena & Perez 1993, Barbosa 1993, Gonzales *et al.* 1999), school texts (Ulrich & Ulrich 1990a, 1990b, 1994a, 1995, 1998a, 1999), texts on hygiene (Ulrich & Ulrich 1992b, 1992c, 1992d, 1996) and religious texts (Ulrich & Ulrich 1997, 1998b, Ulrich, Ulrich & Pierce 1994, Ulrich & Ulrich 1998b).²⁴ From a merely linguistic point of view, all these texts are generally correct and are the most accurate texts available for Chamacoco. To these texts one has to add

²³ There is another transcription system established by the Paraguayan anthropologist Guillermo Sequera and used in his works.

²⁴ I am grateful to Matthew and Rosemary Ulrich for providing me with a copy of many publications by various authors on the Chamacoco language and culture.

some unpublished materials by Romero de Martínez *et al.* (n.d.), which proved to be of some usefulness, and by Sequera (n.d.).²⁵ Some internet resources on Zamucoan languages are available. There are interesting videos of Chamacoco and Ayoreo speakers available on YouTube (www.youtube.com) and on the Endangered Language Project (<http://www.endangeredlanguages.com>).

Recordings of religious content are available in Ayoreo (<http://globalrecordings.net/en/langcode/ayo>) and in Chamacoco (<http://globalrecordings.net/en/langcode/ceg>).

§1.8 Previous studies

This section mentions the most significant linguistic studies on the Zamucoan languages. Among the many anthropological studies

²⁵ All previous texts are written in Ibitoso dialect, which will be referred to in the course of this work. Some Tomarãho texts have been published in Sequera (2006) and in Sequera & Ñuhwýt Fretes (2011a). Sequera & Ñuhwýt Fretes (2011b) and Ñuhwýt Fretes, Sequera & Carro Noya (2013) are the first attempts to produce a Tomarãho monolingual dictionary. As already mentioned, Guillermo Sequera has also collected many Ibitoso narratives. I am grateful to him for giving me part of these materials and I hope that these Ibitoso texts (*Relatos ybytoso*) may be published soon. To these texts one should add Ozuna Ortiz (2010). In this work there are interesting materials which absolutely deserve to be published. Unfortunately, from a linguistic point of view this work would need radical revision, because there are many grammatical mistakes and orthographic incoherences, so that in many places the Chamacoco text is hardly (or not) understandable even by the native speakers themselves. In many places it seems to be a bad transcription of spontaneous speech texts. Similar considerations apply to Ozuna Ortiz (2011). By contrast, the other Ibitoso texts mentioned above are always understood by the native speakers.

available on Zamucoan populations, one has to mention: Fischermann (1988), Pia (2006, 2014), and Zanardini (2003) for Ayoreo and Cordeu (1989a,b, 1991a,b,c, 1992a,b, 2008), Escobar (2007), and Sušnik (1957b,c, 1969) for Chamacoco.²⁶ For a complete linguistic and anthropological bibliography on the Zamucoan populations see Fabre (2007a).

Old Zamuco has been described by the Jesuit Ignace Chomé (1958 [ante 1745]). Chomé's grammar has been published by Lussagnet, who also published a vocabulary with data from Chomé and from the unpublished notes by the French naturalist d'Orbigny (Lussagnet 1961, 1962). Data on Old Zamuco can also be found in the works of Hervás y Panduro (1784: 31-32, 1786: 91, 1787a: 30, 163-223, 1787b: 101-102, 229-230).

Kelm (1964) is a very detailed grammatical and lexical comparison between Old Zamuco and Ayoreo. It is a valuable work which can be used as initial reference. On the Zamucoan family see also Loukotka (1931) and Montaña Aragón (1989: 227-288, 313-333).

For Ayoreo some grammars are available: Johnson (1955), COLEGIO (1971), Morarie (1980).²⁷ As Morarie (1980) says, her work is based on Johnson (1955), which she has simplified and updated. These grammars are useful and respond to the practical need of someone who has to learn the language, but are not scientifically oriented grammars. There are also Ayoreo dictionaries available: Barrios *et al.* (1995), Higham *et al.* (2000), SIM (1958, 1967). Both Barrios *et al.* (1995) and Higham *et al.* (2000) are

²⁶ I am grateful to Edgardo Cordeu for providing me with many of his works. For a complete list of Cordeu's publications on the Chamacoco, see Fabre (2007b).

²⁷ It was not possible to obtain a copy of Johnson (1955) and SIM (1958, 1967).

useful instruments. Barrios *et al.* (1995) is a valuable Spanish-Ayoreo and Ayoreo-Spanish dictionary. Higham *et al.* (2000) is an Ayoreo-English dictionary in three volumes. The third volume contains a shorter English-Ayoreo section and some appendices with morphological data. The Ayoreo-English section and the appendices are very rich in examples and in morphological information. For this reason, it is an indispensable reference and its data have been used for the present work. Other studies on Ayoreo are Briggs (1973) and Adelaar (2004) (probably inspired by Briggs 1973).

The first linguistic studies on Chamacoco are due to Boggiani, who wrote the *Dizionario dell'idioma Ciamacoco* (1894: 98-123).²⁸ The last studies by Boggiani were published posthumous by Loukotka (Boggiani 1929, Loukotka 1941). Other contributions on Chamacoco are: Baldus (1927, 1932), Belaieff (1936, 1937). These studies are marginally useful.

Branislava Sušnik was an important anthropologist who also published linguistic investigations on Chamacoco (Sušnik 1957a) and on Ayoreo (Sušnik 1963). She also published a Chamacoco lexicon (Sušnik 1970), a comparison between the Zamucoan languages (Sušnik 1972) and a general study on Chaco languages (Sušnik 1986/87), which includes the Zamucoan family. Sušnik's linguistic works are of very limited usefulness, because the terminology and the linguistic categories used are obscure and the phonetic transcription is idiosyncratic and possibly incoherent, so that the reader first has to understand the language independently²⁹ and then can try to reinterpret Sušnik's data, which are sometimes

²⁸ On Boggiani and his studies, see Contreras Roqué (2009) and Leigh (1997).

²⁹ In this sense, see the short review to Sušnik (1963) by Bright (1964: 402).

very interesting and, especially in the case of Chamacoco, show some archaic characteristics which are impossible or very hard to observe in the currently spoken language.

The American missionaries Matthew Ulrich and Rosemary Ulrich made interesting studies parallel to their Bible translation: Ulrich & Ulrich (1989a, 1989b, 1990c, 2000b). Ulrich & Ulrich (1989b) is a valuable description of Chamacoco phonology. They also began to write a Chamacoco grammar, but the project was abandoned, so that Ulrich & Ulrich (1990c) is little more than a collection of useful examples for a grammatical study. Ulrich & Ulrich (2000b) is a valuable dictionary of Chamacoco. It offers data which are usually reliable. Unfortunately nominal paradigms are not always complete and nominal lemmatization is not always coherent.

Sequera (2009) is a mere collection of Chamacoco verb paradigms. These data have been collected independently from Ulrich & Ulrich (2000b). The data are generally correct,³⁰ but I have only used this work for some sporadic comparisons, because most of these data were already available in Ulrich & Ulrich (2000b). A Chamacoco online trilingual dictionary has recently appeared (Anderson & Harrison 2010-2013).³¹

³⁰ The data are generally correct, although the author presents eight tenses for each verb paradigm of a tenseless language, that is, he repeats the same verb paradigm eight times adding a different adverbial particle expressing temporal reference.

³¹ The talking dictionary by Anderson & Harrison (2010-2013) is a mere collection of recorded Chamacoco words (or short parts of sentences often regarded as single lexical items) which one can hear on the site. Surprisingly, the Chamacoco dictionary by Ulrich & Ulrich (2000b), easily available in ETHNOLOGUE (<http://www.ethnologue.com>), is not cited. As one can see in some examples from the presentation of the dictionary

Some studies on the Zamucoan languages have recently appeared as part of a documentation project which started at *Scuola Normale Superiore di Pisa* in 2007: Bertinetto (2009, 2010, 2011a, 2011b, 2014), Bertinetto & Ciucci (2012, 2015), Bertinetto, Ciucci & Pia (2010), Bertinetto, Ricci & Na (2010), Ciucci (2007/08a, 2007/08b, 2009, 2010a, 2010b). This documentation project aims at producing a fully-fledged grammar of Ayoreo and Chamacoco. In this sense, an anticipation is represented by Bertinetto (2009), which is a grammatical sketch of Ayoreo. Ciucci (2007/08a) and Ciucci (2009) are a description of Ayoreo and Chamacoco verb inflection, respectively. Ayoreo and Chamacoco possessive inflection was first described in Ciucci (2010a) and Ciucci (2010b). Ciucci (2013b) is a lexicographical contribution aiming at expanding and improving Ulrich & Ulrich's (2000b) dictionary. In the present work, the chapters on verb inflection and possessive inflection will be largely based on these contributions.³²

(<http://www.livingtongues.org/hotspots/hotspot.SSA.chamacocoYshyr.html>, last consulted 27 October 2015), there are frequent mistakes in the phonetic transcriptions, which “are to be regarded as tentative” (Harrison, personal communication). Besides, the translations are often incorrect and there are no lemmatization criteria. These problems could be solved in many cases with Ulrich & Ulrich (2000b) or with Ciucci (2009, 2011b, a.o.), free downloadable online, but also not mentioned (<http://chamacoco.swarthmore.edu/about>, last consulted 27 October 2015). The project of a Chamacoco trilingual dictionary is interesting, but the necessary language knowledge based on the available literature and on systematic fieldwork should not be neglected.

³² Pier Marco Bertinetto and the present author have also made a web page with basic information on the Zamucoan languages for the site *Sorosoro* (<http://www.sorosoro.org/en/Zamucoan-languages>, last updated in 2010). Among the contributions on Zamucoan which have recently appeared, for reasons of completeness one also has to mention Ciucci (2013c, 2014a) and

In the present study, I will not reconstruct the morphology of Proto-Zamucoan. The reader interested in the reconstruction of the proto-language can consult Ciucci & Bertinetto (2015b) for verb inflection, and Ciucci & Bertinetto (submitted) for possessive inflection. A third paper will address nominal suffixation (Ciucci & Bertinetto, in preparation). The first results of these studies have appeared in Ciucci & Bertinetto (2015a) and Ciucci (2015).

Finally, although the Zamucoan languages show no genetic relationship with any other language family, recent research has identified in Zamucoan remarkable traces of contact with the Mataguayan and Guaykuruan families (Ciucci 2014b, Ciucci & Bertinetto, submitted).³³

§1.9 Data used in this study

The source of the sentences cited in this work will be indicated after every single example, while the sources of the morphological data used in this work will only be mentioned in this section and will not be cited any more in the course of this work, unless the data used come from a different source.

The data used for Old Zamuco come from Chomé's grammar *Arte de la lengua zamuca* (Chomé 1958 [ante 1745]).

The data used for Ayoreo mostly come from Higham *et al.* (2000), integrated with data from Pier Marco Bertinetto's fieldwork (especially in the chapters on verb inflection and possessive

Durante (2014), which are only marginally useful.

³³ This investigation was funded by a Young Researcher Grant from *Scuola Normale Superiore di Pisa* for the project "Language contact in the Chaco linguistic area: morphological borrowing in and from the Zamucoan family", of which I was the principal investigator.

inflection) and with some data collected during my fieldwork. Also most lexical translations of Ayoreo verbs and nominals, as well as notes on the constructions of Ayoreo verbs, come from Higham *et al.* (2000).

Most data used in the chapter on Chamacoco verb inflection come from Ulrich & Ulrich (2000b). This work provides many complete verb paradigms and the data are generally correct. During my fieldwork I checked the data on verb inflection collected by Ulrich & Ulrich (2000b) and added new data. The data used for Chamacoco possessive and nominal suffixation come from my fieldwork. Ulrich & Ulrich (2000b) has represented a useful starting point for the fieldwork, but the nominal paradigms are very often incomplete, so that it was necessary to collect new data. New paradigms have so been added to my corpus of data and used for my investigation. A part of these data have been reported in the Chamacoco examples used in the present work.

I have carried out two fieldworks. In mid-July 2009 I worked with Ayoreo in Bolivia, under the direction of Pier Marco Bertinetto. In that occasion we worked at the Ayoreo organization CANOB (Central Ayoreo Nativa del Oriente Boliviano) in Santa Cruz de la Sierra. In mid-August 2009 I moved to Paraguay, where I worked with Chamacoco until the second half of October 2009. I came back to Paraguay at the beginning of July 2011 and I worked with Chamacoco until the end of August 2011. In August 2014 I came back to Paraguay, where I worked with Ayoreo (in Colonia Peralta) and with Chamacoco. On this occasion, apart from collecting new data, I also checked the results of my previous studies. During my three fieldworks with Chamacoco I had the occasion to live in a Chamacoco family in Mariano Roque Alonso.

This allowed me to observe the language in the everyday context after the daily fieldwork.³⁴ My main informants were Francisco García, Laura Báez, Domingo Calonga and Roberto García.³⁵

§1.10 Conclusions

This first part has introduced the Zamucoan family. Ayoreo, Chamacoco and Old Zamuco are traditionally considered part of the same language family. The genetic relationship between Ayoreo and Old Zamuco was demonstrated by Kelm (1964), but despite the attempt by Sušnik (1972), there is no scientific demonstration of the genetic relationship between Ayoreo, Old Zamuco and Chamacoco.

³⁴ About my fieldwork, see Ciucci (2011, 2013b).

³⁵ Francisco García and Domingo Calonga are respected Chamacoco leaders. Apart from my main informant, I would like to express my gratitude to the other Chamacoco people who helped me during my fieldwork, such as Gerson García. I am grateful to María Romero de Martínez, director of the Escuela Básica Lorenzo Ferreira Frič (Puerto Esperanza), for providing me with a collection of school texts used in Chamacoco schools. I am also grateful to the indigenous leader Bruno Barras for encouraging me to continue my investigation on Chamacoco.