



Inflectional morphology in the Zamucoan languages

Luca Ciucci

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Luca Ciucci

Inflectional morphology in the Zamucoan languages

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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	elative	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

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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: INTRODUCTION¹

§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,

¹ This is a preprint version of *Inflectional morphology in the Zamucoan languages*, published by CEADUC (Centro de Estudios Antropológicos de la Universidad Católica). Interested readers are advised to consult the published version of this work: Ciucci, Luca 2016. *Inflectional morphology in the Zamucoan languages*. Asunción: CEADUC.

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).² 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).³ Although some

² The Ayoreo speakers are only 3070 according to ETHNOLOGUE.

³ 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.

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 Santa Cruz de la Sierra (Bolivia) hosts a big Ayoreo community.⁴

Their endonym *Ayorei* /ajorej/ (MS.FF) means ‘real person’. This term is often used in opposition to *cojñoi* /koɲoj/ (MS.FF),⁵ used as a derogatory term to indicate the outsiders. *Ayoreo* /ajoreo/ is morphologically a MP base form.⁶ There are many other names traditionally used to refer to these people and their language: *Moro*, *Morotoco*, *Samococio*, *Takrat*, *Coroino*, *Potureros*, *Guarañoca*, *Yanaigua*, *Tsirákua*, *Pyeta Yovai*, etc.⁷

§1.3 Chamacoco

Chamacoco is spoken by approximately 2000 people according to DGECC 2014. Chamacoco is an exonym whose etymology is uncertain. It is also used by the Chamacoco themselves when they speak Spanish.⁸ 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 aɰoso/ (lit. ‘the words of the *Ishiro* people’). The Chamacoco mainly live in the Alto

⁴ About the Ayoreo settlement in Santa Cruz, see Roca Ortiz (2008).

⁵ Its O.Z cognate, *coyoc* /kojok/ (MS.BF), means ‘enemy’, cf. AY *cojñoc* /koɲok/ (MS.BF).

⁶ The MP-FF is *cojñone* /koɲone/.

⁷ See Combès (2009), ETHNOLOGUE and Fabre (2007a).

⁸ 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).

Paraguay Department (Paraguay) on the west bank of the River Paraguay, but there are Chamacoco living in the suburbs of Asunción and in Brazil.⁹ The Chamacoco are divided into two groups, each with its own dialect: Ebitoso (or Ibitoso) and Tomarãho (also spelled Tomaraho, Tomárãho or Tomaraxo).¹⁰ 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*,¹¹ 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.¹² 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

⁹ For more information about the Chamacoco communities, see Fabre (2007a).

¹⁰ 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).

¹¹ Another correct transcription of this word is *Ybytoso*, using the Guaraní grapheme <y> to indicate /i/.

¹² The name *Ibitéssa*, which refers to a group of Chamacoco people, is reported in Boggiani (1894: 20).

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 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,¹³ 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.¹⁴ 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,

¹³ About the ethnonyms which were probably used for the Zamucoan people, see the accurate investigation by Combès (2010).

¹⁴ For a detailed account of the history of the Zamucoan people, see Combès (2009).

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 grammar represent almost all currently available documentation on Old Zamuco.¹⁵

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.

¹⁵ 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 unaccessible 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.

§1.5 Genetic classification

As one can see in the Swadesh list in Appendix A, Ayoreo and 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.¹⁶ 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.

¹⁶ 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).

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, 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 1831.¹⁷

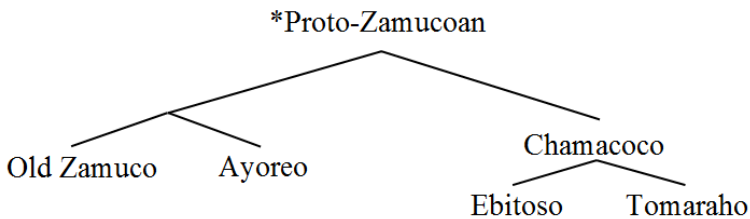


Figure 1.2. Internal classification of Zamucoan

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.¹⁸ *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/

¹⁷ 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.

¹⁸ For a detailed discussion of this word, see Combès (2010: 271-278).

(Sans 2013: 11).¹⁹

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).²⁰ However, this last study does not consider

¹⁹ About the etymology of *Zamuco*, see Combès (2009: 13-15). For possible language contact with Chiquitano, see Ciucci (2014b) and Ciucci & Bertinetto (submitted).

²⁰ For other genetic studies on Ayoreo, see Salzano *et al.* (1978) and Dornelles

the Chamacoco. A study by Rickards *et al.* (1994) on red cell antigens of Native American populations confirms the genetic 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 nasal 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);

et al. (2004).

(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.²¹ 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”.²² 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).

²¹ About mood-prominence in Ayoreo, see Bertinetto (2009: 50). About Chamacoco, see Ciucci (2010c) and Ciucci (2012).

²² 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.

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

§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:²³ many words of the traditional

²³ At least in the in the Ibitoso dialect, which is referred to in this investigation.

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 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.²⁴ 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 &

The Tomarãho have been contacted far more recently and for this reason their dialect is probably more conservative.

²⁴ There is another transcription system established by the Paraguayan anthropologist Guillermo Sequera and used in his works.

Ulrich 1998b).²⁵ 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 some unpublished materials by Romero de Martínez *et al.* (n.d.), which proved to be of some usefulness, and by Sequera (n.d.).²⁶ 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

²⁵ 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.

²⁶ 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 ybytosos*) 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.

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 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.²⁷ 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).²⁸ As Morarie (1980) says, her

²⁷ 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).

²⁸ It was not possible to obtain a copy of Johnson (1955) and SIM (1958, 1967).

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 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).²⁹ The last studies by Boggiani were published posthumously 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

²⁹ On Boggiani and his studies, see Contreras Roqué (2009) and Leigheb (1997).

(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 independently³⁰ and then can try to reinterpret Sušnik's data, which are sometimes 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,³¹ but I have only used this work for some sporadic comparisons, because most of these data were already available in Ulrich & Ulrich

³⁰ In this sense, see the short review to Sušnik (1963) by Bright (1964: 402).

³¹ 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.

(2000b). A Chamacoco online trilingual dictionary has recently appeared (Anderson & Harrison 2010-2013).³²

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

³² 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 (<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.

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.³³

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).³⁴

§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

³³ 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 Durante (2014), which are only marginally useful.

³⁴ 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.

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 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.³⁵ My main informants were Francisco García, Laura Báez, Domingo Calonga and Roberto García.³⁶

§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.

³⁵ About my fieldwork, see Ciucci (2011, 2013b).

³⁶ 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.

§2 Phonology and orthography in the Zamucoan languages

The next sections briefly introduce the phonology of the Zamucoan languages and the most commonly used orthographic conventions. The transcription systems established by missionaries are the most popular among the speakers. The following sections discuss the phonology of Ayoreo (§2.1), Old Zamuco (§2.2) and Chamacoco (§2.3). Section (§2.4) presents the transcription principles used in this work.

§2.1 Ayoreo phonology and orthography

Ayoreo has five vowels /a e i o u/, to which the corresponding nasal vowels have to be added. Vowel nasality is a suprasegmental feature.³⁷ The consonantal phonemes of Ayoreo are provided in Table 2.1.³⁸ The orthographic transcription of each phoneme is indicated in angled brackets.

An interesting characteristic of the AY consonantal system is represented by the series of voiceless nasals.³⁹

³⁷ In both Ayoreo and Old Zamuco the oral vowels are rendered, of course, with <a e i o u>.

³⁸ The present section only aims at introducing the phonology and the orthographic conventions of Ayoreo in order to make the description of AY morphology understandable. For a detailed discussion of AY phonology, see Bertinetto (2009: 7-12), on which this section is based. On the orthography of Ayoreo, see Bertinetto (2009: 14).

³⁹ For a study on the acoustic properties of AY voiceless nasals, see Bertinetto, Ricci & Na (2010).

The phonematic status of the glottal stop is not completely clear. According to Kelm (1964: 467-468), Morarie (1980: 42, 58) and Higham *et al.* (2000: 2), there is a glottal stop which is phonemic word-finally and is only pronounced when it occurs in absolute final position.⁴⁰ According to data from Pier Marco Bertinetto's and my fieldwork, no such a consonant is audible word-finally. Therefore, I shall not indicate it in the transcriptions (see §12).

	labial	dental	alveolo- palatal	palatal	velar	glottal
voiceless stop	p <p>	t <t>			k <c, qu>	
voiced stop	^(m) b 	⁽ⁿ⁾ d <d>			^(ŋ) g <gu, g>	
affricate			ʧ <ch>			
fricative		s <s>				h <j>
nasal	m <m>	n <n>		ɲ <ñ>	ŋ <ng>	
voiceless nasal	ɱ <jm>	ɳ <jn>		ɲ̥ <jñ>		
approximant	w <u>	ɹ <r>		j <y, i>		

Table 2.1. Ayoreo consonant chart (adapted from Bertinetto 2009: 10)

One wonders whether the stress is contrastive in Ayoreo. According to Moraire (1980: 1) “the accent falls on the last syllable, except when the word ends in *e*. In this case the accent falls on the next to the last syllable”. In the orthographic system

⁴⁰ “Glottals are heard under certain conditions, but when another word follows immediately, though inherently here, the glottal is not pronounced” (Higham *et al.* 2000: 2).

used by Moraire (1980) and Higham *et al.* (2000), the accent is indicated when there are exceptions to this rule. In the course of the present work, when possible, the accents will be indicated as they are in Higham *et al.* (2000). According to Bertinetto (2009: 11), one finds possible minimal pairs distinguished by the accent, which generally appears on the last syllable, but the exact location of the accent “seems to vary from speaker to speaker and possibly among the different productions of one and the same speaker”⁴¹ (Bertinetto 2009: 11).

In all Zamucoan languages the preferred syllable structure is CV. The syllable structure CVC is to be observed word-finally when the last consonant is /j/, /k/, /p/, /s/ or /t/. In this case, the default vocoid [e] can be added to re-create the preferred syllable structure. This vowel is obligatorily added when the word ends in /ɪ/, which cannot occur word-finally (Bertinetto 2009: 11). /j/ can correspond to [j] or to [ɟ]. It is the only phoneme which can occur in coda position both word-internally and word-finally (Bertinetto 2009: 11). In this case it is rendered with <i>.

As one can see in Table 2.1, the AY orthography is based on the Spanish conventions. In particular /g/ and /k/ are rendered with <gu> and <qu> before /e/ and /i/. Consequently, /u/ is rendered with <ú> or <ü> when it occurs in /gui/ or /kui/. Vowel nasality is only indicated when the vowel is stressed in a syllable which has no nasal consonant. Vowel nasality is rendered with <~> or with <^>, which is easier to type.

⁴¹ I also had occasion to note it during my fieldwork with Ayoreo in July-August 2009 (see Ciucci 2010a, note 3).

§2.2 Old Zamuco phonology and orthography

Old Zamuco is an extinct language and there are no recordings available. Most data come from the grammatical description by Chomé (1958 [*ante* 1745]), in which little attention is paid to phonetics and phonology. Consequently, only little or no information on some aspects of O.Z phonology is available.⁴² This section tries to reconstruct the phonological system, only concentrating on those features which can be described with some degree of certainty.⁴³

The phonology of Old Zamuco is very similar to the phonology of Ayoreo. Old Zamuco has the same vowels of Ayoreo (/a e i o u/) and, as in Ayoreo, vowel nasality is a distinctive feature. The consonantal phonemes of Old Zamuco are provided in Table 2.2.

The preferred syllabic structure is CV and, as in Ayoreo, the default vowel [e] can be added to re-create the preferred syllable structure when the word ends in a consonant.

As one can see in Table 2.2, the orthography of Old Zamuco is based on Spanish. <c> stands for /s/ before a front vowel. /j/ is often rendered with <i> in coda position, and <u> can stand for both /u/ and /w/. Vowel nasality is indicated by <^>. /k/ and /g/ are rendered with the digraphs <qu> and <gu>, respectively, when they are followed by /e/ or /i/. /u/ can be represented as <ü> in order to distinguish the vowel /u/ (or the semivowel /w/) from the diacritic in the sequences of velar stop and /e/ or /i/. Since <gu> or <gü> can also stand for /w/, ambiguity between /g/ and /w/ originates, but in

⁴² For instance, nothing is known about the accent and only conjectures about the presence of devoiced consonants are possible.

⁴³ The observations on O.Z phonetics by Kelm (1964: 460-465) have proved useful to write this section.

many cases comparison with Ayoreo and Chamacoco helps to solve it. Finally, although no modern Zamucoan language has geminated consonants, Chomé often uses <dd> and <nn>, possibly to refer to /d/ and /n/, respectively. The reason for this is not clear and there are inconsistencies concerning the use of such orthographic gemination. Since, however, <dd> and <nn> mostly occur at the beginning of nominal suffixes, one hypothesis is that Chomé employed geminated consonants to indicate a morphological boundary.

	labial	dental	alveolo- palatal	palatal	velar	glottal
voiceless stop	p <p>	t <t>			k <c, qu>	
voiced stop	b 	d <d, dd>			g <gu, g>	
affricate			ʈɕ <ch>			
fricative		s <c, s, z>				h <h>
nasal	m <m>	n <n, nn>		ɲ <ñ>		
approximant	w <u, ü, gu, gü>	ɹ <r>		j <y, i>		

Table 2.2. Old Zamuco consonant chart

§2.3 Chamacoco phonology and orthography⁴⁴

Chamacoco has six short vowels /a e i o u i:/ and six long vowels /a: e: o: i: u: i:/ as reported in the Table 2.3. /i:/ can be the result of vowel reduction. The corresponding transcription is indicated in angled brackets. Vowel nasality is phonemic, but in this case, owing to the process of nasal harmony documented in all Zamucoan languages, vowel nasality has to be regarded as a suprasegmental phoneme.

⁴⁴ The present section on the phonology and orthography of Chamacoco is largely based on the studies by Ulrich & Ulrich (1989a, b), who carefully described the phonetics and phonology of Chamacoco, in order to establish—in agreement with the indigenous community—a transcription system for the language. Their conclusive study on this issue, Ulrich & Ulrich (1989b), could be considered the only scientifically oriented study existing on Chamacoco before Ciucci (2009, 2010b) even though some symbols used in their work are not clear, probably owing to the understandable keyboard limitations in 1989. In this short phonological description of the language, I will accept most results of Ulrich & Ulrich (1989b), although my conclusions differ in some points, in particular with regard to the phonological role of glottal sounds, the postalveolar consonants and the voiceless dental approximant. I greatly acknowledge the help of Emanuele Saiu for his many useful hints during the analysis of my recordings.

	front	centre	back
high	/i/ <i> /i:/ <ii>	/ɨ/ <ɨ> /ɨ:/ <ɨɨ>	/u/ <u> /u:/ <uu>
mid	/e/ <e> /e:/ <ee>		/o/ <o> /o:/ <oo>
low		/a/ <a> /a:/ <aa>	

Table 2.3. Chamacoco vowel chart

The consonantal phonemes of Chamacoco are reported in the following Table.

	labial	dental	retroflex	alveolo- palatal	palatal	velar	glottal
voiceless stop	p <p>	t <t>				k <k>	
voiced stop	b 	d <d>					
affricate		ts <ts, s>		tʃ <ch, c>			
fricative		s <s>	ʒ <z>	ʃ <sh>		x <j>	h <h>
nasal	m <m>	n <n>					
voiceless nasal	ɱ <hm>	ɳ <hn>					
approximant	w <w>	ɹ <r>	ɻ ⁴⁵ <r, rz>		j <y>		
voiceless approximant	w̥ <hw>	ɹ̥ <rh>			j̥ <hy>		
lateral approximant		l <l> ɭ <hl>					

Table 2.4. Chamacoco consonant chart

Chamacoco has no phonological distinction between long and short consonants. There are, however, phonetically long consonants which are not contrastive, because they are the sequence of two identical abutting consonants.

⁴⁵ This sound should not be considered a phoneme, but will be indicated in the transcription used in this work.

/p/ usually corresponds to [p]. It can also be realized as [p^h] in word-initial or word-internal position, or as [p^ʔ] in word-final position.

/t/ usually corresponds to [t]. It can also be realized as [t^h] in word-initial or word-internal position, or as [t^ʔ] in word-final position.

/k/ usually corresponds to [k], but is often realized as [g] or [ɣ] in word-internal position. Its allophone [k^ʔ] can occur in word-final position.⁴⁶

/b/ and /d/ correspond to [b] and [d], respectively, and cannot occur in word-final position. The phonological opposition between /d/ and /l/ is neutralized in word-initial position, where [d] and [l] alternate.

/ts/ usually corresponds to [ts], but is sometimes realized as [z] in word-internal position. It cannot occur word-finally. In the orthography, it is represented with <s> word-initially and with <ts> word-internally. In this case, the orthography may result ambiguous, because the grapheme <s> can represent both /ts/ and /s/ word-initially.⁴⁷

⁴⁶ One may wonder whether [k] followed by [w] should be considered a phoneme (Ulrich & Ulrich 1989b: 5, 21). In fact, according to Ulrich & Ulrich (*ibid.*), [k] and [w] form a phonological unit [k^w] in many cases. In this work, both [kw] and [k^w] will be regarded as sequences of [k] and [w].

⁴⁷ According to Rosemary Ulrich (personal communication), the speakers decided to transcribe both /s/ and /ts/ with <s> word-initially and the missionaries accepted this ambiguity to respect the decisions of the indigenous community. Note that /s/ is rare word-initially in Chamacoco. In the present work, word-initial <s> represents the phoneme /ts/, unless otherwise indicated. This is one of the few incoherences of the orthographic system. Also the word for ‘God’ has a transcription, *Porrosht*, which does not

/tɕ/ usually corresponds to [tɕ]. It can be realized as [tʰ] in word-final position. /tɕ/ is transcribed with the digraph <ch>, but is transcribed with <c> when it follows /ɹ/ in word-final position. When /tɕ/ follows /ɹ/ in intervocalic position, /tɕ/ is realized as [ɹ] and is transcribed with <rz> or <z> (see §13.2.10).

/h/ and /x/ have the allophones [h̥] and [x̥], respectively. They do not occur word-finally. The modal marker *tyenij* /'tjenix/ is an exception.

As in Ayoreo, in Chamacoco there are voiceless nasals (/m̥/ and n̥), corresponding to the nasals /m/ and /n/.

In Chamacoco there are four voiced (/l/, /j/, /ɹ/, /w/) and four voiceless approximants (/l̥/, /j̥/, /ɹ̥/, /w̥/).⁴⁸

/ɹ/ cannot occur word-initially, while /l/ can only occur word-finally when the last vowel drops.

/l̥/, /j̥/ and /w̥/ can only occur word-internally, while /ɹ̥/ occurs both word-internally and word-finally.⁴⁹

correspond to its pronunciation [po:ɹ̥tɕet] and would be better transcribed as *Poorzosht*, but it has been transcribed as *Porrosht* according to the will of the indigenous community (Rosemary Ulrich, personal communication). It is possible that the CH people were already accustomed to write this word with a transcription used by the first missionaries and that it has been preserved.

⁴⁸ As in Ayoreo (Bertinetto 2009: 9), from a merely phonetic point of view one can regard CH voiceless sounds as pre-devoiced sounds. The voiceless approximants have probably been originated by the merger of the voiced approximants (/l/, /j/, /ɹ/, /w/) with the glottal approximant [h̥], although these consonants are now to regard as a phonological unit. This process is still to be found in the paradigm of some verbs (§5.4.16). /j̥/ and /j/ can alternate in some verbal paradigms (§5.4.14).

⁴⁹ The voiceless approximant /ɹ̥/ is considered a phoneme in Ulrich & Ulrich (1989a: 4), in contrast with Ulrich & Ulrich (1989b). /ɹ̥/ is generally realized as [ɹ̥], but sometimes is realized as [ɹ^h]. However, it should be considered a

/ɹ/ has two allophones: [ɹ], which occurs before /tɕ/, and [ɹ̥], which occurs elsewhere (see ex. 1).

/j/ can be realized as [j] or [ɟ]. It also has an allophone [ɲ] which occurs in nasal-harmony contexts.

One may wonder whether [z] can be considered a phoneme, because, at least in some cases, it is an allophone of /tɕ/. When /tɕ/ follows /ɹ/ some interactions take place. When /tɕ/ follows /ɹ/ word-finally, /ɹ/ is usually realized as [ɹ̥] and /tɕ/ is usually realized as [ʂ] (1). In this case /tɕ/ is transcribed with <c>.⁵⁰

(1) *ishirc* /i'ɕiɹtɕ/ [i'ɕiɹʂ] 'Chamacoco' (MS.FF)

When /tɕ/ follows /ɹ/ in intervocalic context,⁵¹ there is reciprocal assimilation, so that the two consonants turn into [ɹɹ̥] (2-3). In this context the sequence /ɹtɕ/, phonetically [ɹɹ̥], is transcribed with <rz> or <rrz>, which sometimes alternate in the same word. However, one can identify the criterion used in CH texts. <rrza> is used word-finally in feminine nominals with the feminine full-form morpheme /tɕa/ (realized as [ɹa]) after a root ending in /ɹ/, probably in order to better identify such a morpheme in words ending in -[ɹa]. <rz> is used elsewhere.

(2) *timcharrza* /tim'tɕaɹtɕa/ [tim'tɕaɹa] 'woman' (FS.FF)

(3) *berzo* /'be.ɹtɕo/ ['beɹ̥o] 'high, long' (MP)

phonological unit.

⁵⁰ As will be shown (§13.1.12), this occurs very frequently in the morphology of masculine nominals, because there is a group of nominals, such as *ishirc* /i'ɕiɹtɕ/, which end in /ɹtɕ/ <rc>.

⁵¹ Excluding the case in which the sequence of /ɹtɕ/ is followed by /i/, often inserted in order to avoid the sequence of two consonants.

When the sequence /tɛ/ is followed by a consonant, /ɪ/ is realized as [ɪ] and /tɛ/ as [z], as one can see in (4), which has the same root as in (3). In this context /tɛ/ is rendered with <z>. In (5) and (6) /tɛ/ is realized as [ɪ], which turns into [z] if followed by another consonant, as in (6-7) and (9), where some adverbial clitics indicating temporal reference are added. Note that in (9), even though /tɛ/ is in intervocalic position, the phonetic realization of /tɛ/ is [z] (rather than [ɪ]), probably because it is followed by /i/, which is often an epenthetic vowel, as in this case, and can drop.

- (4) berzta /ber.tɛta/ ['bɛ.ɪzta] 'high, long' (FS.FF)
- (5) puurc /pu.ɪtɛ/ ['pu.ɪʃ] 'shadow' (MS.FF)
- (6) wirɔ /wi.ɪtɛ/ ['wi.ɪʃ] 'coast, perimeter' (MS.FF)
- (7) puurz=kite /pu.ɪtɛkite/ ['pu.ɪzkite] 'shadow' (shadow.MS.FF=PST)
- (8) puurz=hna /pu.ɪtɛɲa/ ['pu.ɪzɲa] 'shadow' (shadow.MS.FF=PST)
- (9) wirz-i=ke /wi.ɪtɛike/ ['wi.ɪzike] 'coast, perimeter' (coast.MS.FF-EPENT=PST)

These rules can be observed in most words, but they are not rigid. In particular, in some words the phonetic realization of /tɛ/ may vary between [ɪ] and [z], even among the different productions of the same speaker (10-11).

- (10) berzak /ber.tɛak/ [bɛɪˈak] ~ [bɛɪˈzak] 'high, long' (FS.FF)
- (11) berze /ber.tɛe/ [bɛɪˈe] ~ [bɛɪˈze] 'high, long' (FP)

In (12) the sequence /tɛ/ is in a word-internal position followed by /i/, which can drop. The phonetic realization of /tɛ/ is [z]. In the previous examples, it has been seen that /tɛ/ has the allophones [z] or [ɪ] in word-internal position, but in (12) final /t/ can drop and [z] can occur word-finally. In (12) the origin of [z] is clear and, of course, it is not a phoneme. However, there are other words, such

as *serz* ['tʂɛɹʑ] (13), for which there is no evidence to say that the presence of [ʑ] is due to the dropping of a final consonant. Therefore, in (13) final [ʑ] is not considered a phonetic realization of /tʂ/.

- (12) chii larzɪt [tɕiːˈlaːrɪɕɪt] / chii larzɪ [tɕiːˈlaːrɪɕɪ] → chii larz [tɕiːˈlaːrɪɕ]
 (3) ‘to lie by/on the side of’
 (13) serz /ˈtɕɛɪɕ/ [ˈtɕɛɪɕ] (3) ‘to win’

The preferred syllable structure is CV, but also CVC and CVCC are frequent. The epenthetic vowel /i/ often shows up in order to avoid a sequence of two or more consonants.

In word-final position, all vowels and some approximants (/j/, /w/ and /r/) can be glottalized. Such word-final glottalization, partly similar to the Danish *stød*, is phonologically contrastive and should be regarded as a suprasegmental feature. Final glottalization is usually associated with a rising tone.⁵² In the course of this work, final glottalization, not represented in the CH orthography, will only be indicated by /ʔ/ when it serves to distinguish a minimal pair (see in particular §13).

The stress seems to be phonologically relevant and there are possible minimal pairs, such as *kasit* /'kasit/ 'old Chamacoco game' vs. *kasit* /ka'sit/ 'fearful'. According to Ulrich & Ulrich (1989b: 15), the accent tends to fall on the last syllable in disyllabic words and on the penultimate syllable in words of more than three syllables. However, this is just a tendency, because, as in Ayoreo, the

⁵² Tones do not seem to have phonematic status in Chamacoco. Glottalization is only distinctive word-finally: Ulrich & Ulrich (1989b: 23) note that a glottal stop occurs before vowel in word-initial position, but in this context it is not a phoneme (cf. ex. 1) and will not be indicated in the present work.

location of the accent varies not only from speaker to speaker, but also in the different productions by one and the same speaker. The accent is not indicated in the orthography. Vowel nasality is only indicated on the stressed syllable, but, when it occurs in a stressed syllable having a nasal consonant, it can be omitted.⁵³ Vowel nasality is rendered with < ~ >, which sometimes is indicated with < ^ > for reasons of simplicity.

In Chamacoco there are some phenomena of syllable reduction, particularly in word-final position, which interfere with nominal morphology and which are discussed in the chapter on nominal suffixation (§13).

§2.4 Conclusions and transcription principles

The previous sections have sketched the phonology of the Zamucoan languages and summarized the orthographic conventions used in this work. Ayoreo and Chamacoco show a series of voiceless nasals and Chamacoco also has a series of voiceless approximants. Among the phonemes found in Chamacoco but not in Ayoreo, the phoneme /l/ is of particular interest, because /l/ is missing in many Amazonian languages. By contrast, the central high vowel /i/ is present in many languages of the area, but not in Ayoreo and Old Zamuco. For the purposes of the present work, one has to note that Ayoreo and Old Zamuco lack /ts/, which corresponds to /tɕ/ in these languages, while Chamacoco lacks /g/, so that O.Z and AY /g/ often corresponds to a CH semivowel.

AY and CH data will be reported in phonological transcription with some adaptations. For instance, the AY epenthetic vocoid [e]

⁵³ In a few cases vowel nasality is indicated on non-stressed syllables, in which the vowel is the only nasal element.

(henceforth /e/), often added word-finally to obtain the preferred syllable structure CV, will be indicated in the transcriptions as if it were a real phoneme. AY postvocalic /i/ generally turns into /j/. However, in a number of cases it has been transcribed as a vowel rather than a glide, because there are reasons to surmise that this sequence is pronounced as a hiatus rather than as a diphthong. The same applies to syllable-initial /u/.

The accent and CH word-final glottalization will not be indicated unless they help to distinguish two forms cited in the present work. Vowel nasality will only be indicated when no other nasal element is present in the word (excluding affixes). In this case, since vowel nasality tends to spread, it will only be indicated on the vowel where nasality is most clearly perceptible. Nasal spread can be blocked by some consonants (usually by plosive and affricate consonants, sometimes also by fricatives). For this reason, in order to avoid ambiguities, vowel nasality will occasionally be indicated even when another nasal element is present in the word. In any case, semivowels, /r/ and /h/ do not block nasal spread.

CH [ʒ] will be indicated in the transcriptions as if it were a phoneme, even though its phonemic status is doubtful. [ɹ] is not a phoneme, but, for reasons of clarity, it will be treated as if it were a phoneme in the sequence /ɹɹ/. For reasons of simplicity, the phoneme /ɹ/ will be indicated with /r/ in the rest of this work. Consequently, its CH voiceless counterpart /ɹ̥/ will be indicated with /r̥/.

The AY and CH orthographic transcriptions discussed in the previous section will only be used when a word is cited in the text or when one or more sentences are reported. In both cases the phonological transcription will also be provided. However, if the orthographic transcription of an AY or CH word cited in the text coincides with the phonological transcription, the latter will not be

indicated.⁵⁴ The same conventions will be applied to O.Z data, reported in the orthography adopted by Chomé. The only difference is that, if necessary, the probable phonological transcription will be reported in parentheses. In O.Z examples, by contrast, only Chomé's transcription will be reported.

⁵⁴ For reasons of simplicity, the same may also apply to words repeated within the same paragraph.

§3 Word structure and free pronouns

Before describing the verbs and possessable nouns of each language, one has to consider the general structure of verb and possessive inflection (§3.1), and the system of independent personal pronouns in all Zamucoan languages (§3.2).

§3.1 General characteristics of verb and possessive inflection

The general structure of verb and possessive inflection is represented as in (1).

- (1) THEME
-
- PREFIX + THEMATIC VOWEL + ROOT + (SUFFIX)

The root may be preceded by a thematic vowel. Root plus thematic vowel form the theme. The slot of the thematic vowel may also be filled by a vowel originally belonging to the prefix which has replaced the original thematic vowel. In the verb and possessive morphology of the Zamucoan languages, the morphological behaviour of both the thematic vowel and the other vowels which fill the slot of the thematic vowel will be referred to as ‘vocalic pattern’. From now onwards, the vowel which fills the slot of the thematic vowel (but which is not necessarily the thematic vowel) will be indicated as ‘1-vowel’, ‘2-vowel’, ‘3-vowel’ and so on. This notwithstanding, for ease of description it will be written between hyphens as though it were the thematic

vowel.⁵⁵ Persons are marked by a prefix added to the theme. Verbs may add a suffix to form the plural persons. Suffixation is also present in nouns, but there is no interaction between possessive inflection and nominal suffixation, which expresses gender, number and form (§12, §13, §14). With the exception of the root, not all elements in (1) occur in each form of each paradigm. Depending on the language, other components can be added to the above represented structure.

From a taxonomic point of view, the 3-person is the basis of the paradigm and will be discussed in detail below.⁵⁶ Unlike the other persons, the 3-person is characterized by different morphological shapes which determine the inflectional class of verbs and possessable nouns. The 3-person may show some subregularities or irregularities with respect to the rest of the paradigm, so that it is easier to predict the morphological behaviour in the rest of the paradigm given the 3-person, than vice-versa. For this reason the 3-person form will be used as the citation form of verbs and possessable nouns.

Verbs or possessable nouns will be divided into three groups, depending on the shape of the 3-person. In order of increasing

⁵⁵ From now onwards, when a verb or a possessable noun is reported, the prefix, the thematic vowel (or the vowel which fills its slot) and the root will be indicated. The so-called ‘mobile syllable’ of AY verbs (see §4.8) will not be indicated, because it is part of the root. In verb morphology, verb suffixes will also be indicated, while nominal suffixation will not be indicated in the part on possessive inflection (as in the paradigms of chapters §12-§14). When a text or parts of text are reported, only the prefix and the theme will be indicated, except for the 2-person and the forms derived from it, where the 2-vowel will be included in the prefix if it was an original prefix vowel.

⁵⁶ I refer to the non-reflexive 3-person of possessable nouns and to the 3-person realis of verbs which have the realis vs. irrealis distinction.

complexity, the 3-person can be formed by:

- (a) The pure root (e.g. CH Ø-Ø-*nerpta* ‘shirt, dress’). Nouns and verbs belonging to this group will be called ‘radical nouns’ or ‘radical verbs’. The thematic vowel and the prefix are added to the root in order to form the rest of the paradigm.
- (b) The theme (e.g. CH Ø-*e-chit* /etɛit/ ‘domestic animal’). Nouns and verbs belonging to this group will be called ‘thematic nouns’ or ‘thematic verbs’.
- (c) The theme and a consonantal prefix (e.g. CH *l-a-tahacha* /l-a-tahateɛ/ ‘stepmother’). Nouns and verbs belonging to this group will be called ‘prefixal nouns’ or ‘prefixal verbs’.

In all Zamucoan languages these groups correspond to the three inflectional classes of possessable nouns.

In this work, I will follow the merely descriptive approach proposed in (1). From a functional perspective, the structure of AY verb inflection could also be represented in a different way, because in prefixal verbs or nouns it is not strictly necessary to distinguish between theme and root, because the root vowel can be considered part of the root. However, this distinction is useful at the descriptive level. The structure of radical verbs or nouns is the same from both a descriptive and a functional point of view.

§3.2 Free personal pronouns in the Zamucoan languages

This section only aims at presenting the system of free personal pronouns, so that it can serve as future reference in order to

understand verb and possessive inflection. For a detailed comparison of independent pronouns in the Zamucoan languages, as well as for a possible reconstruction of their diachronic evolution, see Bertinetto (2010) and Bertinetto (2011a,b). The free personal pronouns of Ayoreo, Old Zamuco and Chamacoco are shown in the following tables.

Table 3.1. Ayoreo free pronouns

PERSON	NUMBER	
	SINGULAR	PLURAL
1	<i>ju / uju</i>	<i>jok / ujok</i>
2	<i>wa / uwa</i>	<i>wak / uwak</i>
3 (first series)	-	<i>ore</i>
3 (second series)	<i>ude</i> ('this' masculine) <i>udak</i> ('this' feminine) <i>ute</i> ('that' masculine) <i>wate</i> ('that' feminine)	<i>udoho</i> ('these' masculine) <i>udahi</i> ('these' feminine) <i>udore</i> ('those' masculine) <i>udire</i> ('those' feminine)

(Data from Kelm 1964: 502-508, Morarie 1980: 96-97)

Table 3.2. Old Zamuco free pronouns

PERSON	NUMBER	
	SINGULAR	PLURAL
1	<i>yu / uyu</i>	<i>yoc / uyoc</i>
2	<i>gua / ugua</i>	<i>guac / uguac</i>
3 (first series)	-	<i>ore</i>
3 (second series)	<i>güite / udde</i> (masculine) <i>quate / udda</i> (feminine)	<i>uddao / uddoe</i> (masculine) <i>uddai / uyie</i> (feminine)

(Data from Chomé 1958: 138-140)

Table 3.3. Chamacoco free pronouns

PERSON	NUMBER		
	SINGULAR	PLURAL	GREATER PLURAL
1	<i>jok</i>	<i>ejok</i> (inclusive) <i>ōrjok</i> (exclusive)	<i>ejoklo</i> (inclusive) -
2	<i>owa</i>	<i>olak</i>	<i>olaklo</i>
3 (first series)	<i>ir(e)</i>	<i>ōr</i>	-
3 (second series)	<i>witei</i> (masculine) <i>wate</i> (feminine)	<i>wir</i>	-

(Data from Ulrich & Ulrich 2000b: 10, Ciucci, field notes)

Comparing the personal pronouns, a certain degree of similarity among the Zamucoan languages emerges. In all Zamucoan languages the use of free pronouns is usually not obligatory in verb or possessive morphology. There is no phonological overlapping between personal pronouns, verb and nominal prefixes, although some similarities can be noted. Indeed, personal prefixation and personal pronouns are independent (Bertinetto 2011a: 8). The pronouns of the 1- and the 2-person in Ayoreo show both a plain form, which is phonologically lighter, and an emphatic form. The same difference was also to be found in Old Zamuco (Bertinetto 2011a: 7). In the 1-person and the 2-person is also possible to observe that the plural is marked by /k/.⁵⁷ This mark of plural is never found in the nominal system (Bertinetto 2011a: 8). The 2-person is characterized by the presence of /a/ (Bertinetto 2011a:

⁵⁷ One can compare this element with the Chiquitano plural suffix *-/ka/* (see Galeote Tormo 1993: 57). I am grateful to Swintha Danielsen and Lena Terhart for this suggestion.

8). The clusivity split in the 1P-person is present in Chamacoco, in contrast with Ayoreo and Old Zamuco.

In all Zamucoan languages two series of free pronouns can be identified in the 3-person. The first series consists of the “proper” personal pronouns: AY *ore* (3P), O.Z *ore* (3P), CH *ir(e)* (3S) / *õr* (3P).⁵⁸ Note that the pronoun for the 3S-person is only found in Chamacoco. One can say that both Ayoreo and Old Zamuco lack the 3S-pronoun, because the elements of the so-called ‘second series’ are demonstrative pronouns in Ayoreo and Old Zamuco.⁵⁹ In Chamacoco the elements of the ‘second series’ are not completely identifiable as demonstratives, although they were originally demonstrative, as the comparison with the other Zamucoan languages indicates. *Wichi* /*witei*/, *wate* and *wir* do not indicate either proximity or distance, like other Chamacoco elements which are undoubtedly demonstratives. They are not only used as personal pronouns: when they precede a noun, they function as articles.⁶⁰ In the following paragraphs, some peculiarities of Chamacoco will be discussed in detail.⁶¹

⁵⁸ In the 3S-person, *ir* is far more frequent than *ire*.

⁵⁹ In Table 3.1, only the most frequently used demonstratives are reported, for a more detailed inventory, see Morarie (1980: 96-97) and Higham *et al.* (2000).

⁶⁰ In Chamacoco there is also a series of elements only used as articles: *uu* /u:/ (MS), *waa* /wa:/ (FS), *uu* /u:/ ([M/F]P).

⁶¹ AY reflexive pronouns coincide with the independent pronouns. The only exception is the 3-person singular and plural, for which the reflexive pronoun is *re*. *Rac* /rak/ can be used for the 3P-person (Bertinetto 2009: 44). In Chamacoco too, the reflexive pronouns are identical to the independent pronouns, the only exception is the 3-person singular and plural, for which *ir(e)* is used.

§3.2.1 Clusivity

By clusivity one refers to the inclusive (henceforth: 1PI) vs. exclusive (henceforth: 1PE) distinction in the 1P-person (Filimonova 2005). This distinction is common in South American languages and was first introduced by the missionaries who wrote the grammar of Aymara and South Peruvian Quechua in the 16th century (Crevels & Muysken 2005: 314). It has been argued that the inclusive person would be “a person on its own, separate from what is traditionally called ‘we’ exclusive in the same way as ‘you.pl’” (Daniel 2005: 3). This is confirmed by the fact that, in most languages, inclusives are morphologically independent.⁶² As one can see, clusivity is not very prototypical in Chamacoco. First, there is a clear morphological connection between the 1S-pronoun (*yok* /jok/), the 1PI-pronoun (*eyok* /ejok/) and the 1PE-pronoun (*ōryok* /ōrjok/) (Table 3). Second, in verb morphology the 1S-person (*t-aak* /t-a:k/ ‘1S-eat’) and the inclusive person (*y-aak* /j-a:k/ ‘1PI-eat’) are independent, but the 1PE-person (*oy-aak* /oj-a:k/ ‘1PE-eat’) depends on the 1PI-person, although the 1PE-person would be expected to be dependent on the 1S-person (being its plural form).⁶³

Bickel & Nichols propose “a three way typology of inclusive systems, classifying them by the way in which the inclusive-exclusive opposition is worked into person-number categories”

⁶² Daniel (2005: 5) analyzes a “subset of the 200+200-language sample of the World Atlas of Linguistic Structure” which “includes not quite one hundred inclusive languages”. His conclusion is that “there is no typologically consistent connection between inclusive and the 1-person. Inclusives are morphologically independent in more than 80 languages” Daniel (2005: 5).

⁶³ For more details, see the chapter on CH verb morphology (§5.1).

(2005: 50). Following this classification, Chamacoco would be among the languages which distinguish between minimal vs. augmented number. This system, although well attested, is less common and more complex than the others (2005: 51-52). The fact that the inclusive can be considered a person on its own determines a distinction between inclusive vs. exclusive person, which could be reclassified as in Table 3.4. Both the inclusive and the exclusive person have a minimal and an augmented form.⁶⁴

	Minimal	Augmented
Exclusive	<i>jok</i> (singular)	<i>ōrjok</i> (plural)
Inclusive	<i>ejok</i> (plural)	<i>ejoklo</i> (greater plural)

Table 3.4

The 1PE-person lacks the greater plural, but, in spite of this, the 2-person has the singular (*owa*), the plural (*olak*) and the greater plural (*olaklo*). Generally, the minimal element inclusive is referentially a dual, while the augmented is a plural, as in the examples shown by Bickel & Nichols (2005: 51). In Chamacoco the situation is different, because the minimal is referentially a plural and the augmented a greater plural.

§3.2.2 The greater plural

The inclusive and the 2-person show a distinction between a normal and a ‘greater’ plural. According to Corbett (2000: 30): “the ‘greater plural’ typically implies an excessive number, sometimes called ‘plural of abundance’, or else all possible instances of the

⁶⁴ About the minimal-augmented systems, see also Cysouw (2003: 85-90).

referent, sometimes called the ‘global plural’.” Cases of a split in the plural are relatively rare according to Corbett.

In Chamacoco the meaning of greater plural ranges from abundance to globality. The greater plural could be considered a composed number, since a morpheme (-/lo/) is added to a plural form: *eyok* /ejok/ (1PI) → *eyoklo* /ejoklo/ (1PI.GP); *olak* (2P) → *olaklo* (2.GP). The suffix -/lo/ is mainly used in verb morphology to distinguish the 2P-person from the 2S-person (§5.8) and can be the plural suffix of some nominals (§13.1.1, ex. 7). This combination of greater plural and clusivity is probably quite rare among the world’s languages and would probably deserve further typological studies. Moreover, the fact that clusivity is only present in Chamacoco, where it is not prototypical, suggests that the clusivity split was not an original characteristic of the Zamucoan family.

§3.2.3 Gender in the Chamacoco third person plural: a lost distinction?

In currently spoken Chamacoco, there is no gender distinction in 3P-person.⁶⁵ However, Sušnik (1957a: 107) reports the form *wiira* /wi:ra/ for the feminine of the 3P-person. Such a form was only used in myths to refer to the ancient women who lived during a mythological age.⁶⁶ In all other cases *wir* (more exactly, *wiiri*

⁶⁵ Also the CH article has no gender distinction in the plural: *uu* /u:/ (MS), *waa* /wa:/ (FS), *uu* /u:/ ([M/F]P).

⁶⁶ According to CH mythology, all women had been killed at the beginning of CH civilization and new women had grown from pieces of one of them. Thus, CH used to distinguish the ‘old’ women from the ‘new’ women. This also had repercussions on religious practices, because the ‘new’ women did

/wi:ri/ in Sušnik 1957a) was used. Final *-a/* could be interpreted as an original feminine morpheme (cf. §13.3) added to masculine form *wir*. Following Sušnik, one could formulate the hypothesis that a gender distinction had also previously existed for the 3P-person and that the feminine form *wiira* /wi:ra/ was gradually replaced by the masculine form. In this respect, the dropping of final vowels, a phenomenon still to be found in Chamacoco, may have had an influence.

§3.2.4 Conclusions

In Table 3.5 some features of the system of personal pronouns are reported. One can see that Ayoreo and O.Z personal pronouns share the same characteristics, which differ from those of Chamacoco. This confirms that Ayoreo and Old Zamuco are closer to each other than to Chamacoco.

FEATURE	OLD ZAMUCO	AYOREO	CHAMACOCO
EMPHATIC FORMS	YES	YES	NO
THIRD PERSON SINGULAR	NO	NO	YES
CLUSIVITY	NO	NO	YES
GREATER PLURAL	NO	NO	YES

Table 3.5

not know the mythical events which had taken place before and were segregated from religious knowledge to maintain them in a state of ignorance (Blazer 1997: 28-31). Although not all speakers are probably aware of this, the term currently in use for woman, *timcharrza* /timtɕaɽɕa/, refers to a ‘new’ woman.

SECOND PART: VERB INFLECTION

This second part describes the verb morphology of Ayoreo (§4), Chamacoco (§5) and Old Zamuco (§6). The Zamucoan languages have a similar verb structure, consisting of: prefix, thematic vowel, root and plural suffix. The verb expresses person and mood. The Zamucoan languages are tenseless languages (see Bertinetto 2014). Temporal reference is expressed by adverbial particles. The Zamucoan languages are thus mood-prominent languages. Chapter §7 compares the verb morphology of the Zamucoan languages and shows that they have similar morphological devices which confirm the genetic relationship of these languages. Mood-prominence in Chamacoco is related to the presence of a quotative which expresses the same morphological categories of the verb (§8). Although its inflection is similar to verb inflection, it should not be considered a verb.

§4 Ayoreo verb inflection⁶⁷

This chapter describes AY verb morphology. Section §4.1 presents the verb structure and the inflectional classes. Like the other Zamucoan languages, Ayoreo is a tenseless language. Temporal reference may be expressed by temporal adverbs or by context redundancy. Mood has limited expression in AY verb morphology. The verb expresses the person and a disappearing mood distinction (§4.2). The 1- and 2S-prefix can undergo nasalization (§4.3). In the 2-person the slot of the thematic vowel can be filled by an original prefix vowel (§4.4). The vocalic pattern is usually regular. /t/-verbs are discussed in §4.5. Radical verbs may exhibit some consonantal changes in the 3-person (§4.6). Although verb inflection is mostly regular, section §4.7 deals with some irregular verbs, including the few thematic verbs observed in Ayoreo. Two series of suffixes are used for the 1P-person and the 2P-person (§4.8). Some verbs end with a suffix which modifies the lexical meaning of the verb (lexical suffix).

§4.1 Verb structure and verb classes

The structure of AY verbs is represented as in (1).

- (1)
- | THEME | | | | | | |
|--------|---|----------------|---|----------------------|---|------------------|
| PREFIX | + | THEMATIC VOWEL | + | ROOT + PLURAL SUFFIX | + | (LEXICAL SUFFIX) |

⁶⁷ This chapter is based on Ciucci (2007/08a), which will no longer be mentioned.

In some cases an independent morpheme is included in the verb, modifying the meaning. This element will be called ‘lexical suffix’ (see Ciucci 2007/08a, Bertinetto 2009: 33).⁶⁸ Ayoreo prefixal verbs can be divided into two classes: the vast majority of AY verbs have the 3-prefix /tɛ/- (/tɛ/-verbs), while a small class of verbs forms the 3-person by adding the prefix /t/- (/t/-verbs). There are also two small classes of thematic and radical verbs, so that one can distinguish four inflectional classes: ‘/tɛ/-verbs’, ‘/t/-verbs’, ‘thematic verbs’ and ‘radical verbs’. It is not possible to predict the inflectional class of a verb. For this reason, the 3-person will be used as citation form. By contrast, in Higham *et al.* (2000) the lemmatized form is the verb theme. From a lexicographical perspective, such a criterion proves useful when one has to look up a word in a dictionary and does not know the inflectional class. However, I did not use the theme as citation form, because the theme alone does not provide morphological information on the inflectional class,⁶⁹ which is of fundamental importance in the present description. Examples of /tɛ/-verbs will be shown in the whole chapter, while examples of /t/-, thematic and radical verbs will be shown in sections (§4.5), (§4.7) and (§4.6), respectively.

§4.2 Person inflection

The formation of the persons in Ayoreo is shown in (2). The 1S-person takes the prefix /j/- (cf. the free pronouns *yu* /ju/ (1S) and *yoc* /jok/ (1P)). The 2S-person takes the prefix /b/- and high thematic vowels are replaced by /a/, originally belonging to the

⁶⁸ In Ciucci & Bertinetto (2015b), the same element is called ‘lexical syllable’.

⁶⁹ For this reason, the 3-person of many verbs (mainly /t/-verbs, radical verbs and irregular verbs) also has a separate entry in Higham *et al.* (2000).

prefix (cf. the free pronoun *owa* (2S)). The 3-person is used for both the singular and the plural. When the 3P-person subject is not phonologically expressed, the 3-person is preceded by the pronoun *ore* (3P). The 1P-person has the same prefix as the 1S-person and takes a plural suffix to distinguish it from the singular. The 2P-person is obtained by adding the prefix /wak/- to the theme. This prefix coincides with the free personal pronoun *uac* /wak/ (2P). The thematic vowel can be replaced, as in the 2S-person. The 2P-person also takes a plural suffix. There is a functional difference between the suffixes of the 1P- and 2P-person, because the 1P-suffix is necessary to distinguish the 1P-person from the 1S-person, while the 2P-suffix has no functional load in the realis (2). The suffixes used to form the plural persons will be discussed in §4.8.

(2) Prefixation and expression of the irrealis in Ayoreo

(*teigo* ‘to tell, to show’)

- 1S j-i-go → Ø-i-go in realis contexts
- 2S b-a-go → Ø-a-go in irrealis contexts
- 3 *te*-i-go
- 1P j-i-go-go → Ø-i-go-go in realis contexts
- 2P wak-a-go-go → Ø-a-go-go in irrealis contexts
- 3P ore *te*-i-go

As one can see in (2), Ayoreo has a realis vs. irrealis distinction. In the 1-person the prefix /j/- is properly the prefix of the 1-irrealis, while the 1-real is has no prefix. In the 2-person the prefixes /b/- and /wak/- are properly the realis prefixes, which drop in irrealis contexts. In the plural persons, suffixation is the same for both realis and irrealis. There is no opposition between realis and irrealis in the 3-person. The irrealis is always used for the 2-person in imperative contexts, but in all other cases the opposition between

realis and irrealis is not always to be found in currently spoken Ayoreo and is disappearing, while the prefixed forms seem to be preferred by younger speakers (with the exception of imperative contexts).⁷⁰

It should be observed that the older speakers – especially on the Bolivian side – often drop the first person prefix (both singular and plural) in present- and past-referring contexts. Younger speakers do not seem to follow this behaviour. By contrast, the second person prefix (both singular and plural) is often dropped in future-referring contexts. In all such cases only the thematic vowel is left behind. (Bertinetto 2009: 34)

Since realis and irrealis tend to merge,⁷¹ in the course of this chapter the verb paradigm will be analyzed with full prefixation.⁷²

§4.3 Nasality in prefixation

The mechanism of nasal harmony to be found in Ayoreo leads to the nasalization of verb prefixes. In (3) two variants of the same verb are shown. In (3a) nasality does not spread to the left, and the prefixes do not nasalize, while in (3b) one can see the nasalization

⁷⁰ As will be shown, the realis vs. irrealis opposition is also present in the other Zamucoan languages and the disappearing contrast in the 1- and 2-person of Ayoreo is what remains of two distinct moods.

⁷¹ This seems to be a long-term trend in the evolution of AY morphology, because, comparing AY verb morphology with the other Zamucoan languages, it will be demonstrated that the merger between the realis and irrealis has already occurred in the Ayoreo 3-person, which does not have any more the realis vs. irrealis contrast.

⁷² From now onwards, the original realis vs. irrealis distinction will not be indicated in AY verbs with full prefixation. For reasons of simplicity, the realis of CH and O.Z verbs will not be indicated in the glosses.

of the 1-person prefix /j/- > /ɲ/- and the 2S-person prefix /b/- > /m/-. The spread of nasality can also be seen in the first consonant of the root, which does not nasalize into (3a), while it undergoes nasalization in (3b).

- (3) a. j-a-jona (1S), b-a-jona (2S), ɬ-a-jona (3), j-a-jona-ŋo (1P),
 wak-a-jona-ɲo (2P) ‘to run after, to chase’
 b. ɲ-a-ɲona (1S), m-a-ɲona (2S), ɬ-a-ɲona (3), ɲ-a-ɲona-ŋo (1P),
 wak-a-ɲona-ɲo (2P) ‘to run after, to chase’

In (4) one finds a list of AY verbs with a nasal element in the root. The presence of nasalization in the prefix of these verbs is unpredictable, because both the nasalized and non-nasalized prefixes are generally observed (4). From now onwards, when alternative versions of one and the same verb (or nominal) exist (e.g. with or without nasalization in the root), the alternative citation form is reported in parentheses at the end of the examples (e.g. *chingo* /*ɬeɲo*/ (4d)).

- (4) a. j-/ɲ-i-sõre (1S), m-/b-a-sõre (2S), ɬ-i-sõre (3), j-/ɲ-i-sõ-ko (1P),
 wak-a-sõ-ɬeo (2P) ‘to take a walk’
 b. j-/ɲ-i-ŋo (1S), m-a-ŋo (2S), ɬ-i-ŋo (3), j-/ɲ-i-ŋo-ŋo (1P),
 wak-a-ŋo-ɲo (2P) ‘to chop with an axe’
 c. j-/ɲ-i-kõra (1S), m-a-kõra (2S), Ø-Ø-kõra (3), j-/ɲ-i-kõra-ŋo (1P),
 wak-a-kõra-ɲo (2P) ‘to fall down’
 d. j-i-ŋo (1S), ba-ŋo (2S), ɬ-i-ŋo (3), j-i-ŋo-ŋo (1P), wak-a-ŋo-ɲo (2P)
 ‘to tell, to show’ (also: *ɬeigo*)
 e. j-i-ŋo-me (1S), m-a-ŋo-me (2S), ɬ-i-ŋo-me (3), j-i-ŋo-ŋo (1P),
 wak-a-ŋo-ɲo (2P) ‘to tell to, to show to’
 f. j-/ɲ-i-ɬaɲa-j (1S), b-/m-a-ɬaɲa-j (2S), Ø-Ø-ɬaɲa-j (3),
 j-/ɲ-i-ɬaɲa-ŋo-j (1P), wak-a-ɬaɲa-ɲo-j (2P) ‘to answer, to reply’
 g. j-/ɲ-i-si-ome (1S), b-/m-a-si-ome (2S), ɬ-i-si-ome (3),
 j-/ɲ-i-si-go-me / j-/ɲ-i-si-ŋo-me (1P), wak-a-si-jo-me /

wak-a-si-ŋo-me (2P) ‘to give to’

According to Sušnik (1963: 52), the presence or lack of nasalization would depend on diatopical variation. However, the free nasalization of the prefixes does not mean that the spread of nasality is free in general. In nominal and verb suffixation the rules are more rigid: nasality always spreads, but nasal spread is blocked by some consonants. The directionality of nasality plays a role, because nasal harmony always spreads to the right and can be blocked. By contrast, left-spreading nasality is optional and is not usually blocked. In example (5) one finds three verbs with /k/ or /t/ as root-initial consonants. These consonants generally block right-spreading nasality, but this does not occur with left-spreading nasality: in (5) nasalized prefixes are observed.

- (5) a. j-i-katekã-ri (1S), m-/b-a-katekã-ri (2S), Ø-Ø-katekã-ri (3),
 j-i-katekã-ko-rĩ (1P), wak-a-katekã-ŋeo-rĩ (2P) ‘to speak, to talk’
 b. j-/ɲ-i-kõra (1S), m-a-kõra (2S), Ø-Ø-kõra (3), j-/ɲ-i-kõra-ŋo (1P),
 wak-a-kõra-ɲo (2P) ‘to fall down’
 c. j-/ɲ-i-terêta (1S), m-a-terêta (2S), Ø-Ø-terêta (3),
 j-/ɲ-i-terêta-go (1P), wak-a-terêta-jo (2P) ‘to lie down’,⁷³

⁷³ As to prefix nasalization in the examples of this chapter, I will follow scrupulously the data from the respective sources. Given the amplitude of the phenomenon, in the case of verbs with a nasal element in the root, the lack of the nasalized or non-nasalized variant of a prefix in the paradigm does not mean that the verb does not have that prefix variant, but only that it is not reported in the sources used for this study.

§4.4 The thematic vowel

There are five thematic vowels, corresponding to the vowels of the phonemic inventory of Ayoreo: /a e i o u/. If one considers the behaviour of the thematic vowel in the paradigm, one has to distinguish between high and non-high vowels. If the thematic vowel is a non-high vowel, such as /a/, /e/ and /o/, it is preserved in the whole paradigm (6).

- (6) a. j-a-ka (1S), b-a-ka (2S), tɛ-a-ka (3), j-a-ka-go (1P), wak-a-ka-jo (2P)
 ‘to plant’
 b. j-e-do (1S), b-e-do (2S), tɛ-e-do (3), j-e-do-go (1P), wak-e-do-jo (2P)
 ‘to talk about someone (good or bad)’
 c. j-o-hare (1S), b-o-hare (2S), tɛ-o-hare (3), j-o-ha-ko (1P),
 wak-o-ha-tɛo (2P) ‘to smell’

If the thematic vowel is a high one, such as /i/ or /u/, it is replaced by /a/ in the 2-person (7). /a/ is synchronically analyzable as a vowel which fills the slot of the thematic vowel, but diachronically it should rather be considered a prefix vowel.

- (7) a. j-u-ga (1S), b-a-ga (2S), tɛ-u-ga (3), j-u-ga-go (1P), wak-a-ga-jo (2P)
 ‘to sew, to mend’
 b. j-i-go (1S), b-a-go (2S), tɛ-i-go (3), j-i-go-go (1P), wak-a-go-jo (2P)
 ‘to tell, to show’ (also: tɛiŋo)

Although the behaviour of the thematic vowel is very regular, there are some exceptions. The verbs *chise* /tɛise/ (8a), *chícãra* /tɛikãra/ (8b) and *chícãre* /tɛikãre/ (8c) have /e/ rather than /a/ as 2-vowel. The thematic vowel can be crucial in distinguishing a verb from another, as *ch-i-se* /tɛ-i-se/ ‘to meet’ (8a) and *ch-a-se* /tɛ-a-se/ ‘to plunder’ (8d). Note that the 2-persons of these verbs would coincide if *chise* /tɛise/ had the regular vowel /a/ in the 2-person.

Sometimes two thematic vowels can alternate in the paradigm, as in *chimáta* /tɕimata/ (8e) or *chamáta* /tɕamata/ (8f). Such alternations can be due to diatopical variations, as in (8e-f) (Bertinetto, personal communication). In (8g) the alternation between /i/ and /u/ is to be found.⁷⁴ The verb *chiro* /tɕeiro/ (8h) can have both /a/ and its irregular counterpart /e/ in the 2-person.

- (8)a. j-i-se (1S), b-e-se (2S), tɕ-i-se (3), j-i-ko (1P), wak-e-so (2P)
 ‘to find, to meet, to reach’⁷⁵
 b. j-i-kāra (1S), m-e-kāra (2S), tɕ-i-kāra (3), j-i-kā-ko (1P),
 wak-e-kā-tɕeo (2P) ‘to dream’
 c. j-i-kāre (1S), m-e-kāre (2S), tɕ-i-kāre (3), j-i-kā-ko (1P),
 wake-kā-tɕeo (2P) ‘to mention’
 d. j-a-se (1S), b-a-se (2S), tɕ-a-se (3), j-a-ko (1P), wak-a-so (2P)
 ‘to plunder’
 e. j-a-mata (1S), b-/m-a-mata (2S), tɕ-a-mata (3), j-a-mata-go (1P),
 wak-a-mata-jo (2P) ‘to collect’
 f. j-i-mata (1S), b-/m-a-mata (2S), tɕ-i-mata (3), j-i-mata-go (1P),
 wak-a-mata-jo (2P) ‘to collect’
 g. j-u-huse / j-i-huse (1S), b-a-huse (2S), tɕ-use / tɕ-uhuse / Ø-Ø-suse
 (3), j-u-hu-ko / j-i-hu-ko (1P), wak-ahu-so (2P) ‘to care for’
 (used with *gio*)
 h. j-i-ro (1S), b-e-ro / b-a-ro (2S), tɕ-i-ro (3), j-i-ro-go (1P),
 wak-e-ro-jo / wak-a-ro-jo (2P) ‘to weave’

⁷⁴ This kind of alternation between high thematic vowels is relatively frequent in the personal prefixation of Chamacoco.

⁷⁵ Also other verbs derived from *chise* /tɕise/ show an irregular vowel in the 2-person: *beságui* /besagi/ (2S) → *chiságui* /tɕisagi/ (3) ‘to be unable to reach, to fall short of reaching’, *besína* /besina/ (2S) → *chisína* /tɕisina/ (3) ‘to find / reach after pursuing’.

§4.5 /t/-verbs

Although most prefixal verbs in Ayoreo take the prefix /tɛ/- in the 3-person, there is a little class of verbs characterized by the 3-prefix /t/-. /t/- is not an allomorph of /tɛ/- and the alternation between /tɛ/- and /t/- in the same verb is usually not possible. The data in examples (9) and (10) do not imply that every verb with 3-person beginning with /t/ is a /t/-verbs. As shown below, also radical verbs may have the 3-person beginning with /t/ (see (38-39)).

- (9) a. j-a-gu (1S), b-a-gu (2S), t-a-gu (3), j-a-ho (1P), wak-a-tɛo (2P)
 ‘to eat, to bite’
 b. n-/j-a-ɲari (1S), m-/b-a-ɲari (2S), t-a-ɲari (3), n-/j-a-ɲa-ko-j (1P),
 wak-a-ɲa-tɛo-j (2P) ‘to listen to, to pay attention to, to obey to’
 c. j-e-rã (1S), m-e-rã (2S), t-e-rã (3), j-ẽ-ko (1P), wakẽ-tɛõ (2P)
 ‘to sell’
 d. j-ẽ-rateu (1S), m-ẽ-rateu (2S), t-ẽ-rateu / tɛ-ẽ-rateu (3),
 j-ẽ-rateu-go (1P), wak-ẽ-rateu-jo (2P) ‘to sing with gourd rattle’
 e. j-e-re (1S), b-e-re (2S), t-e-re (3), j-e-ko (1P), wak-e-tɛo /
 wak-a-re-tɛo (2P) ‘to urinate’
 f. j-i-bidi (1S), b-a-bidi (2S), t-i-bidi (3), j-i-bi-ko-j (1P),
 wak-a-bi-tɛo-j (2S) ‘to call, to summon’
 g. j-i-bi-te (1S), b-a-bi-te (2S), t-i-bi-te (3), j-i-bi-ko (1P),
 wak-a-bi-tɛo (2S) ‘to yell, to shout’
 h. j-i-bagi (1S), b-a-bagi (2S), t-i-bagi (3), j-i-ba-ho-j (1P),
 wak-a-ba-tɛo-j (2P) ‘to come/go to a person’
 i. j-õ-ra (1S), m-õ-ra (2S), t-õ-ra (3), j-õ-ra-ɲo (1P), wak-õ-ra-ɲo (2P)
 ‘to throw out’
 l. j-õ-ra-(h)i (1S), b-õ-ra-(h)i (2S), t-õ-ra-(h)i (3), j-õ-ra-ɲo-(h)i (1P),
 wak-õ-ra-ɲo-(h)i (2P) ‘to come from, to leave from’
 m. j-u-rãɲi (1S), m-a-rãɲi (2S), t-u-rãɲi (3), j-u-ra-ɲo-ɲi (1P),
 wak-a-rã-ɲo-ɲi (2P) ‘to be sure (of what one sees or does)’

In (10) other /t/-verbs are reported.

- (10) t-a-k / t-a-ke (3), j-a-k / j-a-ke (1S) ‘to eat, to be eating’
t-a-kāre (3), j-a-kāre (1S) ‘to plant’, / t-a-kārihi (3), j-a-kārihi (1S) ‘to plant in’
t-a-guha (3), j-a-guha (1S) ‘to rebel against’
t-a-guome (3), j-a-guome (1S) ‘to use, to make use of’
t-a-hirome (3), j-a-hirome (1S) ‘to try to get a better look’
t-a-munahi (3), j-a-munahi (1S) ‘to tear off bites of food, to eat food without cutting it first’
t-a-kiri (3), j-a-kiri (1S) ‘to visit, go to see someone’ / t-a-kirihi (3), j-a-kirihi (1S) ‘to visit at’
t-ā-reha (3), j-ā-reha (1S) ‘to use special secret words to produce desired effects’
t-a-ja (ihi) (3), j-a-ja (ihi) (1S) ‘to be strong, to be firm’
t-ē-raha (3), j-ē-raha (1S) ‘to give a gift to, to sacrifice to’
t-ē-rame (3), j-ē-rame (1S) ‘to sell to, to exchange for, hand over to’
t-ē-rihi (3), j-ē-rihi (1S) ‘to give a gift to, to give an offering to’
t-i-bidaha (3), j-i-bidaha (1S) ‘to cry out to’
t-i-miniṇa (3), j-i-miniṇa (1S) ‘to pay attention to, to take note of’
t-i-miṇara (3), j-i-miṇara (1S) ‘to abandon, to forsake, to throw out’
t-o-kāra (3), j-o-kāra (1S) ‘to be jealous over, to accuse’
t-ō-raha (3), j-ō-raha (1S) ‘to throw into, to cast into’
t-o-ri (3), j-o-ri ‘to steal, to rob’
t-o-ria (3), j-o-ria (1S) ‘to steal, to rob; to do something without warning’
t-u-hua (3), j-u-hua (1S) ‘to tell about, to spread the news’
t-u-huna (3), j-u-huna (1S) ‘to wear around the neck’
t-u-ṇaraha (3), j-u-ṇaraha (1S) ‘to have sexual intercourse with’

§4.6 Radical verbs

Although the vast majority of AY verbs take a person prefix in the 3-person, there is a class of verbs whose 3-person consists of the mere root. These verbs will be called ‘radical verbs’.

Radical verbs have no thematic vowel in the 3-person. However, the vocalic pattern is easily predictable and extremely regular. Most radical verbs take /i/ in the 1-persons and /a/ in the 2-persons (11a-g). This occurs in most verbs, with the exception of those having /u/ as first root-vowel (11h-i). In this case, the verb takes /u/ in the 1-persons and /a/ in the 2-persons. Thus, these verbs stem from verbs with either /i/ or /u/ as thematic vowel. *Quejna* /keɲa/ (11l) shows an exception in the 1-thematic-vowel, because both /i/ and /a/ are observed.

The 3-person of a radical verb is the most dynamic element of the system and is sometimes different from the rest of the paradigm, because the fortition of the root-initial consonant or another change may occur in the 3-person. These consonantal changes will be discussed in detail in the following paragraphs. However, most radical verbs are regular and the root remains unchanged in the 3-person, as in (11a-i). As one can see in (11), there is a rich inventory of consonants occurring in root-initial position in the 3-person.⁷⁶ In most radical verbs where the root-initial consonant undergoes no change, given the 3-person one can construct the whole paradigm but not vice-versa, because, given the rest of the paradigm, it is impossible to predict whether the 3-person is radical or takes a prefix. In the following sections, radical verbs will be ordered according to the root-initial consonant.

⁷⁶ The only consonants of Ayoreo which are not to be found word-initially in the 3-person of radical verbs are /g/, /ŋ/, /ɬ/ and /w/.

- (11) a. j-/ɲ-i-kōra (1S), m-a-kōra (2S), Ø-Ø-kōra (3), j-/ɲ-i-kōra-ŋo (1P),
wak-a-kōra-ɲo (2P) ‘to fall down’
b. j-i-katekâri (1S), m-/b-a-katekâri (2S), Ø-Ø-katekâri (3),
j-i-katekâ-ko-rĩ (1P), wak-a-katekâ-ŋo-rĩ (2P) ‘to speak, to talk’
c. ɲ-i-mo (1S), m-a-mo (2S), Ø-Ø-mo (3), ɲ-i-mo-ŋo (1P),
wak-a-mo-ɲo (2P) ‘to sleep’
d. j-/ɲ-i-terêta (1S), m-a-terêta (2S), Ø-Ø-terêta (3),
j-/ɲ-i-terêta-go (1P), wak-a-terêta-jo (2P) ‘to lie down’
e. j-i-todo (1S), b-a-todo (2S), Ø-Ø-todo (3), j-i-todo-go (1P),
wak-a-todo-jo (2P) ‘to be afraid of’
f. j-i-to-j (1S), b-a-to-j (2S), Ø-Ø-to-j (3), j-i-to-go-j (1P),
wak-a-to-jo-j (2P) ‘to die’
g. j-i-tota-ha (1S), b-a-tota-ha (2S), Ø-Ø-tota-ha (3),
j-i-tota-go-ha (1P), wak-a-tota-jo-ha (2P) ‘to make efforts’
h. ɲ-u-ɲusi (1S), m-a-ɲusi (2S), Ø-Ø-ɲusi (3), ɲ-u-ɲusi-ŋo /
j-u-ɲu-ko-j (1P), wak-a-ɲusi-ɲo / wak-a-ɲu-so-j (2P)
‘to be sad, to miss someone/something’
i. ɲ-u-ɲusina (1S), m-a-ɲusina (2P), Ø-Ø-ɲusina (3),
ɲ-u-ɲusina-go/-ŋo (1P), wak-a-ɲusina-jo/-ɲo (2P) ‘to remember’
l. j-a-keɲa / j-i-keɲa (1S), b-a-keɲa (2S), Ø-Ø-keɲa (3), j-a-keɲa-ŋo /
j-i-keɲa-ŋo (1P), wak-a-keɲa-ɲo (2P) ‘to move, to run’

There are a few verbs which will be reported in the following examples, for which also a 3-prefixal-form is reported (see §4.6.4).

§4.6.1 Radical verbs in a bilabial consonant

In few verbs with with /b/ as root-initial consonant, /b/ may devoice in the 3-person (12).

- (12) a. j-i-bo (1S), b-a-bo (2S), Ø-Ø-po (3), j-i-bo-go (1P),
wak-a-bo-jo (2P) ‘to cry, to sing (when referring to birds)’
b. j-i-bo-ha (1S), b-a-bo-ha (2S), Ø-Ø-po-ha (3), j-i-bo-go-ha (1P),

wak-a-bo-jo-ha (2P) ‘to murmur against, to complain about’

However, in the majority of verbs with /p/ as 3-person initial consonant, /p/ is the regular root-initial consonant. In example (13) root-initial /p/ is preserved in the whole paradigm. Example (14) lists other radical verbs with root-initial /p/ which show no change in the 3-person.

- (13) a. j-i-pati-ha (1S), b-a-pati-ha (2S), Ø-Ø-pati-ha (3),
j-i-pati-go-ha (1P), wak-a-pati-jo-ha (2S) ‘to endure,
to remain firm’
b. j-i-poṇa (1S), m-a-poṇa (2S), Ø-Ø-poṇa (3), j-i-poṇa-ṇo (1P),
wak-a-poṇa-ṇo (2P) ‘to bawl out, to scold’
c. j-i-poga-j (1S), b-a-poga-j (2S), Ø-Ø-poga-j (3) j-i-poga-go-j (1P),
wak-a-poga-jo-j (2P) ‘to throw up, to vomit’
d. j-i-pogu (1S), b-a-pogu (2S), Ø-Ø-pogu (3), j-i-po-ho (1P),
wak-a-po-t̥eo (2P) ‘to hide, to conceal’
e. j-i-pota (1S), b-a-pota (2S), Ø-Ø-pota (3), j-i-pota-go (1S),
wak-a-pota-jo (2P) ‘to want to, to desire’
- (14) Ø-Ø-paṇahi (3), j-i-paṇahi (1S) ‘to understand, to observe first-hand’
Ø-Ø-paṇota ome/aha (3), j-i-paṇota ome/aha (1S) ‘to be gentle
toward, to be humble toward’
Ø-Ø-patiha (3), j-i-patiha (1S) ‘to endure, to remain firm’
Ø-Ø-paṭiora (3), j-i-paṭiora (1S) ‘to die with another’
Ø-Ø-perohi (3), j-i-perohi (1S) ‘to be like’
Ø-Ø-pesōra (3), j-i-pesōra (1S) ‘to be capable of handling’
Ø-Ø-pesu (3), j-i-pesu (1S) ‘to make, to do, to build’ (see ex. 54a)
Ø-Ø-pihoke (3), j-i-pihoke (1S) ‘to be clear, to be known’
Ø-Ø-pirake (3), j-i-pirake (1S) ‘to be difficult to understand’
Ø-Ø-puha (3), j-u-puha (1S) ‘to be determined in’
Ø-Ø-puruhi (3), j-u-puruhi (1S) ‘to wash a newborn baby’
Ø-Ø-pusi (3), j-u-pusi (1S) ‘to reside in’ (also: t̥eupusi)

Root-initial /p/ is preserved in the whole paradigm, with the only exception of the verb in (15), which according to Higham *et al.* (2000: 360) is only used in the plural.

(15) j-i-pesome (1P), wak-a-pesome (2P), ore Ø-Ø-besome (3P) ‘to do together’

In (12) root-initial /b/ turns into /p/ in the 3-person, but this is not always the case, because verbs with 3-person in /b/- are also attested, although they are only a few (16).

- (16) a. j-i-base (1S), b-a-base (2S), Ø-Ø-base (3), j-i-ba-ko (1P), wak-a-ba-so (2P) ‘to fall down, to be born, to stop when travelling’ (also: bas)
 b. j-i-bake (1S), b-a-bake (2S), Ø-Ø-bake (3), j-i-ba-ho (1P), wak-a-ba-ṭeo (2P) ‘to hunt for honey’
 c. j-i-beta (1S), b-a-beta (2S), Ø-Ø-beta (3), j-i-beta-go (1P), wak-a-beta-jo (2P) ‘to be half dead, to wither’
 d. j-i-biṇa (1S), m-a-biṇa (2S), Ø-Ø-biṇa (3), j-i-biṇa-ŋo (1P), wak-a-biṇa-ŋo (2P) ‘to vanish, to disappear, to be lost’
 e. j-i-botare (1S), b-a-botare (2S), Ø-Ø-botare (3), j-i-bota-ko (1P), wak-a-bota-ṭeo (2P) ‘to debate, to argue, to dispute’

§4.6.2 Radical verbs in a velar consonant

In radical verbs with root-initial /ŋ/, this consonant undergoes fortition word-initially, that is in the 3-person, where /ŋ/ turns into /k/. The presence of /ŋ/ in word-initial position is not allowed by the phonotactic rules of Ayoreo.

- (17) a. j-/j-i-ṇana (1S), b-/m-a-ṇana (2S), Ø-Ø-kana (3), j-/j-i-ṇana-ŋo (1P), wak-a-ṇana-ŋo (2P) ‘to laugh’
 b. j-i-ṇāra (1S), m-a-ṇāra (2S), Ø-Ø-kāra (3), j-i-ṇarā-ŋo (1P),

- wak-a-ɲarã-ɲo (2P) ‘to have something different’
- c. ɲ-i-ɲaɲare (1S), m-a-ɲaɲare (2S), Ø-Ø-kaɲare (3),
 ɲ-a-ɲaɲa-ko (1P), wak-a-ɲaɲa-tɛo (2P) ‘to play, to gamble on’
 (also: kanare)
- d. j-i-gateo-ha (1S), b-a-gateo-ha (2S), Ø-Ø-kateo-ha (3),
 j-i-gateo-go-ha (1P), wak-a-gateo-jo-ha (2P) ‘to jump on,
 to die in’
- e. j-i-gateo-hi (1S), b-a-gateo-hi (2S), Ø-Ø-kateo-hi (3),
 j-i-gateo-go-hi (1P), wak-a-gateo-jo-hi (2P) ‘to jump from’

The 3-person of the verbs in (17) has the same initial consonant of radical verbs with root-initial /k/, which are far more frequent and preserve /k/ in the whole paradigm (18). A list of further radical verbs with root-initial /k/ is provided in (19).

- (18) a. j-i-kasi (1S), b-a-kasi (2S), Ø-Ø-kasi (3), j-i-ka-ko-j (1P),
 wak-a-ka-so-j (2P) ‘to have courage, to be fearless’
- b. j-i-kanirake (1S), b-a-kanirake (2S), Ø-Ø-kanirake (3),
 j-i-kanira-ho (1P), wak-a-kanira-tɛo (2P) ‘to have the desire to do’
- c. j-i-kosa (1S), b-a-kosa (2S), Ø-Ø-kosa (3), j-i-kosa-go (1P),
 wak-a-kosa-jo (2P) ‘to brag about, to boast about’
- d. j-u-kuta (1S), b-a-kuta (2S), Ø-Ø-kuta (3), j-u-kuta-go (1P),
 wak-a-kuta-jo (2P) ‘to be fed up, to be lazy’
- e. ɲ-i-keɲa-me (1S), m-a-keɲa-me (2S), Ø-Ø-keɲa-me (3),
 ɲ-i-keɲa-ɲo-me (1P), wak-a-keɲa-ɲo-me (2P) ‘to hurry’
- f. ɲ-i-kêra (1S), m-a-kêra (2S), Ø-Ø-kêra (3), ɲ-i-kêra-ɲo (1P),
 wak-a-kêra-ɲo (2P) ‘to grow, to increase, to get bigger’
- (19) Ø-Ø-kako (3), j-i-kako (1S) ‘to have a cramp’
 Ø-Ø-kaɲorihi (3), j-i-kaɲorihi (1S) ‘to be thirsty’
 Ø-Ø-kaputahi (3), j-i-kaputahi (1S) ‘to go straight to, to go
 directly to’
 Ø-Ø-kataha (3), j-i-kataha (1S) ‘to stick, to grab on and hold tightly’
 Ø-Ø-katekãri (3), j-i-katekãri (1S) ‘to speak, to talk’ (see ex. 11b)

- Ø-Ø-kōra (3), j-/j-i-kōra (1S) ‘to fall down’ (see ex. 11a)
 Ø-Ø-kuguṇahi (3), j-u-kuguṇahi (1S) ‘to rush toward, to run quickly toward’
 Ø-Ø-kuṇesōri (3), j-u-kuṇesōri (1S) ‘to get near, to be near’
 Ø-Ø-keṇa (3), j-a-keṇa / j-i-keṇa (1S) ‘to move, to run’

§4.6.3 Radical verbs with third person in /d/- and /n/-

There are a few radical verbs with 3-person beginning with /d/ or /n/ (the nasalized counterpart of /d/). In some cases this consonant does not correspond to the root-initial consonant of the verb, but is the result of a consonantal change word-initially.

In some verbs, root-initial /r/ may turn into /d/ or /n/ in the 3-person: /r/ > /d/ (20), /r/ > /n/ (21). Such consonantal changes can also be seen as the fortition of /r/ in word-initial position. The fortition of /r/ is necessary, because AY phonological words cannot begin with /r/. Note that intervocalic /r/ tends to fall, and this explains, for instance, the dropping of the root-initial syllable *-ri/-* in *nire* (20g). In (20h) the second /n/ of *nunaji* /nunahi/ drops. In (20d-e) one finds two variants of the same verb. In both cases /n/ alternates with /j-/ word-initially in the 3-person.

- (20) a. j-i-rĩ (1S), m-a-rĩ (2S), Ø-Ø-di (3), j-i-rĩ-ŋo (1P), wak-a-rĩ-ŋo (2P)
 ‘to arrive’
 b. j-i-ri-ke (1S), b-a-ri-ke (2S), Ø-Ø-dike (3), j-i-ri-ho (1P),
 wak-a-ri-teo (2P) ‘to walk’
 c. j-i-rosopi-me (1S), b-a-rosopi-me (2S), Ø-Ø-dosopi-me (3),
 j-i-rosopi-ŋo-me (1P), wak-a-rosopi-ŋo-me (2P) ‘to fear,
 to be afraid of’
- (21) a. j-i-rã (1S), m-a-rã (2S), Ø-Ø-nã (3), j-i-rã-ŋo (1P),
 wak-a-rã-ŋo (2P) ‘to reap, to harvest’
 b. j-i-rĩhi (1S), m-a-rĩhi (2S), Ø-Ø-nihi (3), j-i-rĩhi-ŋo (1P),

- wak-a-rĩhi-ŋo (2P) ‘to wake up’ (also: niŋi)
- c. j-i-rã (1S), m-a-rã (2S), Ø-Ø-naha (3), j-i-rã-ŋo-ha (1P),
wak-a-rã-ŋo-ha (2P) ‘to put into’
- d. j-i-rãre (1S), m-a-rãre (2S), Ø-Ø-nare / Ø-Ø-ŋare (3),
j-i-rã-ko (1P), wak-a-rã-ŋo (2P) ‘to speak’
- e. j-i-rarãre (1S), m-a-rarãre (2S), Ø-Ø-narãre / Ø-Ø-ŋarãre (3),
j-i-rarã-ko (1P), waka-a-rarã-ŋo (2P) ‘to speak’
- f. j-i-rihina (1S), m-a-rihina (2S), Ø-Ø-nihina (3), j-i-rihina-ŋo (1P),
wak-a-rihina-ŋo (2P) ‘to alert with intention, purpose’
- g. j-i-(rĩ)re (1S), m-a-(rĩ)re (2S), Ø-Ø-nire (3), j-i-rẽ-ŋo (1P),
wak-a-rẽ-ŋo (2P) ‘to massage’
- h. j-ũ-rua-hi (1P), b-ã-rua-hi (2P), Ø-Ø-nuna-hi (3),
j-ũ-rua-ŋo-hi (1P), wak-ã-rua-ŋo-hi (2P) ‘to see clearly,
to understand’

When /d/ or /n/ is the root-initial consonant, it is preserved in the whole paradigm. In (22a) and (23a) the same verb is reported, the only difference is the nasalization of the word-initial consonant.

- (22) a. j-i-dehena (1S), b-a-dehena (2S), Ø-Ø-dehena (3),
j-i-dehena-ŋo (1P), wak-a-dehena-ŋo (2P) ‘to invite,
to welcome’ (also: nehena)
- b. j-i-derogo-me (1S), b-a-derogo-me (2S), Ø-Ø-derogo-me (3),
j-i-dero-ho-me (1P), wak-a-dero-ŋo-me (2P) ‘to be bored with,
to be tired of’
- c. j-i-diape (1S), b-a-diape (2S), Ø-Ø-diape (3) ‘to be fatigued,
to be tired’⁷⁷
- d. j-i-doso-ha (1S), b-a-doso-ha (2S), Ø-Ø-doso-ha (3),
j-i-doso-go-ha (1P), wak-a-doso-jo-ha (2P) ‘to scold, to rebuke’
- e. j-i-doŋoŋa-ha (1S), b-a-doŋoŋa-ha (2S), Ø-Ø-doŋoŋa-ha (3),

⁷⁷ This verb is not used in the 1P-person and the 2P-person according to Higham *et al.* (2000: 390).

j-i-doŋo-ho-ha (1P), wak-a-doŋo-tɛo-ha (2P) ‘to protest against, to show contempt for’

- (23) a. j-i-nehena (1S), b-a-nehena (2S), Ø-Ø-nehena (3),
j-i-nehena-ŋo (1P), wak-a-nehena-ŋo (2P) ‘to invite, to welcome’
(also: dehena)
b. j-i-neheru (1S), b-a-neheru (2S), Ø-Ø-neheru (3), j-i-nehe-ko (1P),
wak-a-nehe-tɛo (2P) ‘to encourage, to exhort’
c. ɲ-i-nina (1S), m-a-nina (2S), Ø-Ø-nina (3), ɲ-i-nina-ŋo (1P),
wak-a-nina-ŋo (2P) ‘to rejoice, to welcome’
(followed by the reflexive pronoun: ‘to be happy’)

In (24-25) one finds radical verbs where rare changes occur in the 3-person beginning with /n/. Root-initial /ɲ/ can turn into /n/ in the 3-person (24). Note that /ɲ/ is observed word-initially in the 3-person (36), so that the presence of the word-initial /n/ in the 3-person is not due to phonotactic constraints. In (25a-b) root-initial /hi/ or /ɲi/ turns into /no/ word-initially in the 3-person. /n/ depends on the fortition of /h/ or /ɲ/ word-initially, while /o/ is a sheer irregularity. For the verb in (25a) a ‘regular’ prefixal form is also found in the 3-person. In (25c) root-initial /ɲ/ turns into /n/ word-initially in the 3-person, where the following consonant /h/ turns into /ɲ/.

- (24) a. j-i-ɲoɲa (1S), b-a-ɲoɲa (2S), Ø-Ø-ɲoɲa (3), j-i-ɲoɲa-ŋo (1P),
wak-a-ɲoɲa-ŋo (2P) ‘to change, to become’ (used with *ga*)
b. j-i-ɲoɲa-hi (1S), b-a-ɲoɲa-hi (2S), Ø-Ø-ɲoɲa-hi (3),
j-i-ɲoɲa-ŋo-hi (1P), wak-a-ɲoɲa-ŋo-hi (2P) ‘to continue on to, to continue in’
- (25) a. j-i-ɲina (1S), b-a-ɲina (2S), Ø-Ø-nona / tɛ-i-ɲina (3),
j-i-ɲina-ŋo (1P), wak-a-ɲina-ŋo (2P) ‘to accompany, to go with’ (also: tɛihina)

- b. j-i-hiño-me (1P), b-a-hiño-me (2P), Ø-Ø-noño-me (3),
j-i-hiño-ño-me (1P), wak-a-hiño-ño-me (2P) ‘to leave’
- c. j-/ɲ-i-ɲehe (1S), b-/m-a-ɲehe (2S), Ø-Ø-neɲe (3),
j-/ɲ-i-ɲehe-ño (1P), wak-a-ɲehẽ-ɲeo (2P) ‘to persuade’

§4.6.4 Radical verbs with third person in /s/- and /tɕ/-

Radical verbs with root-initial /s/ preserve it in the whole paradigm (26). In (27a) both a prefixal and a radical 3-person beginning with /s/- are reported for the same verbs. As one can see in (27b), where a variant of *chusurungu* /tɕusuruɲu/ is reported, the word-internal syllable /su/ can drop (27b).⁷⁸

- (26) a. j-i-serẽra-ha (1S), b-a-serẽra-ha (2S), Ø-Ø-serẽra-ha (3),
j-i-serẽra-ño-ha (1P), wak-a-serẽra-ño-ha (2P) ‘to be soft,
to be weak’
- b. j-u-sũruɲa (1S), b-a-sũruɲa (2S), Ø-Ø-sũruɲa (3),
j-u-sũruɲa-ño (1P), wak-a-sũruɲa-ño (2P) ‘to be listless,
to be depressed’
- c. j-i-so-go (1P), wak-a-so-jo (2P), ore Ø-Ø-so (3P) ‘to lack a part,
to miss a portion’ (only used in the plural)
- (27) a. ɲ-u-suruɲu (1S), m-a-suruɲu (2S), tɕ-u-suruɲu / Ø-Ø-suruɲu (3),
ɲ-u-suruɲu-ño (1P), wak-a-suruɲu-ño (2P) ‘to pout at,
to act disgusted’
- b. ɲ-u-ruɲu (1S), m-a-ruɲu (2S), tɕ-u-ruɲu / tɕ-u-gu (3),
ɲ-u-ruɲu-ño (1P), wak-a-ruɲu-ño (2P) ‘to pout at, to act disgusted’

In other radical verbs having the 3-person beginning with /s/, this consonant is the result of fortition of the root-initial consonant.

⁷⁸ The syllable dropping of /-ru/- is observed in the 3-person *chugu* /tɕugu/.

Root-initial /h/ (28a-b) and /ŋ/ (28c) turn into /s/ in the 3-person.⁷⁹ In (28b-c) a 3-person form where /h/ and /ŋ/ are preserved is also found. Note that there is no morphophonological need for /h/ or /ŋ/ to turn into /s/ word-initially: radical verbs beginning with /h/ and /ŋ/ are attested in Ayoreo (see examples (32) and (35), respectively).

- (28) a. j-i-hōkaro-me (1S), b-a-hōkaro-me (1S), Ø-Ø-sokaro-me (3),
 j-i-hōka-ko-me (1P), wak-a-jōka-təo-me (2P) ‘to mistreat’
 b. j-i-hu(r)ega (1P), b-a-hu(r)ega (2P), Ø-Ø-su(r)ega /
 Ø-Ø-hu(r)ega (3), j-u-hu(r)e-ho / j-u-hurega-go (1P),
 wak-a-hu(r)e-təo / wak-a-hurega-jo (2P) ‘to permit, to allow’
 c. ŋ-u-ŋue (1S), m-a-ŋue (2S), Ø-Ø-sue / Ø-Ø-ŋue (3),
 ŋ-u-ŋue-ŋo (1P), wak-a-ŋue-ŋo (2P) ‘to be bigger/greater than’
 (used with *gaj*) (also: sure / ŋue)

In (29) root-initial /h/ can correspond to /s/ in the 3-person, so that /h/ turns into /s/. There is also a regular 3-person variant beginning with /tɛ/. This should not be interpreted as the result of a consonantal change, but as a 3-prefixal-form which alternates with the radical form and in which syllable dropping occurred, as one can see in (29b), where *chujuse* /tɛuhuse/ turns into *chuse* /tɛuse/.⁸⁰

- (29) a. j-i-hose (1S), b-a-hose (2S), Ø-Ø-ose / tɛ-ose (3), j-i-ho-ko (1P),
 wak-a-ho-so (2P) ‘to push (the enemy) back; to squeeze’
 (see also (32b))
 b. j-u-huse (1S), b-a-huse (2S), Ø-Ø-suse / tɛ-use / tɛ-u-huse (3),

⁷⁹ /ŋ/ is the nasal counterpart of /h/.

⁸⁰ The syllable dropping of -hV/- is a frequent phonetic phenomenon in Chamacoco when /h/ appears in intervocalic context and both vowels have the same quality.

- j-u-hu-ko (1P), wak-a-hu-so (2P) ‘to care for’ (used with *gio*)
 c. j-u-hu(ru) (1S), b-a-hu(ru) (2S), Ø-Ø-su(ru) / tɛ-u-hu(ru) (3),
 j-u-hu-ko (1P), wak-a-hu-tɛo / wak-a-hu-jo (2P) ‘to close (in),
 to shut in’ (used with *gaj*)

There are also some radical verbs in /tɛ/. In a few verbs, root-initial /tɛ/ is preserved in the whole paradigm (30a-b), while in other verbs /tɛ/ in the 3-person possibly derives from the fortition of /j/ in word-initial position (31). The verb in (30c) is not radical, but its prefixal 3-person coincides with the radical 3-person of the verb in (30b). One may also surmise that the verbs in (31) are prefixal verbs, in which the root-initial syllable -/jV/- has dropped and /tɛ/ is the 3-prefix, but the comparison with CH/O.Z verbs (§7.7) and with AY possessive inflection (§9.7) suggests that, at least synchronically, these verbs are radical.

- (30) a. j-i-tɛietaji-me (1S), b-a-tɛietaji-me (2S), Ø-Ø-tɛietaji-me (3),
 j-i-tɛietaji-ŋo-me (1P), wak-a-tɛietaji-ŋo-me (2P) ‘to protest
 against, to show contempt for’
 b. j-i-tɛaŋa-j (1S), m-a-tɛaŋa-j (2S), Ø-Ø-tɛaŋa-j (3),
 j-i-tɛaŋa-ŋo-j (1P), wak-a-tɛaŋa-ŋo-j (2P) ‘to answer, to reply,
 to respond’
 c. j-a-ŋa-j (1S), m-a-ŋa-j (2S), tɛ-a-ŋa-j (3), j-a-ŋa-ŋo-j (1P),
 wak-a-ŋa-ŋo-j (2P) ‘to go to, to come to’
- (31) a. j-i-ja (1S), b-a-ja (2S), Ø-Ø-tɛa (3), j-i-ja-go (1P), wak-a-ja-jo (2P)
 ‘to stop, to quit’
 b. j-i-jage (1S), b-a-jage (2S), Ø-Ø-tɛage (3), j-i-jage-go (1P),
 wak-a-jage-jo (2P) ‘to stand up’
 c. j-i-jagena (1S), b-a-jagena (2S), Ø-Ø-tɛagena (3),
 j-i-jagena-ŋo (1P), wak-a-jagena-ŋo (2P) ‘to stand up with
 intention’
 d. j-i-ja-hi (1S), b-a-ja-hi (2S), Ø-Ø-tɛa-hi (3), j-i-ja-go-hi (1P),

- wak-a-ja-jo-hi (2P) ‘to stay with, to stay by’
- e. j-i-ja-me (1S), b-a-ja-me (2S), Ø-Ø-*tea*-me (3), j-i-ja-go-me (1P),
wak-a-ja-*no*-me (2P) ‘to stand firm against, to retreat from
danger’
- f. j-i-jo (1S), b-a-jo (2S), Ø-Ø-*teo* (3), j-i-jo-go (1P), wak-a-jo-jo (2P)
‘to jump’
- h. j-i-jo-gaj (1S), b-a-jo-gaj (2S), Ø-Ø-*teo*-gaj (3), j-i-jo-go-gaj (1P),
wak-a-jo-jo-gaj (2P) ‘to pass over’
- g. j-i-jo-ha (1S), b-a-jo-ha (2S), Ø-Ø-*teo*-ha (3), j-i-jo-go-ha (1P),
wak-a-jo-jo-ha (2P) ‘to jump to another side’

§4.6.5 Radical verbs without any consonantal change

This paragraph discusses the radical verbs in which no consonantal change occurs. There is an inventory of root-initial consonants which are always present in the whole paradigm when they are to be found word-initially in the 3-person, so that, given the 3-person, one can construct the other verb forms. The following examples list radical verbs beginning with /h/ (32), /m/ (33), /ŋ/ (34), /ŋ/ (35), /ŋ/ (36) and /j/ (37). Note that few radical verbs are to be found for each of the above-mentioned consonants. In (32b) one finds three variants in the 3-person: *jose* /hose/, *sose* and *chose* /*teo*se/. Root-initial /h/ undergoes fortition in *sose*, but is preserved in *jose* /hose/. The 3-person *chose* /*teo*se/ should probably be considered the 3-prefixal-form in which thematic /u/ and root-initial /h/ have dropped.

- (32) a. j-i-höre (1S), b-a-höre (2S), Ø-Ø-höre (3), j-i-hö-ko (1P),
wak-a-hö-*teo* (2P) ‘to fear that something will happen again’
- b. j-i-hose (1S), b-a-hose (2S), Ø-Ø-hose / Ø-Ø-*sose* / *teo*-ose (3),
j-i-ho-ko (1P), wak-a-ho-so (2P) ‘to push (the enemy) back;
to squeeze’

- (33) a. *n-i-mo-jgate* (1S), *m-a-mo-jgate* (2S), *Ø-Ø-mo-jgate* (3),
n-i-mo-ŋo-jgate (1P), *wak-a-mo-no-jgate* (2P) ‘to be sleepy’
 b. *n-i-miña* (1S), *m-a-miña* (2S), *Ø-Ø-miña* (3), *n-i-miña-ŋo* (1P),
wak-a-miña-no (2P) ‘to get lost’
 c. *n-i-mo-jgaj* (1S), *m-a-mo-jgaj* (2S), *Ø-Ø-mo-jgaj* (3),
n-i-mo-ŋo-jgaj (1P), *wak-a-mo-no-jgaj* (2P) ‘to sleep with;
 to have a relationship with’ (also: *mohigaj*)
 (see also *Ø-Ø-mo* (11c))
- (34) a. *j-i-mata* (1S), *b-a-mata* (2S), *Ø-Ø-mata* (3), *j-i-mata-go* (1P),
wak-a-mata-jo (2P) ‘to be in want, to be poor, to be lacking’
 b. *j-i-moŋara-ha* (1S), *b-a-moŋara-ha* (2S), *Ø-Ø-moŋara-ha* (3),
j-i-moŋa-ko-ha (1P), *wak-a-moŋa-ŋeo-ha* (2P)
 ‘to threaten with evil, to harm’
- (35) a. *n-i-ŋatu* (1S), *m-a-ŋatu* (2S), *Ø-Ø-ŋatu* (3), *n-i-ŋatu-go* (1P),
wak-a-ŋatu-jo (2P) ‘to wait impatiently for, to await’
 b. *j-i-ŋare* (1S), *m-a-ŋare* (2S), *Ø-Ø-ŋare* (3), *j-i-ŋa-ko* (1P),
wak-a-ŋa-ŋeo (2P) ‘to moan, to groan’
 c. *j-i-ŋari* (1S), *b-a-ŋari* (2S), *Ø-Ø-ŋari* (3), *j-i-ŋa-ko-j* (1P),
wak-a-ŋa-ŋeo-j (2P) ‘to want very much, to have great desire’
 (see also: *Ø-Ø-ŋusi* (11h) and *Ø-Ø-ŋusina* (11i))
- (36) a. *n-i-ŋoŋa* (1S), *m-a-ŋoŋa* (2S), *Ø-Ø-ŋoŋa* (3), *n-i-ŋoŋa-ŋo* (1P),
wak-a-ŋoŋa-no (2P) ‘to have cramps, to be unable to move’
- (37) a. *j-i-jaŋu* (1S), *b-a-jaŋu* (2S), *Ø-Ø-jaŋu* (3), *j-i-jaŋu-ŋo* (1P),
wak-a-jaŋu-no (2P) ‘to be constipated’
 b. *j-u-juare* (1S), *b-a-juare* (2S), *Ø-Ø-juare* (3), *j-u-jua-ko* (1P),
wak-a-jua-ŋeo (2P) ‘to wail, to grieve with mournful cries,
 to lament’

Also radical verbs beginning with /t/ do not show any change in the root-initial consonant. In (38) some paradigms are reported. A

list of radical verbs in /t/ is provided in (39). Note that, given a 3-person beginning with a consonant, one can establish that it is a radical verb, but given a 3-person beginning with /t/ or /tɛ/ (30-31), one cannot establish *a priori* whether the verb is prefixal or radical, unless the rest of the paradigm is provided. For the verb *toji* /tohi/ (38c) a prefixal 3-person form *chitoji* /tɛitohi/ is also to be found.

- (38) a. j-i-tiboha (1S), b-a-tiboha (2S), Ø-Ø-tiboha (3), j-i-tiboha-go (1P),
 wak-a-tiboha-jo (2P) ‘to yawn’
 b. ɲ-i-teɲu (1S), m-a-teɲu (2S), Ø-Ø-teɲu (3), ɲ-i-teɲu-ŋo (1P),
 wak-a-teɲu-jo (2P) ‘to be numb’
 c. j-i-to-hi (1S), b-a-to-hi (2S), tɛ-i-to-hi / Ø-Ø-to-hi (3),
 j-i-to-go-hi (1P), wak-a-to-jo-hi (2P) ‘to stare at’ (used with *gaj*)

- (39) Ø-Ø-tāraɲime (3), j-i-tāraɲime (1S) ‘to envy; to covet; to be greedy for’

Ø-Ø-tārara (3), j-i-tārara (1S) ‘to tremble; shake involuntarily’
 Ø-Ø-tarata (3), j-i-tarata (1S) ‘to rot, to decompose, to decay’
 Ø-Ø-teku (3), j-i-teku (1S) ‘to go on all fours, to crawl on all fours’
 Ø-Ø-tiha (3), j-i-tiha (1S) ‘to be amazed at, to marvel at’
 Ø-Ø-tihina (3), j-i-tihina (1S) ‘to be glad, to rejoice, to be happy’
 Ø-Ø-tiogara (3), j-i-tiogara (1S) ‘to deserve, to merit’
 Ø-Ø-tojna / Ø-Ø-tojna (3), j-i-tojna / j-i-tojna (1S) ‘to die together with’

Ø-Ø-tōroraha (3), j-i-tōroraha (1S) ‘to fit too loosely’
 Ø-Ø-tuāgoa / Ø-Ø-tuaŋoa (3), j-u-tuāgoa / j-u-tuaŋoa (1S) ‘to encounter, to come upon to, to meet on the road’

See also: *terēta* (ex. 11d), *todo* (ex. 11e), *toj* (ex. 11f) and *totaha* (ex. 11d).

§4.7 Radical verbs, thematic verbs and exceptions

In (40) one finds some verbs with 3-person form beginning with a vowel. In Chamacoco there is a class of ‘thematic’ verbs, that is of verbs with 3-person consisting of the root and the thematic vowel. (40a-b) are the only thematic verbs of Ayoreo. In (40a) the prefixal 3-person *chapáji* /tɛapahi/ alternates with the thematic 3-person *apáji* /apahi/. In (40b) only the thematic 3-person *ujñapegome* /uɲapegome/ is reported. (40c) and (40d) should not be regarded as thematic, because they are radical verbs whose root-initial consonant has dropped owing to phonetic erosion in the 3-person. In (40c) the radical 3-person *quíñoque* /kiñoke/ alternates with its reduced variant *íñoque* /iñoke/. The latter form also functions as negative existential verb.

- (40) a. j-a-pa-hi (1S), b-a-pa-hi (2S), a-pa-hi / tɛ-a-pa-hi (3),
j-a-pa-go-hi (1P), wak-a-pa-jo-hi (2P) ‘to stay temporarily in
a place’
b. j-u-ɲapego-me (1S), b-a-ɲapego-me (2S), u-ɲapego-me (3),
j-u-ɲape-ho-me (1P), wak-a-ɲape-tɛo-me (2P) ‘to be able to do,
to be apt to’
c. j-i-kiñoke (1S), m-a-kiñoke (2S), Ø-Ø-iñoke / Ø-Ø-kiñoke (3),
j-i-kiño-ho (1P), wak-a-kiño-tɛo (2P) ‘to be exhausted, to faint’;
Ø-Ø-iñoke (3) ‘there is no’
d. j-i-keka (1S), b-a-keka (2S), Ø-Ø-eka (3), j-i-keka-go (1P),
wak-a-keka-jo (2P) ‘to live, to exist’

A case of suppletion is shown in (41). *Déji* /dehi/ is the form generally used for the 3-person, while a ‘regular’ form *chugúsi* /tɛugusi/ is also to be observed.

- (41) j-u-gusi (1S), b-a-gusi (2S), dehi / tɛ-u-gusi (3), j-u-gu-ko-j

(j-u-gu-ko-hi) (1P), wak-a-gu-so-j (wak-a-gu-so-hi) (2P) ‘to be (location)’

The verb *cho* /tɕo/ (42a) only consists of thematic /o/. Its 3-person form seems to coincide with the 3-person of the verb ‘to jump’ (42b), whose 2-persons in turn coincide with those of the verb *chayo* /tɕajo/ (42c).

- (42) a. j-o (1S), b-o (2S), tɕ-o (3), j-o-ko (1P), wak-o-jo (2P) ‘to be like, to sound like’
 b. j-i-jo (1S), b-a-jo (2S), Ø-Ø-tɕo (3), j-i-jo-go (1P), wak-a-jo-jo (2P) ‘to jump, to leap, to fly’
 c. j-a-jo (1S), b-a-jo (2S), tɕ-a-jo (3), j-a-jo-go (1P), wak-a-jo-jo (2P) ‘to run’

The verbs *jno* /ŋo/ (43a) and *doi* /doj/ (43b) are completely irregular. The 2-persons of the irrealis lose the thematic vowel and the 1S-persons of *jno* /ŋo/ and *doi* /doj/ coincide.⁸¹

- (43) a. j-i-hi / ji (1S), b-a-bo (2S) / bo (2S.IRLS), ŋo (3), j-i-ko (1P), wak-a-bo-jo (2P) / bo-jo (2P.IRLS) ‘to go, to leave’⁸²
 b. j-i-hi / ji (1S), b-a-be (2S) / be (2S.IRLS), do-j (3), j-iko-j (1P), wak-a-be-jo-j (2P) / be-jo-j (2P.IRLS) ‘to bring, to do, to get’

The verb in (44) represents a very interesting exception. The vocalic pattern is irregular, because it is /i/-/a/-/a/, only found by this verb, and /i/ in the 1-person is never related to /a/ in the 3-person. The 3-prefix is /n/-, not to be found in other AY verbs,

⁸¹ On these verbs, see also §7.9.

⁸² The 1P-person *yico* /jiko/ is homophonous with the 1P-person of *chise* /tɕise/ (see ex. 8a).

but observed in the other Zamucoan languages (see §7.1). A diachronic explanation can thus be found.

- (44) j-i-rani-me (1P), b-a-rani-me (2P), n-a-rani-me (3),
j-i-rani-ŋo-me (1P), wak-a-rani-ŋo-me (2P) ‘to be tired, to be
fed up’ (also: narajime)

Finally, there are some verbs which have no inflection and are only used in the 3-person or as impersonal verbs. Some of these elements are reported in (45).

- (45) a. beke ‘to rain’
b. t̥eiririta (3) ‘to be wilt as trees/grass, to be dry as tree/grass’
c. dahate ‘to boil’
d. gome / goŋome (3) ‘to be enough’
e. tokade (3) ‘to come out, to happen’

§4.8 Suffixation in Ayoreo verb morphology

AY verbs take a suffix in the 1P- and the 2P-person. AY verb suffixation is usually regular. There are two series of suffixes: *-/go/* (1P), *-/jo/* (2P) and *-/ko/* (1P), *-/t̥eo/* (2P). The first series is used when there is no change in the verb root, while the second series is used when the final consonant or syllable is substituted (§4.8.1). The suffixes *-/ko/* and *-/t̥eo/* can have the allomorphs *-/ho/* (§4.8.2) and *-/so/* (§4.8.3), respectively. The suffixes *-/go/*, *-/jo/* can undergo nasalization, but nasal spread can be blocked (§4.8.4). Some exceptions to the use of the two series of suffixes are discussed in (§4.8.5). The lexical suffix changes the lexical meaning of the verb (§4.8.6). The final syllable can undergo reduction (§4.8.7), which is often to be found in the lexical suffixes *-/ihi/* (§4.8.8) or *-/aha/* (§4.8.9).

§4.8.1 The suffixes *-/go/*, *-/jo/* and *-/ko/*, *-/tɕo/*

This section describes the general use of the two series of suffixes expressing the plural persons: *-/go/* (1P), *-/jo/* (2P) and *-/ko/* (1P), *-/tɕo/* (2P). *-/go/* and *-/jo/* are generally correlated. They are used when no changes occur in the verb root (46-47).

- (46) a. j-i-pota (1S), b-a-pota (2S), Ø-Ø-pota (3), j-i-pota-go (1P),
wak-a-pota-jo (2P) ‘to want’
b. j-u-he (1S), b-a-he (2S), tɕ-u-he (3), j-u-he-go (1P),
wak-a-he-jo (2P) ‘to kill, to hit’

The suffixes *-/go/* and *-/jo/* can nasalize into the allomorphs *-/ŋo/* and *-/ɲo/* respectively. The nasalization of verb prefixes is optional, while in verb suffixes nasalization is more regular and predictable, as in nominal suffixation. The suffix nasalizes if a nasal element is present in the verb root. In some phonetic contexts the spread of nasalization to the suffix is blocked. About the block of nasalization, see §4.8.4.

- (47) a. j-i-ŋo (1S), b-a-ŋo (2S), tɕ-i-ŋo (3), j-i-ŋo-ŋo (1P),
wak-a-ŋo-ɲo (2P) ‘to tell, to show’ (also: tɕigo)
b. j-o-ŋe (1S), m-o-ŋe (2S), tɕ-o-ŋe (3), j-o-ŋe-ŋo (1P),
wak-o-ŋe-ɲo (2P) ‘to pour out, to spill’

The second series of suffixes consists of the prefix *-/ko/* in the 1P-person and *-/tɕo/* in the 2P-person. As in the first series, there is a general correlation between these prefixes. *-/ko/* and *-/tɕo/* are usually used when the final syllable or the final consonant of the root is replaced by the suffix. The syllables replaced by *-/ko/* and *-/tɕo/* will be called ‘mobile syllables’. In example (48) the

syllables *-ra/* (48a-b), *-re/* (48c-d), *-ru/* (48f), *-ke/* (48g) and *-te/* (48h) are substituted by *-ko/* and *-tɛo/*.

- (48) a. *ɲ-ẽ-ra* (1S), *m-ẽ-ra* (2S), *t-ẽ-ra* (3), *ɲ-ẽ-ko* (1P), *wak-ẽ-tɛo* (2P)
 ‘to sell’
 b. *ɲ-õ-ra* (1S), *m-õ-ra* (2S), *t-õ-ra* (3), *ɲ-õ-ra-ŋo* (1P),
 wak-õ-ra-ŋo (2P) ‘to throw out, to cast out’
 c. *j-a-hire* (1S), *b-a-hire* (2S), *tɛ-a-hire* (3), *j-a-hi-ko* (1P),
 wak-a-hi-tɛo (2P) ‘to observe, to look at’
 d. *ɲ-e-kāre* (1S), *m-e-kāre* (2S), *tɛ-e-kāre* (3), *ɲ-e-kā-ko* (1P),
 wak-a-kā-tɛo (2P) ‘to change, to replace’
 e. *j-o-hare* (1S), *b-o-hare* (2S), *tɛ-o-hare* (3), *j-o-ha-ko* (1P),
 wak-o-ha-tɛo (2P) ‘to smell’
 f. *j-i-ga-ru* (1S), *b-a-ga-ru* (2S), *tɛ-i-ga-ru* (3), *j-i-ga-ko* (1P),
 wak-a-ga-tɛo (2P) ‘to tie, to fasten’
 g. *j-i-roke* (1S), *b-a-roke* (2S), *tɛ-i-roke* (3), *j-i-ro-ho/-ko* (1P),
 wak-a-ro-tɛo (2P) ‘to send out, to command’
 h. *ɲ-ĩ-rate* (1S), *m-ã-rate* (2S), *tɛ-ĩ-rate* (3), *ɲ-ĩ-ra-ko* (1P),
 wak-ã-ra-tɛo (2P) ‘to fill up’

The two verbs in (49) end in a different mobile syllable which is substituted in the plural. As a consequence, their 1P- and 2P-person coincide. The presence of a nasal element in the verb root has no influence on the suffixes *-ko/* and *-tɛo/* which cannot nasalize, because voiceless stops block the spread of nasality.

- (49) a. *ɲ-i-kāra* (1S), *m-e-kāra* (2S), *tɛ-i-kāra* (3), *ɲ-i-kā-ko* (1P),
 wak-e-kā-tɛo (2P) ‘to dream’
 b. *ɲ-i-kāre* (1S), *m-e-kāre* (2S), *tɛ-i-kāre* (3), *ɲ-i-kā-ko* (1P),
 wak-e-kā-tɛo (2P) ‘to mention’

There is an inventory of final syllables which are always replaced by *-ko/* and *-tɛo/*: *-k/* or *-ke/*, *-da/*, *-go/*, *-gu/*, *-ni/*, *-s/*

or *-/se/*, *-/t/* or *-/te/*.⁸³ In word-final position the syllables *-/ke/*, *-/se/* and *-/te/* alternate with final *-/k/*, *-/s/* and *-/t/*, which are also replaced by *-/tɕo/* and *-/ko/* and are the only root-final consonants found in AY verbs. The syllables *-/ke/*, *-/se/* and *-/te/* are produced by adding the euphonic vocoid */e/* to the last consonant, so recreating the preferred syllabic structure CV (see Bertinetto 2009: 11). For this reason, the term ‘mobile syllable’ will also be used to refer to final *-/k/*, *-/s/* and *-/t/*.

When the final syllable of the root is not substituted, the suffixes *-/go/* and *-/jo/* are used. (50) lists the inventory of syllables for which no substitution is reported.

⁸³ The syllable *-/me/* is usually a lexical suffix which does not belong to the root (see §4.8.6). It is only to be observed in one verb as final syllable of the root and in this case it is substituted:

(i) *ɲ-i-ɲi-me* (1S), *m-a-ɲi-me* (2S), *tɕ-i-ɲi-me* (3), *ɲ-i-ɲi-ko* (1P),
 wak-a-ɲi-tɕo (2P) ‘to take out, to take off’.

- (50) -/bo/,
 -/ka/, -/ko/, -/ku/
 -/tca/, -/tei/, -/tco/, -/təu/
 -/do/, -/du/
 -/ge/
 -/ha/, -/he/, -/hi/, -/ho/, -/hu/
 -/mo/
 -/ṁo/, -/ṁu/
 -/nu/,
 -/ṇa/, -/ṇi/, -/ṇe/, -/ṇo/, -/ṇu/
 -/ṇa/, -/ṇu/
 -/ṇa/, -/ṇi/, -/ṇo/
 -/pa/, -/pu/
 -/ta/, -/to/, -/ti/, -/tu/
 -/ja/, -/ji/, -/jo/

There is also a group of final syllables which, depending on the verb can or cannot be substituted (51). Verbs have the series -/ko/, -/tco/ in the first case and -/go/, -/jo/ in the second case.

- (51) -/di/
 -/ga/, -/gi/
 -/ṇa/, -/ṇo/, -/ṇu/
 -/na/,⁸⁴ -/no/
 -/ra/, -/re/, -/ri/, -/ro/, -/ru/
 -/sa/, -/si/, -/su/, -/so/

⁸⁴ -/na/ occurs very frequently as final syllable. In most cases, it is not substituted. By contrast, -/re/ is mostly substituted.

§4.8.2 The allomorph *-ho/*

The suffix *-ko/* has an allomorph *-ho/* which occurs when the mobile syllable begins with a velar consonant. The mobile syllables in (52) are replaced by *-ho/* and *-təo/*. This occurs when the mobile syllable is *-k/* (or *-ke/*), *-ga/*, *-ŋa/*, *-go/*, *-ŋo/*, *-gu/*, *-ŋu/*, *-gi/* or *-ŋi/*. Note that in this syllabic inventory, only *-k/* or *-ke/*, *-go/* and *-gu/* are always substituted. With the other syllables of the previous inventory, the substitution does not always occur, but, when it occurs, *-ho/* is generally used. The syllable *-ge/* is not included in the list, because it is not substituted. It is only found in *iyague* /*ijage/* (53).

- (52) a. *j-a-gu* (1S), *b-a-gu* (2S), *t-a-gu* (3), *j-a-ho* (1P), *wak-a-təo* (2P) ‘to eat, to bite’
 b. *j-a-ke* (1S), *b-a-ke* (2S), *t-a-ke* (3), *j-a-ho* (1P), *wak-a-təo* (2P) ‘to eat’
 c. *j-i-bagi* (1S), *b-a-bagi* (2S), *t-i-bagi* (3), *j-i-ba-ho-j* (1P), *wak-a-ba-təo-j* (2P) ‘to come to a person’
 d. *j-i-ri-ke* (1S), *b-a-ri-ke* (2S), *Ø-Ø-dike* (3), *j-i-ri-ho* (1P), *wak-a-ri-təo* (2P) ‘to walk’
 e. *ŋ-i-ŋoke* (1S), *m-a-ŋoke* (2S), *tə-i-ŋoke* (3), *ŋ-i-ŋo-ho* (1P), *wak-a-ŋo-təo* (2P) ‘to carry a load’
 f. *j-i-pedugu* (1S), *b-a-pedugu* (2S), *tə-i-pedugu* (3), *j-i-pedu-ho* (1P), *wak-a-pedu-təo* (2P) ‘to crowd, to press against’
 g. *j-i-jaroga* (1S), *b-a-jaroga* (2S), *tə-i-jaroga* (3), *j-i-jaro-ho* (1P), *wak-a-jaro-təo* (2P) ‘to be unacceptable’
- (53) *j-i-jage* (1S), *b-a-jage* (2S), *Ø-Ø-təage* (3), *j-i-jage-go* (1P), *wak-a-jage-jo* (2P) ‘to stand up’

In some verbs both the suffix *-ko/* and *-ho/* can be found in the 1P-person (54). In (54a), the suffix *-ko/* and *-ho/* alternate in *pesu*,

which is clearly an exception, since the final syllable is *-su/* (about the 2P-person, see §4.8.3). In the 1P-person of *chojninga* /tɕoŋiŋa/, the last syllable may be preserved and *-ko/*, rather than *-ŋo/*, is used. In the plural persons of *tiogara* (55) the sequence *-gara* deletes and the suffixes *-ho/* and *-tɕo/* are used.

- (54) a. j-i-pesu (1S), b-a-pesu (2S), Ø-Ø-pesu (3), j-i-pe-ko /
j-i-pe-ho (1P), wak-a-pe-so (2P) ‘to make, to do’
b. j-o-ŋiŋa (1S), m-o-ŋiŋa (2S), tɕ-o-ŋiŋa (3), j-o-ŋiŋa-ko / j-o-ŋi-ho
/ j-o-ŋi-ko (1P), wak-o-ŋiŋa-tɕo / wak-o-ŋi-tɕo (2P) ‘to say’
- (55) j-i-tiogara (1S), b-a-tiogara (2S), Ø-Ø-tiogara (3), j-i-tio-ho (1P),
wak-a-tio-tɕo (2P) ‘to deserve, to merit’

§4.8.3 The allomorph *-so/*

The mobile syllables beginning with */s/* (*-sa/*, *-s/* or *-se/*, *-si/*, *-so/* and *-su/*) have an influence on the 2P-suffix, which is not *-tɕo/*, but *-so/* (56). The verb in (56e) derives from *chapuse* /tɕapuse/ (56d). The latter is usually followed by the lexeme *aja* /aha/, which in (56e) has been included in the verb as lexical suffix (see §4.8.6). In this case too, the syllable is substituted and *-so/* is the 2P-prefix. In (57) one finds two verbs with the mobile syllable *-se/*. Here one can see that the mobile syllable is actually part of the root, because otherwise the verb would consist of the mere thematic vowel.

- (56) a. j-i-gase (1S), b-a-gase (2S), tɕ-i-gase (3), j-i-ga-ko (1P),
wak-a-ga-so (2P) ‘to bite, to sting’
b. j-i-pese (1S), b-a-pese (2S), tɕ-i-pese (3), j-i-pe-ko (1P),
wak-a-pe-so (2P) ‘to suck, to lick’
c. j-u-muteasu (1S), b-a-muteasu (2S), tɕ-u-muteasu (3),
j-u-mutea-ko (1P), wak-a-mutea-so (2P) ‘to overturn,

to turn something'

- d. j-a-puse (1S), b-a-puse (2S), tɛ-a-puse (3), j-a-pu-ko (1P),
wak-a-pu-so (2P) 'to choose at random' (used with *aha*)
- e. j-a-pusa-ha (1S), b-a-pusa-ha (2S), tɛ-a-pusa-ha (2S),
j-a-pu-ko-ha (2S), wak-a-pu-so-ha (2S) 'to choose at random'

- (57) a. j-i-se (1S), b-e-se (2S), tɛ-i-se (3), j-i-ko (1P), wak-e-so (2P) 'to
find, to meet, to reach'
- b. j-a-se (1S), b-a-se (2S), tɛ-a-se (3), j-a-ko (1P), wak-a-so (2P)
'to plunder'

The final syllables *-sa/*, *-si/*, *-so/* and *-su/* are not always substituted. In this case, *-go/* and *-jo/* are to be observed.

- (58) a. j-i-kosa (1S), b-a-kosa (2S), Ø-Ø-kosa (3), j-i-kosa-go (1P),
wak-a-kosa-jo (2P) 'to brag about, to boast about'
- b. j-i-si (1S), b-a-si (2S), tɛ-i-si (3), j-i-si-go / j-i-si-ŋo (1P),
wak-a-si-jo / wak-a-si-ŋo (2P) 'to give'
- c. j-i-doso (1S), b-a-doso (2S), doso (3), j-i-doso-go (1P),
wak-a-doso-jo (2P) 'to scold, to rebuke' (used with *aha*)
- d. j-a-kesu (1S), b-a-kesu (2S), tɛ-a-kesu (3), j-a-kesu-go (1P),
wak-a-kesu-jo (2P) 'to cut, to go across'

§4.8.4 The block of nasalization

As in the plural of nominals, the spread of nasalization is blocked when a plosive consonant is interposed between the nasal element and the suffix. This occurs in most cases in the verb, where the consonant which blocks nasalization is usually /t/ (59). The vast majority of verbs displaying the block of nasalization end in *-ta/*, because many other syllables (such as *-ke/*, *-te/* etc.) which could block nasalization are substituted and a different series of suffixes is used. For this reason, in the following examples there are no

examples of /k/ blocking the spread of nasalization. Also /tɕ/ can block the spread of nasalization (60). By contrast, /r/ does not interfere with the spread of nasalization (61).

- (59) a. ɲ-ĩ-reta (1S), m-ã-reta (2S), tɕ-ĩ-reta (3), ɲ-ĩ-reta-go (1P),
wak-ã-reta-jo (2P) ‘to fill up’
b. ɲ-i-mata (1S), m-a-mata (2S), tɕ-i-mata (3), ɲ-i-mata-go (1P),
wak-a-mata-jo (2P) ‘to gather, to collect’
c. ɲ-i-terêta (1S), m-a-terêta (2S), Ø-Ø-terêta (3), ɲ-i-terêta-go (1P),
wak-a-terêta-jo (2P) ‘to lie down’
d. j-a-ɱita (1S), b-a-ɱita (2S), tɕ-a-ɱita (3), j-a-ɱita-go (1P),
wak-a-ɱita-jo (2P) ‘to be concerned about, to get ready for’
e. j-i-ɱata (1S), b-a-ɱata (2S), Ø-Ø-ɱata (3), j-i-ɱata-go (1P),
wak-a-ɱata-jo (2P) ‘to be in want, to be poor, to be lacking’
f. j-a-ɲureta (1S), b-a-ɲureta (2S), tɕ-a-ɲureta (3), j-a-ɲureta-go (1P),
wak-a-ɲureta-jo (2P) ‘to believe’
g. ɲ-i-ɲatu (1S), m-a-ɲatu (2S), Ø-Ø-ɲatu (3), ɲ-i-ɲatu-go (1P),
wak-a-ɲatu-jo (2P) ‘to wait impatiently for, to await’
h. j-i-paɲota (1S), b-a-paɲota (2S), Ø-Ø-paɲota (3),
j-i-paɲota-go (1P), wak-a-paɲota-jo (2P) ‘to be gentle/humble
toward’ (used with *ome/aha*)
i. j-u-ɲieta (1S), b-a-ɲieta (2S), tɕ-u-ɲieta (3), j-u-ɲieta-go (1P),
wak-a-ɲieta-jo (2P) ‘to make fun of, to joke about’
- (60) ɲ-ẽ-ratehu (1S), m-ẽ-rateu (2S), t-ẽ-rateu / tɕ-ẽ-rateu (3),
ɲ-ẽ-rateu-go (1P), wak-ẽ-rateu-jo (2P) ‘to sing with gourd rattle’
- (61) j-a-ɱara (1S), b-a-ɱara (2S), tɕ-a-ɱara (3), j-a-ɱara-ɲo (1P),
wak-a-ɱara-ɲo (2P) ‘to savour’

Also /s/ blocks the spread of nasalization in some cases, as in (62a). However, the verb in (62b) has the nasalized suffixes -/ɲo/ and -/ɲo/ which alternate with the suffixes -/ko/ and -/so/ (about final /i/ or /j/, see §4.8.8).

- (62) a. *n-i-nasu* (1S), *m-a-nasu* (2S), *te-i-nasu* (3), *n-i-nasu-go* (1P),
 wak-a-nasu-jo (2P) ‘to thresh’ (also: *teidasu*)
 b. *n-u-ṇusi* (1S), *m-a-ṇusi* (2S), *Ø-Ø-ṇusi* (3), *n-u-ṇusi-ṇo* /
 juṇu-ko-j (1P), *wak-a-ṇusi-ṇo* / *wak-a-ṇu-so-j* (2P) ‘to be sad’

The spread of nasalization to the suffix and its block are generally regular processes, which are more systematic than the nasalization of the prefix, as noted by Sušnik (1963). There are, however, some exceptions, although they are not very frequent. In (63a) one finds a partial exception to the block of nasalization. In (63b-d) the suffix is sometimes non-nasalized, while in (63e) the suffix can nasalize.

- (63) a. *j-a-ta* (1S), *b-a-ta* (2S), *te-a-ta* (3), *j-a-ta-go* (1P), *wak-a-ta-ṇo* (2P)
 ‘to sharpen’
 b. *n/j-a-ṇa* (1S), *m-a-ṇa* (2S), *te-a-ṇa* (3), *j-a-ṇa-go* / *n-a-ṇa-ṇo* (1P),
 wak-a-ṇa-ṇo (2P) ‘to follow, to pursue’
 c. *j-a-jona* / *n-a-ṇona* (1S), *b-a-jona* / *m-a-ṇona* (2S), *te-a-jona* /
 te-a-ṇona (3), *j-a-jona-ṇo/-go* / *n-a-ṇona-ṇo* (1P),
 wak-a-jona-ṇo/-jo / *wak-a-ṇona-ṇo* (2P) ‘to run after, to chase’
 d. *n-u-ṇusina* (1S), *m-a-ṇusina* (2P), *Ø-Ø-ṇusina* (3),
 n-u-ṇusina-go/-ṇo (1P), *wak-a-ṇusina-jo/-ṇo* (2P) ‘to remember’
 e. *j-i-si* (1S), *b-a-si* (2S), *te-i-si* (3), *j-i-si-go* / *j-i-si-ṇo* (1P),
 wak-a-si-jo / *wak-a-si-ṇo* (2P) ‘to give’

§4.8.5 Exceptions

Although AY verb suffixation is usually regular, there are, however, some exceptions which are discussed in this section. In (64) the suffixes *-/ko/* and *-/təo/* do not operate any substitution. The verbs in (64a-e) end in a syllable which can be substituted (depending on the verb), while no substitution is observed for verbs ending in *-/ka/*.

The fact that some final syllables do not always have the same morphological behaviour (see the list in (51)) may have an influence on the verbs in (64). In (65) the final syllables *-re/* and *-ŋa/* are not always mobile syllables, because these verbs have both forms with and without substitution, but in both cases the suffixes *-ko/* (or *-ho/*) and *-teo/* are used. In (65a) the final syllable *-re/* turns into *-ra/* in the plural when it is not substituted (this is probably due to assimilation to the previous syllable */ga/*).

- (64) a. *j-i-rãra* (1S), *m-a-rãra* (2S), *Ø-Ø-para* (3), *j-i-rãra-ko* (1P),
wak-a-rã-teo (2P) ‘to speak’ (also: *pare*)
 b. *j-i-garu* (1S), *b-a-garu* (2), *te-i-garu* (3), *j-i-garu-ko* (1P),
wak-a-garu-teo (2P) ‘to tie, to fasten’
 c. *j-i-doŋiŋa* (1S), *b-a-doŋiŋa* (2S), *te-i-doŋiŋa* (3),
j-i-doŋiŋa-ko (1P), *wak-a-doŋiŋa-teo* (2P) (also: *teinoniŋa /*
teidoŋaŋa) ‘to examine, to look carefully at’
 d. *j-i-miniŋa* (1P), *b-a-miniŋa* (2P), *t-i-miniŋa* (3),
j-i-miniŋa-ko (1P), *wak-a-miniŋa-teo* (2P) ‘to pay attention to,
 to take note of’
 e. *j-i-ŋare* (1P), *b-a-ŋare* (2P), *te-i-ŋare* (3), *j-i-ŋare-ko* (1P),
wak-a-ŋare-teo (2P) ‘to go quickly to’
 (used with the reflexive pronoun and *aha*)
 f. *j-u-ka* (1S), *b-a-ka* (2S), *te-u-ka* (3), *j-u-ka-ko* (1P),
wak-a-ka-teo (2P) ‘to curse verbally’
- (65) a. *j-a-tiŋare* (1S), *b-a-tiŋare* (2S), *te-a-tiŋare* (3), *j-a-tiŋara-ko /*
j-a-tiŋa-ko (1P), *wak-a-tiŋara-teo / wak-a-tiŋa-teo* (2P) ‘to throw
 at, to cast at’
 b. *j-o-ŋiŋa* (1S), *m-o-ŋiŋa* (2S), *te-o-ŋiŋa* (3), *j-o-ŋiŋa-ko / j-o-ŋi-ho*
/ j-o-ŋi-ko (1P), *wak-o-ŋiŋa-teo / wak-o-ŋi-teo* (2P) ‘to say’

In other cases the lack of substitution by *-ko/* and *-teo/* is an apparent exception, as in *nejé* /*nehe/* (66a): in (66b) its variant

nejéru /neheru/ is regular and *-ru/* is replaced by *-ko/* and *-təo/*. In this verb the apocope of the final syllable *-ru/* may occur (66a) and the same suffixes are preserved. The same occurs in (67a) and (67b).

- (66) a. *j-i-nehe* (1S), *b-a-nehe* (2S), *nehe* (3), *j-i-nehe-ko* (1P),
 wak-a-nehe-təo (2P) ‘to be gentle with’ (used with *udode* ‘body’)
 b. *j-i-nehe-ru* (1S), *b-a-nehe-ru* (2S), *nehe-ru* (3), *j-i-nehe-ko* (1P),
 wak-a-nehe-təo (2P) ‘to be gentle with’ (when used with *udode*
 ‘body’)
- (67) a. *n-əpu(ru)* (1S), *m-əpu(ru)* (2S), *tə-əpu(ru)* (3), *n-əpu-ko* (1P),
 wak-əpu-təo (2P) ‘to take care of’ (used with *gio*)
 b. *j-u-hu(ru)* (1S), *b-a-hu(ru)* (2S), *Ø-Ø-su(ru)* / *tə-u-hu(ru)* (3),
 j-u-hu-ko (1P), *wak-a-hu-təo* / *wak-a-hu-jo* (2P) ‘to close (in), to
 shut in’ (used with *gaj*)

In (68a-b) the plural suffixes are *-ko/* and *-jo/*. In (68a-b) one finds a substitution. In this case, the 2P-suffix *-jo/* is unexpected. As already seen, *jno* /ŋo/ is an irregular verb (see §4.7). In (68c) *-go/* and *-ko/* can alternate in the 1P-person.

- (68) a. *j-i-gisare* (1S), *b-a-gisare* (2S), *tə-i-gisare* (3), *j-i-gisa-ko* (1P),
 wak-a-gisa-jo (2P) ‘to drop fruits (with a stick)’
 b. *j-i-hi* / *ji* (1S), *b-a-bo* (2S) / *bo* (2S.IRLS), *ŋo* (3), *j-i-ko* (1P),
 wak-a-bo-jo (2P) / *bo-jo* (2P.IRLS) ‘to go, to leave’
 c. *j-i-teku* (1S), *b-a-teku* (2S), *Ø-Ø-teku* (3), *j-i-teku-go* /
 j-i-teku-ko (1P), *wak-a-teku-jo* (2P) ‘to crawl on all fours’

In (69) the nasalized version of *-go/* is used with *-təo/* in the 2P-person, although no substitution occurs.

- (69) *j-/n-i-ŋehe* (1S), *b-/m-a-ŋehe* (2S), *Ø-Ø-nene* (3), *j-/n-i-ŋehe-ŋo* (1P),

wak-a-ŋehe-tɛo (2P) ‘to persuade’

The suffixes *-/go/* and *-/jo/* do not generally substitute the final syllable, while in (70) both suffixes are used with this function.

- (70) a. j-a-tɛia (1S), b-a-tɛia (2S), tɛ-a-tɛia (3), j-a-tɛi-go (1P),
 wak-a-tɛi-jo (2P) ‘to play with; to suffer the loss of something’⁸⁵
 b. j-a-kare (1S), b-a-kare (2S), tɛ-a-kare (3), j-a-ka-go (1P),
 wak-a-ka-jo (2P) ‘to stay, to sit’

The verb *toria* (71) displays an interesting alternation in suffixation. The verb ends in *-/a/*, probably coming from final-syllable reduction. This final vowel can be substituted in the plural, where the suffixes *-/ko/* and *-/tɛo/* are used. If no substitution occurs, the suffixes *-/go/* and *-/jo/* are used. In both cases, the plural persons of *toria* (71a) differ from the plural persons of *tori* (71b).

- (71) a. j-o-ria (1S), b-o-ria (2S), t-o-ria (3), j-o-ria-go / j-o-ri-ko (1P),
 wak-o-ria-jo / wak-o-ri-tɛo (2P) ‘to steal’
 b. j-o-ri (1S), b-o-ri (2S), t-o-ri (3), j-o-ri-go (1P), wak-o-ri-jo (2P)
 ‘to steal, to rob’ (intransitive)⁸⁶

§4.8.6 Lexical suffixes

The final element of the verbs in (72) is called lexical suffix. The lexical suffix is an independent lexeme which has been included in the verb and modifies the meaning of the verb in a way that is not always predictable. The lexical suffix does not properly belong to

⁸⁵ In this verb, */a/* is the result of final-syllable reduction.

⁸⁶ Data on the transitivity or intransitivity of AY verbs come from Higham *et al.* (2000).

the verb root: this is evident in the plural persons, because the plural suffix is interposed between the verb root and the lexical suffix. The lexical suffix has no influence on the plural prefix and can be used with both the series *-/ko/*, *-/tɕo/* and the series *-/go/*, *-/jo/*. The most frequent lexical suffixes are *-(o)me* (72a-c), *-(i)hi* (72f), *-(a)ha* (72d) and *-ga(r)i* (72e). These lexical suffixes derive from adpositions, such as *ome*, *iji* /*ihi*/, *aja* /*aha*/ and *ga(r)i*.⁸⁷

- (72) a. *j-/ɲ-i-si-ome* (1S), *b-/m-a-si-ome* (2S), *tɕ-i-si-ome* (3), *j-isi-go-me* / *j-i-si-ɲo-me* (1P), *wak-a-si-jo-me* / *wak-a-si-ɲo-me* (2P)
 ‘to give to’ (from: *tɕisi* ‘to give to’, see ex. 63e)
- b. *ɲ-i-ra-me* (1S), *m-a-ra-me* (2S), *tɕ-i-ra-me* (3), *ɲ-i-ra-ɲo-me* (1P),
 wak-a-ra-ɲo-me (2P) ‘to turn loose, to set free’
- c. *j-u-kaɲɲaro-me* (1S), *m-a-kaɲɲaro-me* (2S),
 tɕ-u-kaɲɲaro-me (3), *j-u-kaɲɲa-ko-me* (1P),
 wak-a-kaɲɲa-tɕo-me (2P) ‘to pursue, to chase’
- d. *j-i-go-ha* (1S), *b-a-go-ha* (2S), *tɕ-i-go-ha* (3), *j-i-go-go-ha* (1P),
 wak-a-go-jo-ha (2P) ‘gathering the embers of the fire’
- e. *j-u-ku ga(r)i* (1S), *b-a-ku ga(r)i* (2S), *tɕ-u-ku ga(r)i* (3),
 j-u-ku-go ga(r)i (1P), *wak-a-ku-jo ga(r)i* (2P) ‘to leave a job unfinished’
- f. *j-i-ka-hi* (1S), *b-a-ka-hi* (2S), *tɕ-i-ka-hi* (3), *j-i-ka-go-hi* (1P),
 wak-a-jo-hi (2P) ‘to go to’
- g. *j-u-ta-j* (1S), *b-a-ta-j* (2S), *tɕ-u-ta-j* (3), *j-u-ta-go-j* (1P),
 wak-a-ta-jo-j (2P) ‘to ask’

The final syllables *-/ha/*, *-/hi/*, *-/me/*, *etc.* are usually lexical suffixes, but in some verbs *-/ha/*, *-/hi/*, *-/me/*, *etc.* are normal

⁸⁷ As in Bertinetto (2009), here too, *aja* /*aha*/, *iji* /*ihi*/ and *ome* will be referred to as adpositions, although they are mostly used as prepositions.

syllables belonging to the verb root. When they are not lexical suffixes, *-/ha/* and *-/hi/* are not substituted (73a-b) and *-/me/* is a mobile syllable (73c). Note that, owing to the substitution by the suffixes *-/ko/* and *-/tɛo/*, the plural persons of *chijnime* */tɛɲime/* (73c) and *chijnire* */tɛɲire/* (73d) coincide.

- (73) a. j-i-raha (3), b-a-raha (3), tɛ-i-raha (3), j-i-raha-go (3),
 wak-a-raha-jo (2P) ‘to know, to understand’
 b. j-o-hi (1S), b-o-hi (2S), tɛ-o-hi (3), j-o-hi-go (1P),
 wak-o-hi-jo (2P) ‘to drink’
 c. j-i-ɲi-me (1S), m-a-ɲi-me (2S), tɛ-i-ɲi-me (3), j-i-ɲi-ko (1P),
 wak-a-ɲi-tɛo (2P) ‘to take out, to take off’⁸⁸
 d. j-i-ɲire (1S), m-a-ɲire (2S), tɛ-i-ɲire (3), j-i-ɲi-ko (1P),
 wak-a-ɲi-tɛo (2P) ‘to drill a hole’

As noted above, the predictability of nasalization depends on the directionality of nasal spread. Nasal spread to the left is unpredictable. The lexical suffix *-/me/* possibly yields the nasalization of the verb in (74a). Nasalization is, however, not obligatory. *Chij(n)ócha-me* */tɛɲotɛa-me/* (74a) derives from *chijócha* */tɛihotɛa/* (74b), in which no nasalization is observed.

- (74) a. j-/j-i-ɲotɛa-me (1S), b-/m-a-ɲotɛa-me (2S), tɛ-i-ɲotɛa-me (3),
 j-/j-i-ɲotɛa-ɲo-me / j-/j-i-ɲotɛa-go-me (1P), wak-a-ɲotɛa-ɲo-me
 / wak-a-ɲotɛa-jo-me (2P) ‘to bury’ (also: *tɛihotɛame*)
 b. j-i-hotɛa (1S), b-a-hotɛa (2S), tɛ-i-hotɛa (3), j-i-hotɛa-go (1P),
 wak-a-hotɛa-jo (2P) ‘to dig, to carve’

⁸⁸ For the time being, this is the only example in which *-/me/* at the end of the verb is not a lexical suffix.

The verbs in (75) have an irregularity in the plural. The semivowel *-j/*, which emerges after the plural suffix but is not observed in the singular, derives from a reduced lexical suffix. Note that both verbs end in a vocalic cluster, probably originated by the syncope of an intervocalic consonant. Both the reduction of the lexical suffix and the origin of a vocalic cluster at the end of the verb will be discussed in the following section.

- (75) a. *j-u-kue* (1S), *b-a-kue* (2S), *ʔ-u-kue* (3), *j-u-kue-go-j* (1P),
 wak-a-kue-jo-j (2P) ‘to look for, to search for’
 b. *j-u-ʔie* (1S), *b-a-ʔie* (2S), *ʔ-u-ʔie* (3), *j-u-ʔi-go-j* (1P),
 wak-a-ʔi-jo-j (2P) ‘to step upon’

The diminutive suffix *-ap/* (76a) and the elative suffix *-pis/* or *-pus/* (76b-c) can be attached to a verb and in this case are invariable (76a). The diminutive conveys an attenuating nuance (Bertinetto 2009: 22). The elative suffix can be followed by a vowel which depends on vowel harmony (Bertinetto 2009: 21). In (76b) the verb root ends in *-a/* and *-pis/* is used, followed by */a/* which depends on root-final */a/*. In (76c) the verb root ends in */u/*. *-pis/* and the following vowel assimilates to root-final */u/*, so that the verb takes the elative *-pusu/*.⁸⁹

- (76) a. *ba-ru* (2S.RLS-to_wash) → *a-ru-ap* (2S.IRLS-to_wash-DIM)
 ‘Please wash’ (Bertinetto 2009: 21-22)
 b. *j-ipota* (1S-to_want) → *j-ipota-pisa* (1S-to_want-ELAT) ‘I strongly

⁸⁹ The diminutive and the elative suffixes will not be discussed in detail. On the use of these elements in verb morphology, see Bertinetto (2009: 21-22). On AY elatives, see also Morarie (1980: 88). Note that in Ayoreo there is also a diminutive verb suffix *-si/* “referring to the physical dimension of the referent” (Bertinetto 2009: 22). This element is invariable.

desire' (*ibidem*)

c. *te-iteagu* (3-to_pierce) → *te-iteagu-pusu* (3-to_pierce-ELAT)

'It pierces strongly' (QCCB, II: 50)

§4.8.7 Root-final-syllable reductions

The vocalic clusters in root-final position are the result of syllable reduction characterized by syncope of an intervocalic consonant. The alternation between *-ie/* (77a) and *-ue/* (77c) depends on */r/* syncope, as in (77b) and (77d). The drop of intervocalic */r/* is very frequent in Ayoreo (see also (77e)), but not all final vocalic clusters derive from */r/* syncope. The vocalic cluster *-io/* in (78a) derives from the syncope of intervocalic */n/*, as one can see in (78b). Intervocalic */n/* is still present in the 3-person. In (78c) intervocalic */n/*, to be found in the 3-person, has dropped in the rest of the paradigm.

- (77) a. *n-i-rĩe* (1S), *m-a-rĩe* (2S), *Ø-Ø-nie* (3), *n-i-rĩe-ño* (1P),
wak-a-rĩe-ño (2P) 'to massage'
- b. *n-i-rĩre* (1S), *m-a-rĩre* (2S), *Ø-Ø-nire* (3), *n-i-rĩre-ño* (1P),
wak-a-rĩre-ño (2P) 'to massage'
- c. *n-u-ñue* (1S), *m-a-ñue* (2S), *Ø-Ø-sue* / *Ø-Ø-ñue* (3),
n-u-ñue-ño (1P), *wak-a-ñue-ño* (2P) 'to be bigger/greater than'
(used with *gaj*)
- d. *n-u-ñure* (1S), *m-a-ñure* (2S), *Ø-Ø-sure* / *Ø-Ø-ñure* (3),
n-u-ñure-ño (1P), *wak-a-ñure-ño* (2P) 'to be bigger/greater than'
(used with *gaj*)
- e. *n-i-ñire* / *n-i-ñie* (1S), *m-a-ñire* / *m-a-ñie* (2S), *te-i-ñire* /
te-i-ñie (3), *n-i-ñi-ko* (1P), *wak-a-ñi-teo* (2P) 'to drill a hole'
- (78) a. *j-i-hio-me* (1S), *b-a-hio-me* (2S), *Ø-Ø-nono-me* (3),
j-i-hio-ño-me (1P), *wak-a-hio-ño-me* (2P) 'to leave'
- b. *j-i-hino-me* (1P), *b-a-hino-me* (2P), *Ø-Ø-nono-me* (3),

- j-i-hiŋo-ŋo-me (1P), wak-a-hiŋo-ŋo-me (2P) ‘to leave’
 c. j-ũ-rua-hi (1P), b-ã-rua-hi (2P), Ø-Ø-nuna-hi (3),
 j-ũ-rua-ŋo-hi (1P), wak-ã-rua-ŋo-hi (2P) ‘to see clearly, to
 understand’

§4.8.8 The reduction of the lexical suffix *-(i)hi/*

The presence of *-j/* at the end of the verb may be due to the reduction of the lexical suffix *-hi/*. When intervocalic */h/* drops, final */i/* turns into a glide after a vowel, while it is preserved after a consonant. Consequently, */j/* is what remains of the lexical suffix *-(i)hi/* and preserves the same morphological behaviour, as in the verbs in (79a) and (80a), which can be compared with the respective variants preserving intervocalic */h/* ((79b) and (80b)). In some cases the original intervocalic consonant can no longer be observed (81).

- (79) a. j-u-kuguŋa-j (1S), b-a-kuguŋa-j (2S), Ø-Ø-kuguŋa-j (3),
 j-u-kuguŋa-ŋo-j (1P), wakakuguŋa-ŋo-j (2P) ‘to rush toward,
 to run quickly toward’
 b. j-u-kuguŋa-hi (1S), b-a-kuguŋa-hi (2S), Ø-Ø-kuguŋa-hi (3),
 j-u-kuguŋa-ŋo-hi (1P), wak-a-kuguŋa-ŋo-hi (2P) ‘to rush toward,
 to run quickly toward’
- (80) a. j-u-gusi (1S), b-a-gusi (2S), dehi / tɛ-u-gusi (3), j-u-gu-ko-j (1P),
 wak-a-gu-so-j (2P) ‘to be (location)’
 b. j-u-gusi-hi (1S), b-a-gusi-hi (2S), dehi / tɛ-u-gusi-hi (3),
 j-u-gu-ko-hi (1P), wak-a-gu-so-hi (2P) ‘to be (location)’
- (81) j-i-to-j (1S), b-a-to-j (2S), Ø-Ø-to-j (3), j-i-to-go-j (1P),
 wak-a-to-jo-j (2P) ‘to die’

Given a singular form or the 3-person form, it is not possible to predict with absolute certainty whether final *-i/* (or */j/*) is part of the root or is a lexical suffix. One can, however, draw a general trend depending on the morphological behaviour of the last syllable. If the final syllable in *-i/* is never substituted, such as *-tei/*, *-hi/*, *-ŋi/*, *-pi/*, *-ti/* and *-ji/*, final *-i/* is not a reduced lexical suffix (82).

- (82) a. *j-u-tei* (1S), *b-a-tei* (2S), *te-u-tei* (3), *j-u-tei-go* (1P),
 wak-a-tei-jo (2P) ‘to have bowel movement’
 b. *j-o-hi* (1S), *b-o-hi* (2S), *te-o-hi* (3), *j-o-hi-go* (1P), *wak-o-hi-jo* (2P)
 ‘to drink’

This is just a general tendency rather than a rigid rule: even if the final syllable in *-i/* is not substituted, it can belong to a lexical suffix, as in (83a). In (83a) the reduced lexical suffix */j/* merges with the syllable *-ŋi/*, so that the reduced lexical suffix can only be identified in the plural persons. Note that (83a) and (83b) have the same final syllable in the singular persons and the 3-person, but the verb in (83b) has no lexical suffix, as it is evident in the plural persons.⁹⁰

- (83) a. *j-a-ŋi* (1P), *b-a-ŋi* (2P), *te-a-ŋi* (3), *j-a-ŋi-ŋo-j* (1P),
 wak-a-ŋi-ŋo-j (2P) ‘to touch the inside of something with the
 hand’
 b. *j-a-ŋi* (1S), *b-a-ŋi* (2S), *te-a-ŋi* (3), *j-a-ŋi-ŋo* (1P),
 wak-a-ŋi-ŋo (2P) ‘to return, to go back, to come back’

⁹⁰ According to the data of Higham *et al.* (2000) the verbs *chájni* /*teaŋi*/ ‘to touch’ and *chajni* /*teaŋi*/ ‘to return’ would differ in the position of the accent.

If the last syllable of the verb ends in *-i/* and can be substituted, such as *-di/* (84a), *-ri/* (84b), *-si/* (84c-d) and *-gi/* (84e), it is in most cases related to the presence of the reduced lexical suffix *-j/*. This suggests that, when the syllables *-di/*, *-ri/*, *-si/* and *-gi/* are substituted and the lexical suffix *-j/* emerges in the plural, the original final syllables of the root were *-t/* or *-te/*, *-re/*, *-s/* or *-se/* and *-k/* or *-ke/*, respectively. When the lexical suffix *-ihi/* (or its reduced form *-j/*) is added, */t/* and */k/* voice, while final */e/*, generally a euphonic vocoid, plays no role in the morphological adjustment when */ihi/* or */i/* is added, so that *-t/* or *-te/*, *-re/*, *-s/* or *-se/* and *-k/* or *-ke/* turn into *-di/*, *-ri/*, *-si/* and *-gi/*, respectively. When the mobile syllable is replaced, */i/* turns into a glide which follows the plural suffix. This is evident in *tibidi* (85b), which derives from *tibite* (85a), and in *chapídiji* /*ʔeapidihi/* (86b), which derives from *chapite* /*ʔeapite/* (86a).

- (84) a. j-i-bidi (1S), b-a-bidi (2S), t-i-bidi (3), j-i-bi-ko-j (1P),
 wak-a-bi-*ʔeo*-j (2P) ‘to call, to summon’
 b. j-a-*ŋari* (1S), m-a-*ŋari* (2S), t-a-*ŋari* (3), j-a-*ŋa*-ko-j (1P),
 wak-a-*ŋa*-*ʔeo*-j (2P) ‘to listen to, to pay attention to, to obey to’
 c. j-i-kasi (1S), b-a-kasi (2S), Ø-Ø-kasi (3), j-i-ka-ko-j (1P),
 wak-a-ka-so-j (2P) ‘to have courage, to be fearless’
 d. j-u-pusi (1S), b-a-pusi (2S), Ø-Ø-pusi / *ʔe*-u-pusi (3),
 j-u-pu-ko-j (1P), wak-a-pu-so-j (1P) ‘to reside in’
 e. j-i-kadi-gi (1S), b-a-kadi-gi (2S), *ʔe*-i-kadi-gi (3),
 j-i-kadi-jo-j (1P), wak-a-kadi-*ʔeo*-j (2P) ‘to forget’
- (85) a. j-i-bite (1S), b-a-bite (2S), t-i-bite (3), j-i-bi-ko (1P),
 wak-a-bi-*ʔeo* (2S) ‘to yell, to shout’
 b. j-i-bidi (1S), b-a-bidi (2S), t-i-bidi (3), j-i-bi-ko-j (1P),
 wak-a-bi-*ʔeo*-j (2P) ‘to call, to summon’
- (86) a. j-a-pite (1S), b-a-pite (2S), *ʔe*-a-pite (3), j-a-pi-ko (1P),

wak-a-pi-tɛo (2P) ‘to survive’

- b. j-a-pid-ihɪ (1S), b-a-pid-ihɪ (2S), tɛ-a-pid-ihɪ (3), j-a-pi-ko-ihɪ (1P),
wak-a-pi-tɛo-ihɪ (2P) ‘to be left alive, to survive’
(used with *dinike*)

Final /t/ voices if a vowel (in this case /i/) is added in a morphological process. By contrast, in (87), the presence of /t/ in the root-final syllable *-/ti-/* is due to the fact that it does not derive from a morphological process. In (87), there is a lexical suffix which is not *-(i)hi/*, but *-(a)ha/*.

- (87) j-i-pati-ha (1S), b-a-pati-ha (2S), Ø-Ø-pati-ha (3), j-i-pati-go-ha (1P),
wak-a-pati-jo-ha (2S) ‘to endure, to remain firm’

Example (88) shows that not all verbs with a root-final syllable which can be substituted and ends in *-/i/* have the reduced lexical suffix.

- (88) a. j-o-ri (1S), b-o-ri (2S), t-o-ri (3), j-o-ri-go (1P), wak-o-ri-jo (2P)
‘to steal, to rob’
b. j-i-rĩ (1S), m-a-rĩ (2S), Ø-Ø-di (3), j-i-rĩ-ŋo (1P), wak-a-rĩ-jo (2P)
‘to arrive’
c. j-i-gi (1S), b-a-gi (2S), tɛ-i-gi (3), j-i-gi-go (1P), wak-a-gi-jo (2P)
‘to get dressed, to dress’

§4.8.9 The reduction of the lexical suffix *-(a)ha/*

The lexical suffix *-(a)ha/* can reduce to *-/a/* word-finally. The verb *chugúja* /tɛuguha/ (89b) derives from *chugu* /tɛugu/ (89a). Intervocalic /h/ can drop and the result is a vocalic cluster in word-final position (89c). The same occurs in (90).

- (89) a. j-u-runju (1S), m-a-runju (2S), tɛ-u-gu (3), j-u-runju-ŋo (1P),

wak-a-ruŋu-ŋo (2P) ‘to pout, to act disgusted’ (intransitive)
(see also ex. 27)

b. ŋ-u-ruŋu-ha (1S), m-a-ruŋu-ha (2S), tɛ-u-gu-ha (3),
ŋ-u-ruŋu-ŋo-ha (1P), wak-a-ruŋu-ŋo-ha (2P) ‘to pout,
to act disgusted’ (transitive)

c. ŋ-u-ruŋu-a (1S), m-a-ruŋu-a (2S), tɛ-u-gu-a (3),
ŋ-u-ruŋu-ŋo-a (1P), wak-a-ruŋu-ŋo-a (2P) ‘to pout, to act
disgusted’ (transitive)

(90) a. j-a-di-ha (1S), b-a-di-ha (2S), tɛ-adi-ha (3), j-a-di-go-ha (1P),
wak-a-di-jo-ha (2P) ‘to put on, to place upon’

b. j-a-di-a (1S), b-a-di-a (2S), tɛ-a-di-a (3), j-a-di-go-a (1P),
wak-a-di-jo-a (2P) ‘to put on, to place upon’

The verb *pogai* /pogaj/ (91a) has the lexical suffix *-/j/* (the reduced form of *-/ihi/*). In (91b) the (reduced) lexical suffix *-/a/* is added. As a result, the final syllable *-/ja/* derives from two reduced lexical suffixes, but only *-/a/* is preserved in the plural person, while */j/* is deleted. In (89b-c) and (91) the reduced lexical suffix *-/a/* has the function of a transitivizing suffix. In this case, no variants showing the full lexical suffix *-(a)ha/* are reported for this verb, and this means that *-/a/* does not necessarily derive from *-(a)ha/* (although it is a plausible hypothesis). In the transitive verb *toria* ‘to steal’ (ex. 71), which derives from the intransitive verb *tori* ‘to steal’, final *-/a/* has the same function, but it does not behave as a lexical suffix in the plural persons.⁹¹

(91) a. j-i-poga-j (1S), b-a-poga-j (2S), Ø-Ø-poga-j (3), j-i-poga-go-j (1P),

⁹¹ This could be due to a reinterpretation of final */a/*: *tori-a* (3), *yor-i-a-go* /*jori-a-go*/ (1P), *yor-i-co* /*jori-ko*/ (1P), *uacori-a-yo* /*wakori-a-jo*/ (2P), *uacori-cho* /*wakori-tɛo*/ (2P) ‘to steal’.

- wak-a-poga-jo-j (2P) ‘to throw up, to vomit’ (intransitive)
 b. j-i-pogaj-a (1S), b-a-pogaj-a (2S), Ø-Ø-pogaj-a (3),
 j-i-poga-go-a (1P), wak-a-poga-jo-a (2P) ‘to throw up, to vomit’
 (transitive)

The root-final syllable *-da/* can be substituted and has the same origin of the syllable *-di/* in (84-86). Verbs with the mobile syllable *-da/* ((92a), (93a) and (94a)) derive from verbs with the mobile syllable *-te/* ((92b), (93b) and (94b)) followed by the adposition *aja* /aha/. The first /a/ of *aja* /aha/ forms a new syllable with /t/. The euphonic vocoid /e/ plays no role in the morphological adjustment and /t/ voices when /a/ is added. When the final syllable of the verb root is *-ta/* (for which no substitution is reported), it does not derive from any morphological process (95).

- (92) a. j-i-bida-ha (1S), b-a-bida-ha (2S), t-i-bida-ha (3), j-i-bi-ko-ha (1P),
 wak-a-bi-*teo*-ha (2P) ‘to cry out’
 b. j-i-bi-te (1S), b-a-bi-te (2S), t-i-bi-te (3), j-i-bi-ko (1P),
 wak-a-bi-*teo* (2P) ‘to yell, to shout’

- (93) a. j-i-rada-ha (1S), b-a-rada-ha (2S), *te*-i-rada-ha (3),
 j-i-ra-ko-ha (1P), wak-a-ra-*teo*-ha (2P) ‘to imitate’
 b. j-i-ra-te (1S), b-a-rate (2S), *te*-i-rate (3), j-i-ra-ko (1P),
 wak-a-ra-*teo* (2P) ‘to imitate; to sing’
te-i-rate aha (3) is a synonym for *te*-i-radaha (3)

- (94) a. j-i-sida-ha (1S), b-a-sida-ha (2S), *te*-i-sida-ha (3), j-i-sida-ha (1P),
 wak-a-sida-ha (2P) ‘to scatter powdery substance’ (used with
kedeṇane)
 b. j-i-site (1S), b-a-site (3), *te*-i-site (3), j-i-si-ko (1P),
 wak-a-si-*teo* (2P) ‘to sift (as flour)’
 cf. *te*isite aha (3) ‘to scatter, to spread about’

- (95) j-i-beta (1S), b-a-beta (2S), Ø-Ø-beta (3), j-i-beta-go (1P),

wak-a-beta-jo (2P) ‘to be half dead, to wither’

A similar morphological process also occurs in (96). The verb *chapúsaja* /tɛapusaha/ is originally *chapúse aja* /tɛapuse aha/. The adposition *aja* /aha/ has been included in the verb and the final syllable *-se/* turns into *-sa/*.

- (96) j-a-pusa-ha (1S), b-a-pusa-ha (2S), tɛ-a-pusa-ha (3),
 j-a-pu-ko-ha (1P), wak-a-pu-so-ha (2P) (also: tɛapuse aha)
 ‘to choose at random, to include’

In other cases the suffix *-aja* /aha/ reduces to *-a/* and the presence of the lexical suffix can only be noted in the plural persons. The presence of a reduced lexical suffix *-a/* is frequent when the verb has a mobile syllable in *-a/*, such as *-sa/* (97a-b) and *-ra/* (97c-d). The verb *chajnésara* /tɛaɲesara/ (3) comes from *chajnésaru aja* /tɛaɲesaru aha/. *Aja* /aha/ has been included in the verb and final /u/ is replaced by /a/. The final syllable *-ru/* turns into *-ra/*, which continues to be a mobile syllable (*-ha/* re-emerges, however, in the plural persons).

- (97) a. j-i-mes-a (1S), b-a-mes-a (2S), tɛ-i-mes-a (3), j-i-me-ko-a (1P),
 wak-a-me-so-a (2P) ‘to mix, to blend’
 b. j-a-ros-a (1S), b-a-ros-a (2S), tɛ-a-ros-a (3), jaro-ko-a (1P),
 wakaro-so-a (2P) ‘to slash, to make a gash’
 c. j-i-ramisa-ra (1S), b-a-ramisa-ra (2S), tɛ-i-ramisa-ra (3),
 j-i-ramisa-ko-(a) (1P), wak-a-ramisa-tɛo-(a) (2P) ‘to join one
 thing to another’
 d. j-a-ɲesar-a (1S), b-a-ɲesar-a (2S), tɛ-a-ɲesar-a (3),
 j-a-ɲesa-ko-ha (1P), wak-a-ɲesa-tɛo-ha (2P) ‘to turn back’
 (also: tɛaɲesaru aha)

Not in all verbs with root-final syllable in *-/a/* this vowel is the reduced form of the lexical suffix *-(a)ha/*. When the verb-final syllable in *-/a/* cannot be substituted, such as *-/ta/* (95), *-/ha/* (98a) and *-/ŋa/* (98b), *-/a/* is never a reduced lexical suffix.

- (98) a. *j-i-raha* (1S), *b-a-raha* (2S), *ɬ-i-raha* (3), *j-i-raha-go* (3),
 wak-a-raha-jo (2P) ‘to know, to understand’
 b. *j-u-ɬieŋa* (1S), *b-a-ɬieŋa* (2S), *ɬ-u-ɬieŋa* (3), *j-u-ɬieŋa-ŋo* (1P),
 wak-a-chieŋa-ŋo (2P) ‘to kick, to step upon’

§4.9 Conclusions

This chapter on AY verb morphology has analyzed in detail the morphological behaviour of each element of the verb structure (prefix, thematic vowel, root, plural suffix and lexical suffix). Ayoreo shows a disappearing realis vs. irrealis opposition. The verb morphology of Ayoreo (and in particular the vocalic pattern) is mostly regular. From a taxonomic point of view, one can distinguish prefixal verbs (*/ɬ/-*verbs and */t/-*verbs) and radical verbs. While thematic verbs are relatively numerous in Old Zamuco and Chamacoco, only a few thematic verbs are to be found in Ayoreo. The plural suffix used depends on the root-final syllable, which can be replaced by the suffixes *-/ko/* and *-/tɕo/*. A lexical suffix may change the lexical meaning of the verb. In the next chapter, the verb morphology of Chamacoco is discussed.

§5 Chamacoco verb inflection⁹²

This chapter describes the verb inflection of Chamacoco. In §5.1 the verb structure of Chamacoco is analyzed. CH verbs consist of: person prefix, thematic vowel, root and plural suffix. A further prefix can be added to obtain the 3P-person and the 1PE-person. Like Ayoreo, Chamacoco is a tenseless language. The verb expresses the person and can show a realis vs. irrealis distinction in the 3-person. The irrealis is discussed in §5.2. Depending on the morphology of the 3-person (§5.3), verbs can be divided into: prefixal verbs (§5.4), thematic verbs (§5.5) and radical verbs (§5.6). Irregular verbs which cannot be included in any of these groups are described in §5.7. The 2P-suffix *-lo/* (§5.8) coincides with the suffix used for the greater plural of the 1PI-person (§5.9). Chamacoco also has defective verbs, which usually only take the suffix *-lo/* and the 1PE and 3P pre-prefix */o/-* (§5.10). Some defective verbs also exhibit the realis vs. irrealis distinction (§5.11, §5.12). Finally, some elements generally used with the verb, such as derivational suffixes (§5.13) and the enclitic preposition *=/ih/* (§5.14) are discussed.

§5.1 Verb structure and person inflection

The verb inflection of Chamacoco only has one tense and two moods, realis and irrealis, although the traces of this opposition only emerge in the 3-person. Chamacoco is a tenseless language.

⁹² The present chapter is partly based on Ciucci (2009), which will no longer be mentioned.

Time is marked by temporal particles. The verb structure of Chamacoco is represented as in (1).⁹³

- (1)
- | | | |
|-----------------------|-----------------------|--------|
| | THEME | |
| PRE-PREFIX + PERSONAL | THEMATIC VOWEL + ROOT | PLURAL |
| PREFIX | | SUFFIX |

In all Zamucoan languages, the verb theme is preceded by a personal suffix, but in Chamacoco a further prefix can be added to form other persons (see below).

The 1S-person is formed by the theme and the person prefix (/t/-, /tak/-, /tok/-, /tuk/- or /tik/-).

- (2)a. t-i-bitehe (1S) ‘to sell cheap’
 b. tak-a-tskir (1S) ‘to fight’
 c. tok-o-rmihi (1S) ‘to grease, to smear’
 d. tuk-u-rka (1S) ‘to rock, to swing’
 e. tik-i-tirãha (1S) ‘to spit’

One has to distinguish between the prefix /t/- and the other prefixes, which consist of /t/, a vowel and /k/. This group of allomorphs which only differ in the vowel will be referred as /tVk/-. The vowel, which can be /a/, /o/, /u/ or /i/, is a copy of the 1-vowel of the verb and is always a short vowel. The use of /t/- or /tVk/- does not depend on the phonetic environment. There is only a phonetic restriction on the use of /tVk/-, i.e. it never occurs in verbs with /k/ as root-initial consonant (3).⁹⁴ The use of /t/- or /tVk/- usually

⁹³ The 2P-suffix can be preceded by an epenthetic vowel, which will not be indicated in the morphological segmentation (unless told otherwise).

⁹⁴ The only exception is *taak* /ta:k/ ‘to eat’, but this is due to the fact that its root only consists of /k/ (29a).

depends on the inflectional class, but there are many exceptions, so that it is not possible to predict which prefix a given verb takes in the 1S-person.

- (3) a. t-e-kæhe (1S ‘to cut, to cut something into pieces’)
cf. tæ-e-kæhe (3)
b. t-u-kwer (1S ‘to twist, to grind, to rub’) cf. tæ-u-kwer (3)

The 2S-person generally takes no prefix.⁹⁵ It consists of the theme and is often characterized by a change in the inflectional vowel, because the thematic vowel can be replaced by a vowel originally belonging to the prefix (4).

- (4) a. Ø-e-bitehe (2S ‘to sell cheap’)
b. Ø-a-tskir (2S ‘to fight’)
c. Ø-o-rmih (2S ‘to grease, to smear’)
d. Ø-e-rka (2S ‘to rock, to swing’)
e. Ø-e-tirāha (2S ‘to spit’)

The 3-person shows some morphological variability. The inflectional classes of CH verbs will be discussed in detail below. The 3-person is formed by a number of alternative prefixes, depending on the verb. Example (5) features verbs with radical 3-person (5a), thematic 3-person (5b) and prefixal 3-person (5c).

- (5) a. tɪk-i-ŋir (1S), Ø-a-kaŋir (2S), Ø-Ø-kaŋir (3), o-kaŋir (3P)
‘to appreciate’
b. tuk-u-mo (1S), Ø-a-mo (2S), Ø-Ø-u-mo (3), o-mo (3P) ‘to sleep / to see’
c. t-e-æer (1S), Ø-e-æer (2S), tæ-e-æer (3) ‘to fish’, o-tæ-e-æer (3P) ‘to

⁹⁵ There are only a few exceptions (see §5.5.4 and §5.7).

fish’

The 3-person is used in both singular and plural when the subject is non-human. There is also a specific form for the 3P-person, obtained by adding the pre-prefix /o/- to the 3-person. The 3P-person is obligatorily used when the plural subject is human (6). It can also be used when the subjects are big animals (7-9), but in the latter case the 3-person is often preferred.⁹⁶ When the subjects are little animals, such as fish (10) or insects (11), or are inanimate, such as the plants in (12), the 3P-person cannot be used.

- (6) Boshesh-o *d-ebuhu / o-d-ebuhu Baya.
 /boœœ-o d-ebuhu o-d-ebuhu baja/
 child-MP 3-live P-3-live Bahía_Negra
 ‘The children live in Bahía Negra.’ (Ciucci, field notes)

- (7) Loship-o de / o-de ormi-t ehe-t.
 /loœip-o de o-de ormi-t ehe-t/
 animal-MP 3.EXIST / 3P-EXIST woods-MS.FF 3.inside-MS.FF
 ‘The animals are in the woods.’ (Ciucci, field notes)

- (8) Oyayuwa de / o-de onoo-ta ehe-t.
 /ojajuwa de o-de ono:-ta ehe-t/
 giant_anaconda.MP 3.EXIST / 3P-EXIST river-FS.FF 3.inside-MS.FF
 ‘The giant anacondas are in the river.’ (Ciucci, field notes)

⁹⁶ In the realis, the existential-locative verb *de* used in the following examples only has the 3-person *de*, also used for the other persons, and the 3P-person *ode*. For reasons of simplicity, the label ‘realis’ is not indicated in the examples above.

- (9) Hutkeykêr-o de / o-de onoo-ta ehe-t.
 /hutkej̥kêr-o de o-de ono:-ta ehe-t/
 manguruju_fish-MP 3.EXIST / 3P-EXIST river-FS.FF 3.inside-MS.FF
 ‘The manguruju fish are in the river.’ (Ciucci, field notes)

- (10) Loshi-yo de / *o-de onoo-ta ehe-t.
 /loɛi-jo de o-de ono:-ta ehe-t/
 fish-MP 3.EXIST / 3P-EXIST river-FS.FF 3.inside-MS.FF
 ‘The fish are in the river.’ (Ciucci, field notes)

- (11) Kasaa hnoy / *o-hnoy d-abis-o.
 /kasa: ɲoj o-ɲoj d-abis-o/
 ant.MP 3.bring P-3.bring RFL-food-MP
 ‘The ants take their food.’ (Ciucci, field notes)

- (12) Hnikaa de / *o-de ormi-t ehe-t.
 /ɲika: de o-de ormi-t ehe-t
 black_carob.MP 3.EXIST / 3P-EXIST woods-FS.FF 3.inside-MS.FF
 ‘The black carob trees are in the woods.’ (Ciucci, field notes)

In the 1P-person there is a difference between 1PI-person and 1PE-person. The clusivity split is a feature present in many languages of the area, such as Guaraní, but not in Ayoreo and Old Zamuco. The 1PI-person is formed by the theme and the person prefix /j/- (13).⁹⁷ The 1PE-person is morphologically dependent on the inclusive person, because it is obtained by adding the pre-prefix /o/- to the 1PI-person (13). The 1PI-prefix /j/- is very similar to the 1-person free pronouns *yok* /jok/ (1S), *eyok* /ejok/ (1PI) and *õryok*

⁹⁷ This prefix can undergo nasal harmony when nasality is present in the verb root. In this case it nasalizes into [ɲ]. There is no phonematic difference between [ɲ] and [j] in Chamacoco. For this reason, this change is not indicated in the orthographic system.

/õrjok/ (1PE). The pre-prefix /o/- of the 1PE-person corresponds to /õr/- in the free pronoun of the 1PE-person. Note that the morphology of the 1PE-person is typologically unexpected, because, assuming that it is the plural of the 1S-person, it should be dependent on the 1S-person (like the corresponding free pronoun, see §3.2), rather than on the 1PI-person.

(13) a. tɛ-i-behe (3), j-i-behe (1PI), o-j-i-behe (1PE) ‘to change’

b. t-e:-jtei (3), j-e:-jtei (1PI), o-j-e:-jtei (1PE) ‘to sing’

The 1PI-person has a greater plural expressed by adding the suffix *-lo/* to the 1PI-person (14).⁹⁸ The greater plural is not documented in either Ayoreo or Old Zamuco.

(14) a. j-i-tɛw (1PI) ‘we write’

b. j-i-tɛw-lo (1PI.GP) ‘we (many/all) write’

c. o-j-i-tɛw (1PE) ‘we write’

d. *o-j-i-tɛw-lo [1PE.GP]

The 2P-person is formed by the 2S-person and the plural suffix *-lo/*. The 2P-person is thus morphologically dependent on the 2S-person. Both persons share the same morphological irregularities (15c) present in the 2S-person and the same 2-vowel, as one can see when a vowel change occurs (15a, c).

(15) a. tɛ-i-naha (3) ‘to act strongly’, e-naha (2S), e-naha-lo (2P)

b. t-a-tskir (3) ‘to fight’, a-tskir (2S), a-tskir-lo (2P)

c. tɛ-i-tɛw (3) ‘to write’, a-tsew (2S), a-tsew-lo (2P)

⁹⁸ On the greater plural, see §3.2.2.

The suffix *-lo/* is used in free pronouns (see §3.2) and in verbs for the greater plural of the 1PI-person and for the 2P-person (§5.1). The suffix *-lo/* is also used to form the MP in noun morphology. The suffix *-lo/* always conveys a plural meaning, because the 1PI.GP-person can be considered the ‘plural’ of the 1PI-person, as the 1PE-person can be considered the proper plural of the 1S-person (see §3.2.1-§3.2.2). In a few cases the suffix *-lo/* can be separated from the verb, as in (16), where *-lo/* follows the determiner *wichi* /*witei*/.⁹⁹

- (16) Eyok-lo y-osim wich-lo ese boshesh-t erze hut-e.
 /ejok-lo j-osim wite-lo ese boʃeʃ-t erʒe¹⁰⁰ hut-e/
 1PI-GP 1PI-give DET.MS-GP that.MS child-MS.FF these.FP book-FP
 ‘We (all) give those books to that child.’ (Ciucci, field notes)

The 3P-person is obtained by adding the pre-prefix */o/-* to the 3-person. */o/-* probably derives from the 3P-person free pronoun *õr*. 3P */o/-* phonologically coincides with the 1PE pre-prefix */o/-*, which corresponds to */õr/-* in free pronouns: cf. *yok* /*jok*/ (1S), *õr-yok* /*õr-jok*/ (1PE). This suggests that the pre-prefix */o/-* has the same origin in both the 1PE-person and the 3P-person. The 3-pronoun *õr* has been reinterpreted as a prefix for the 3P-person and the 1-person exclusive. In the case of the 1PE-person, this could be due to the influence of the 1PE-pronoun *ore* in Guaraní. If this hypothesis is correct, the clusivity split is not an original characteristic of the Zamucoan family. This seems to be confirmed by the fact that the form of the 1PE-person is not prototypical,

⁹⁹ This occurs rarely.

¹⁰⁰ The demonstrative *erze* /*erʒe*/ [ˈe.ʒe] can also be pronounced [ˈe.ɰe].

because it depends on the 1PE-person, rather than on the 1S-person.¹⁰¹

The 3P-person and the 1PE-person are the only examples of double prefixation. The 2P-person, the 3P-person and the 1PE-person are different from the other persons, because they are morphologically dependent on another inflected form. The affixes /o/- and -/lo/ are only used in verb morphology for persons morphologically derived from other inflected forms. They are complementary, because /o/- and -/lo/ cannot be used in the same form: given *yichew* /jitɛw/ (1PI) ‘to write’, one can form *o-yichew* /o-jitɛw/ (1PE) or *yichew-lo* /jitɛw-lo/ (1PI.GP), but not **o-yichew-lo* /o-jitɛw-lo/ (14).

§5.2 The irrealis

Chamacoco shows an opposition between realis and irrealis in the 3-person. The 3-irrealis is obtained by adding the prefix /d/- or /l/- to the theme. Here /d/- and /l/- are free allomorphs. In the course of this study only the form(s) actually observed in the field will be reported. The prefix /d/- or /l/- can nasalize into /n/ if the root shows nasality (§5.2.1). The 3-irrealis, like the 3-realis, is also used for non-human plural subjects. The 3P-irrealis is obligatory when the plural subject is human and can also be used for big animals (although in this case the 3-person is preferred). The 3P-irrealis is obtained by adding the pre-prefix /o/- to the 3-irrealis, which will be referred to as ‘irrealis form’ or ‘irrealis’.

The realis vs. irrealis contrast is not to be found for the other persons and is not to be observed for all verbs, for the

¹⁰¹ For a more detailed discussion on the development of CH clusivity, see Ciucci & Bertinetto (2015b).

morphological expression of the realis vs. irrealis opposition depends on the inflectional class (see §5.3). As will be shown comparing Chamacoco with the other Zamucoan languages, the realis vs. irrealis opposition in the 3-person is what remains of an original distinction realis vs. irrealis mood. The realis indicates certainty that the action expressed by the verb actually takes place. By contrast, the irrealis is used when the action expressed by the verb does not take place (that is in negative (17) or counterfactual clauses) or when the speaker is not sure whether the action will take place (typically in future clauses, or in expressions of wish or desire (18-19), possibility (20), etc.).¹⁰²

- (17) Ishim òr regalo òr hnim-o, par òr hnim-o.
 /ieim òr regalo òr ñim-o par òr ñim-o /
 3.give 3P gift 3P land-MP in_order_to 3P land-MP
 Ye o-loshi=pe.
 /je o-loei=pe/
 NEG P-3.IRLS.pay=neg

‘He gives them their land as a gift, so that it [can actually] be their land. They don’t pay.’ (Ciucci, field notes)

o-ei ‘to pay’ (3P) → realis

o-l-o-ei ‘to pay’ (3P.IRLS) → irrealis (prefix /l/- or /d/-)

- (18) Sêhe d-iraha eyok ahwos-o pish-o.
 /tsêhe d-iraha ejok aɣos-o pie-o/
 VOL 3.IRLS-know 1PI word-MP ELAT-MP

‘He wants to know our real language.’ (Ciucci, field notes)

¹⁰² According to Ulrich & Ulrich (2000b: 13): “Si no está definitiva o si hay duda de la acción del verbo”.

te-i-raha ‘know’ (3) → realis

d-i-raha ‘know’ (3.IRLS) → irrealis (prefix /l/- or /d/-)

- (19) Mahn, je t-uu_leeych ir, ich ye wichi l-erz
 /maŋ xe t-u:_le:jte ir ite je witei l-erz/
 but COMP 1S-fight 3S CONJ NEG DET.MS 3.IRLS-win
 yoo=pe.
 /jo:=pe/
 1S=NEG

‘But, when I fight against him, he doesn’t defeat me.’

(Ciucci, field notes)

ts-e-rz ‘to win’ (3) → realis

l-e-rz ‘to win’ (3.IRLS) → irrealis (prefix /l/- or /d/-)

- (20) Ir sêhe l-uhu ahakõr ahwos-o.
 /ir tsêhe l-uhu ahakõr aʷos-o/
 3S VOL 3.IRLS-do 2S.teach 2S.word-MP

‘He wants you to teach him your language.’ (Ciucci, field notes)

e-u: ‘to do’ (3) → realis

d-u-hu/l-u-hu ‘to do’ (3.IRLS) → irrealis (prefix /l/- or /d/-)

§5.2.1 The nasalization of irrealis prefixes

The 3-irrealis prefix /d/- or /l/- can nasalize into /n/- when nasality is present in the root. In the nasalization of the prefix there are general tendencies, but no rigid rules. In the following examples, when two forms are possible but one is preferred, the preferred form is followed by the gloss “PR.”. As one can see in (21) the alternation between the prefix /n/- and /d/- or /l/- is usually possible. Sometimes the root-initial consonant tends to block the spread of nasalization. This depends on the consonant. The root-initial consonants in (21) do not block nasalization, but this tendency

emerges when there is a plosive element at the beginning of the root. The block of nasalization occurs very frequently when the root-initial consonant is a velar plosive (22), although there are exceptions (23). If the root-initial consonant is /t/ or an affricate consonant, the block of nasalization is to be observed (24), but this does not always occur (25). In (26-27) one finds examples with other root-initial consonants. Note that two variants are to be observed when /p/ or /rz/ occurs in root-initial position (however, the non-nasalized prefix is preferred). The block of nasalization is also to be found in Ayoreo, e.g. in nominal suffixation. The MP full-form suffix *-(o)de/* turns into *-(o)ne/* when there is a nasal element in the noun root, as in AY *jnum-i* /*ɲum-i*/ ‘land’, which has the plural full form *jnum-one* /*ɲum-one*/. By contrast, the AY noun *tamoco-i* /*tamoko-j*/ ‘dog’ has the plural *tamoc-ode* /*tamok-ode*/, rather than **tamoc-one* /*tamok-one*/, because the velar plosive /k/, interposed between the centre of nasality and the suffix, blocks the spread of nasalization to the suffix (see §4.8.4).

- (21) *te-i-hīt* (3) ‘to light up’ → *n-i-hĩtpe* (PR.) / *d-i-hĩtpe* (3.IRLS)
te-i-hĩtsim (3) ‘to bury’ → *n-i-hĩtsim* (PR.) / *d-i-hĩtsim* (3.IRLS)
te-ĩ-ra (3) ‘to use’ → *n-ĩ-ra* (PR.) / *d-ĩ-ra* (3.IRLS)
te-ũ-eur (3) ‘to paint’ → *n-ũ-eũr* (PR.) / *d-ũ-eũr* (3.IRLS)
te-i-rāha (3) ‘to upload’ → *d-i-rāha* (PR.) / *n-i-rāha* (3.IRLS)
ts-a-ratāk / *ts-ã-ratak* (3) ‘to make a mistake, to confuse’
→ *n-a-ratāk* (3.IRLS)
ε-i-jokōr / *ε-i-jōr* (3) ‘to build, to make’ → *n-i-jokōr* /
n-i-jokōr (3.IRLS)

- (22) *te-u-keãha* (3) ‘to fill’ → *d-u-keãha* (3.IRLS)
te-u-kutirêhe (3) ‘to take possession of’ (also: *teukutirãha*)
 → *d-u-kutirêhe* (3.IRLS)¹⁰³
te-u-kutim (3) ‘to catch fire; to refuse to work’ → *d-u-kutim* (3.IRLS)
ts-e-kwër (3) ‘to feed (a baby), to breastfeed’ → *d-e-kwër* (3.IRLS)
te-i-kãha (3) ‘to pass through’ → *d-i-kãha* (3.IRLS)
- (23) *ts-ěj-kêhe* (3) ‘to press, to push down’ → *n-ěj-kêhe* (3.IRLS)
- (24) *ts-a-tim* (3) ‘to charge, to entrust’ → *l-a-tim* (3.IRLS)
ts-a-tsîr (3) ‘to scold, to tell off, to quarrel’ → *l-a-tsîr* (3.IRLS)
ts-a-tsirãha (3) ‘to knock down, to ride roughshod, to rush’
 → *d-a-tsirãha* (3.IRLS)
ts-i-tîr (3) ‘to approach’ → *d-i-tîr* (3.IRLS)
ts-i-tsêr (3) ‘to open’ → *d-i-tsêr* (3.IRLS)
te-i-tejêr (3) ‘to graft, to plug’ → *d-i-tejêr* (3.IRLS)
- (25) *ts-i-teêta* (3) ‘to measure’ → *d-i-teêta* / *n-i-teêta* (3.IRLS)
ts-i-tijêr / *te-i-tijêr* (3) ‘to gather, to collect, to pile’ → *d-i-tijêr* (PR.) /
n-i-tijêr (3.IRLS)
te-i:-tijêr / *te-ĩ:-tjêr* (3) ‘to rummage’ → *d-i:-tijêr* / *n-i:-tijêr* (3.IRLS)
- (26) *te-i-pã:eo* (3) ‘to fold’ → *d-i-pã:eo* (PR.) / *n-i-pã:eo* (3.IRLS)
te-i-pêteir (3) ‘to knead’ → *d-i-pêteir* (PR.) / *n-i-pêteir* (3.IRLS)
te-i-pê:sa (3) ‘to surround’ → *d-i-pê:sa* (PR.) / *n-i-pê:sa* (3.IRLS)
ts-e-pjêr / *ts-e-pijêr* (3) ‘to punish’ → *l-e-pjêr* / *n-e-pjêr* (3.IRLS)
- (27) *ts-a-rzîm* (3) ‘to add’ → *l-a-rzîm* (PR.) / *n-a-rzîm* (3.IRLS)
ts-e-rzîm (3) ‘to shoot’ → *d-e-rzîm* (PR.) / *n-e-rzîm* (3.IRLS)
ts-o-sîr (3) ‘to favour’ → *d-o-sîr* / *n-o-sîr* (3.IRLS)

¹⁰³ This verb is used with the reflexive pronoun.

Note that no nasalization has been noted in the suffix *-lo/*, and no alternation between */d/* and */l/* is observed. In the case of the suffix *-lo/*, */l/* and */d/* are not allophones.

§5.3 Inflectional classes in Chamacoco

The basis of the paradigm is the 3-person, which is best considered the citation form. This lemmatization criterion has been used in Ulrich & Ulrich (2000: 12), who proposed a verb classification depending on the 3-person form.¹⁰⁴ In the course of the present analysis, a different verb classification will be proposed. One has to distinguish between two macro-classes. The verbs with a consonantal prefix in the 3-person (prefixal verbs) form the first macro-class, while the verbs without any 3-prefix belong to the second macro-class.

FIRST MACRO-CLASS: verbs with consonantal prefix in the third person singular (prefixal verbs)				SECOND MACRO-CLASS: verbs with no consonantal prefix in the third person singular	
FIRST CLASS		SECOND CLASS		THIRD CLASS: thematic verbs (30a)	FOURTH CLASS: radical verbs (30b)
<i>First subclass:</i> <i>/tɕ/-verbs</i> (28a)	<i>Second subclass:</i> <i>/ts/- and /ɕ/- verbs</i> (28b)	<i>Third subclass:</i> <i>/t/-verbs</i> (29a)	<i>Fourth subclass:</i> <i>/d/-verbs</i> (<i>/d/-, /l/-, /n/- and /j/-verbs</i> (29b-e))		

Table 5.1. Classification of Chamacoco verbs

¹⁰⁴ However, this is not the only criterion used by Ulrich & Ulrich (2000: 12) and their verb classification shows some incoherencies.

In the first macro-class the 3-person can take the prefix /tɛ/-, /ts/- or /ɛ/-, /t/-, /d/- or /l/-, /n/- and /j/-. In the first macro-class one can distinguish two classes of verbs: a first class composed of verbs with the 3-prefix /tɛ/- (/tɛ/-verbs) or /ts/-¹⁰⁵ (/ts/-verbs) and a second class composed of verbs with the 3-prefix /t/- (/t/-verbs), /d/- or /l/-, /n/- and /j/- (/d/-verbs). There are thus four groups of verbs: /tɛ/-verbs, /ts/-verbs, /t/-verbs and /d/-verbs. This partition into two classes is due to the fact that the respective groups of verbs share common morphological properties, except for the prefix of the 3-person. /tɛ/- and /ts/-verbs generally have the prefix /t/- in the 1S-person and always show the realis vs. irrealis contrast in the 3-person (28). Both the prefixes /tɛ/- and /ts/- are sometimes observed in the same verb as in *ch-owa* /tɛ-owa/ or *s-owa* /ts-owa/ ‘to show’ (see ex. 76c). The prefix /ts/- turns into /ɛ/- when it precedes thematic /i/ or /u/: *shuu* /ɛu:/ ‘to kill, to make’, *shiyokōr* /ɛijokōr/ ‘to do, to make’.

- (28) a. t-i-raha (1S), e-raha (2S), tɛ-i-raha (3), j-i-raha (1PI),
 o-j-i-raha (1PE), e-raha-lo (2P), d-i-raha (3.IRLS) ‘to know,
 to understand’
 b. t-a-tir (1S), a-tir (2S), ts-a-tir (3), j-a-tir (1PI), o-j-a-tir (1PE),
 a-tir-lo (2P), o-ts-atir (3P), l-a-tir (3.IRLS) ‘to return, to give back’

The verbs of the second class, that is /t/-verbs and /d/-verbs, share features which are opposite to the first class: they usually

¹⁰⁵ In the orthographic transcription /ts/ corresponds to <s> word-initially and to <ts> word-internally. For this reason, a change in the transcription of /ts/ is observable in the 3-person *satir* /tsatir/ and in the 3P-person *otsatir*, but no phonetic change occurs.

have the prefix /tVk/- in the 1S-person.¹⁰⁶ The 3-realis and irrealis coincide.

- (29) a. tak-a:-k (1S), a:-k (2S), t-a:-k (3), j-a:-k (1PI), o-j-a:-k (1PE),
a:-ki-lo (2P), o-t:-a-k (3P), t-a:-k (3.IRLS) 'to eat'
- b. tak-a-buhu (1S), e-buhu (2S), d-e-buhu (3), j-e-buhu (1PI),
o-j-e-buhu (1PE), e-buhu-lo (2P), o-d-ebuhu (3P),
d-e-buhu (3.IRLS) 'to live' (also: lebuhu)
- c. tok-o-ta (1S), o-ta (2S), l-ota (3), j-o-ta (1PI), o-j-o-ta (1PE),
o-ti-lo (2P), o-l-ota (3P), l-o-ta (3.IRLS) 'to play' (also: dota)
- d. tik-i-na (1S), e-na (2S), n-i-na (3), j-i-na (1PI), o-j-i-na (1PE),
e-ni-lo (2P), o-n-i-na (3P), n-i-na (3.IRLS) 'to thank; to hug'
- e. tik-i-na (1S), a-na (2S), j-a-na (3), j-i-na (1PI), o-j-i-na (1PE),
a-ni-lo (2P), o-j-ana (3P), j-a-na (3.IRLS) 'to laugh'

The vast majority of CH verbs belong to /tɛ/-, /ts/- and /t/-verbs. /tɛ/- and /ts/-verbs are the most representative ones. The first macro-class includes most CH verbs. The verbs of the first macro-class are more regular than the verbs belonging to the second macro-class. The first macro-class represents the centre of the verb system of Chamacoco, while the second macro-class represents its periphery.

The second macro-class includes two verb classes: thematic verbs, which have the 3-person coinciding with the theme (30a), and radical verbs, whose 3-person consists of the mere root (30b). Both thematic and radical verbs generally take the prefix /tVk/- in the 1-person. Thematic verbs show the opposition between realis and irrealis, which is not morphologically expressed in radical

¹⁰⁶ /d/-verbs, which form a group composed of few verbs, always show the 1S-person prefix /tVk/-.

verbs. Both verb classes show many irregularities or subregularities which will be analyzed in detail in §5.5 and §5.6.

- (30) a. tik-i-jem / t-i-jem (1S), a-nem (2S), i-jem (3), j-i-jem (1PI),
o-j-i-jem (1PE), a-nem-lo (2P), o-jem (3P), ts-e:m (3.IRLS)
‘to wait for’
b. t-i-kĩtkêr / t-i-kĩtkêr (1S), e-kĩtkêr (2S), Ø-Ø-kějtkêr (3),
j-i-kĩtkêr (1PI), o-j-i-kĩtkêr (1PE), e-kĩtkêr-lo / e-kĩtkêri-lo (2P),
o-kějtkêr (3P), Ø-Ø-kějtkêr (3.IRLS) ‘to speak, to talk’
(also: kějťtkêr)

There are three conspicuous variables in verb inflection: (1) the morphology of the 3-person; (2) the 1S-prefix; (3) the morphological expression of the opposition between realis and irrealis in the 3-person. The classification based on the morphology of the 3-person allows us: (1) to predict with good approximation whether the 1S-prefix is /t/- or /tVk/-; (2) to predict whether the realis vs. irrealis contrast is morphologically expressed in the 3-person. Moreover, between the macro-classes there are conspicuous differences concerning: (1) The number of elements belonging to each class; (2) The frequency of exceptions.

§5.4 Prefixal verbs

Most CH verbs take a prefix in the 3-person. As already seen, prefixal verbs can be divided into /tɛ/-verbs, /ts/-verbs, /t/-verbs and /d/-verbs. /tɛ/-verbs and /ts/-verbs exhibit the realis vs. irrealis distinction, not expressed in /d/- and /t/-verbs (§5.4.1). The vocalic patterns of prefixal verbs are analyzed in §5.4.2, where they are organized according to the 3-vowel, which can be /a/ (§5.4.3), /e/ (§5.4.4), /o/ (§5.4.5), /i/ (§5.4.6), /u/ (§5.4.7) or /i/ (§5.4.8). Prefixal verbs with the 3-vowel /i/ and the 2-vowel /a/ show some

irregularities in the 2-person (§5.4.9). All vocalic patterns of prefixal verbs are summarized in (§5.4.10). /tɛ/- and /ts/-verbs usually take the prefix /t/- in the 1S-person, although there are some exceptions taking /tVɛk/- (§5.4.11). By contrast, /tVɛk/- is the 1S-prefix of /t/- and /d/-verbs, although some verbs take (§5.4.12). In the 3-person of some prefixal verbs, the prefixes /tɛ/- and /ts/- can alternate (§5.4.13). /ts/-verbs with thematic /i/ or /u/ take the allomorph /ɛ/- in the 3-person (§5.4.14). Although prefixal verbs are mostly regular, some irregularities are shown in §5.4.15 and §5.4.16. /d/-verbs form a small subclass which is discussed in §5.4.17.

§5.4.1 Prefixal verbs and the morphological expression of the irrealis

The morphological expression of the opposition between realis and irrealis depends on the verb class. Such opposition is morphologically expressed in the 3-person of prefixal verbs belonging to the first class, that is in /tɛ/-verbs and /ts/-verbs. /t/-verbs and /d/-verbs do not have any morphological expression for the realis vs. irrealis opposition.

- (31) a. ts-i-titêra (3) ‘to measure, to test’ → d-i-titêra / l-i-titêra (3.IRLS),
 o-ts-i-titêra (3P) → o-d-i-titêra / o-l-i-titêra (3P.IRLS)
 b. tɛ-e-kɛɛhe (3) ‘to cut’ → l-e-kɛɛhe / d-e-kɛɛhe (3.IRLS),
 o-tɛ-e-kɛɛhe (3P) → o-l-e-kɛɛhe / o-d-e-kɛɛhe (3P.IRLS)
 c. ts-aɱur (3) ‘to love’ → n-a-ɱur (3.IRLS),
 o-ts-aɱur (3P) → o-n-a-ɱur (3P.IRLS)

The 3-prefix /tɛ/- or /ts/- is replaced by the irrealis prefix /d/- or /l/- (31a-b). /l/ and /d/ are free allophones in word-initial position (e.g. *data* or *lata* ‘mother’, *deych* /dejɛ/ or *leych* /lejɛ/ ‘father’).¹⁰⁷ The prefix may nasalize into /n/- (31c) in nasal-harmony contexts (see §5.2.1). This way to obtain the irrealis is not the same for all prefixal verbs. The 3P-irrealis is obtained by adding the pre-prefix /o/- to the 3-irrealis.

§5.4.2 The thematic vowel

This section discusses the morphological behaviour of the thematic vowel in prefixal verbs. The general rules for the thematic vowel are in principle also valid for radical and thematic verbs (unless otherwise indicated). The morphological behaviour is characterized by the thematic vowel, generally to be found in the 3-person. However, the 3-vowel does not always coincide with the original thematic vowel, because it has been sometimes replaced by a prefix vowel or the 3-person has assimilated to another form, losing its original thematic vowel.

When the 3-vowel is the original thematic vowel, it is usually preserved in the whole paradigm if it is a non-high vowel (32), while it turns into /a/ or /e/ in the 2-person if it is a high vowel (33).¹⁰⁸ In the following sections, I will indicate the vowel which

¹⁰⁷ As Ulrich & Ulrich (2000b: 13) say: “Este intercambio libre de **d** y **l** es preferencialmente individual de estilo y no tiene significación gramatical”.

¹⁰⁸ Nasality and vowel length have phonological value in Chamacoco, but these features are not relevant in this case, because they do not affect the morphological behaviour of the thematic vowel. If a vowel is nasal and/or is long, these features are preserved in the whole paradigm (unless otherwise specified), including when the vowel undergoes a change.

fills the slot of the thematic vowel in the first three persons, because the vowel of the 1P-person is generally the same as the 1S-person, the inflectional vowel of the irrealis is the same as that of the 3-realis, and the plural of the other persons is derived from its singular counterparts.

- (32) a. t-a-pur (1S), a-pur (2S), ts-a-pur (3), j-a-pur (1PI), o-j-a-pur (1PE),
a-pur-lo (2P), o-ts-a-pur (3P), l-a-pur (3.IRLS) ‘to ask for’
(also: tsapuru)
- b. t-e-n̄ehe (1S), e-n̄ehe (2S), t̄e-e-n̄ehe (3), j-e-n̄ehe (1PI),
o-j-e-n̄ehe (1PE), e-n̄ehe-lo (2P), o-t̄e-e-n̄ehe (3P),
n-e-n̄ehe (3.IRLS) ‘to remove, to take away’
- c. t-o-ntew (1S), o-ntew (2S), ts-o-ntew (3), j-o-ntew (1PI),
o-j-o-ntew (1PE), o-ntew-lo (2P), o-ts-o-ntew (3P),
n-o-ntew (3.IRLS) ‘to hold’
- (33) a. t-i:-ta (1S), a:-ta (2S), t̄e-i:-ta (3), j-i:-ta (1PI), o-j-i:-ta (1PE),
a:-tilo (2P), o-t̄e-i:-ta (3P), d-i:-ta (3.IRLS) ‘to serve something
to drink’
- b. tuk-u:-na (1S), e:-na (2S), t̄e-u:-na (3), j-u:-na (1PI),
o-j-u:-na (1PE), e:-ni-lo (2P), o-t̄e-u:-na (3P), n-u:-na (3.IRLS)
‘to perceive, to feel’
- c. tik-i-bite (1S), e-bite (2S), t-i-bite (3), j-i-bite (1PI), o-j-i-bite (1PE),
e-bite-lo (2P), o-t-i-bite (3P), t-i-bite (3.IRLS) ‘to shout, to yell’

§5.4.3 The third-person vowel /a/

The 3-vowel /a/ is preserved in the whole paradigm (32a, 34) when it is the thematic vowel. If the verb takes /tVk/- in the 1S-person, V usually is /a/ (34), but one also finds irregularities, which will be analyzed in §5.4.11. In (35) one finds two exceptions in which the 3-vowel /a/ is irregular. This is probably related to the fact that *tata* and *tatim* are two /t/-verbs with the prefix /t/- in the 1S-person. A

change in the 3-vowel is functional to distinguish the 1S-person from the 3-person. Note that here the 1-vowel is the original thematic vowel of the verb and is to be found in both the 1-person singular and plural.

(34) tak-a-*la* (1S), a-*la* (2S), ts-a-*la* (3), j-a-*la* (1PI), o-j-a-*la* (1PE),
a-*li*-lo (2P), o-ts-a-*la* (3P), d-a-*la* (3.IRLS) ‘to lend, to rent’

(35) a. t-i:-ta (1S), a-ta (2S), t-a-ta (3), j-i:-ta (1PI), o-j-i:-ta (1PE),
a-ta-lo / a-ti-lo (2P), o-tata (3P), t-a-ta (3.IRLS) ‘to say, to report’
b. t-i-tim (1S), a-tim (2S), t-a-tim (3), j-i-tim (1PI), o-j-i-tim (1PE),
a-tim-lo (2P), o-t-atim (3P), t-a-tim (3.IRLS) ‘to tell, to report’

§5.4.4 The third-person vowel /e/

The 3-vowel /e/ is preserved in the whole paradigm when it is the thematic vowel (32b), but, like /a/, the 3-vowel /e/ is not always the thematic vowel. The verb *tew* (36) shows the 1-vowel /a/. /a/ is the original thematic vowel (see also §7.4) and the presence of /e/ in the 3-person is probably related to the need to distinguish the 3-person from the 1S-person. The vocalic pattern of *chees* /tʃe:s/ (37) is completely irregular: the 3-vowel is /e:/, but the 1- and the 2-vowel are /i:/ and /a:/, respectively. The thematic vowel of the irrealis always corresponds to the 3-vowel in prefixal verbs, but in this case it is /i:/. This suggests that the original thematic vowel in the 3-person was /i:/ and that a change in the 3-person has probably occurred.

(36) t-a-w (1S), e-w (2S), t-e-w (3), j-a-hu (1PI), o-j-ahu (1PE), e-w-lo /
e-li-lo (2P), o-t-e-w (3P), t-e-w (3.IRLS) ‘to eat’

(37) t-i:-s (1S), a:-s (2S), tʃe:-s / ts-e:-s (3), j-i:-s (1PI), o-j-i:-s (1PE),
a:-s-lo (2P), o-tʃe:-s / o-ts-e:-s (3P), d-i:-s / l-i:-s (3.IRLS) ‘to bite’

to sting; to criticize' (also: *tees*)

If the verb takes the prefix /tVk/- in the 1S-person, V is never /e/ and the prefix */tek/- is not observed. If a verb has the 3-vowel /e/ and the prefix /tVk/- in the 1-person, /tVk/- may correspond to /tak/- or /tik/-. The prefix /tak/- comes together with the 1-vowel /a/, even if the thematic vowel is /e/ (38a). If the prefix is /tik/-, thematic /e/ can be preserved (38b). The 1-vowel can also reduce to /i/ in the 1-person with both /tik/- (38a) and /tak/- (38c). As one can see in (38a), the prefixes /tak/- and /tik/- can also alternate in the same verb. /tak/- is probably an innovation of the 1S-person. If /j/ belongs to the same syllable of the thematic vowel, it is replaced by /a/ (38d). Other verbs with the 3-vowel /e/ and the prefix /tVk/- are reported in (39).

- (38) a. tak-a-jāha / tik-i-jāha (1S), e-jāha (2S), t-e-jāha (3), j-e-jāha (1PI),
o-j-e-jāha (1PE), e-j-āha-lo (2P), o-t-e-jāha (3P), t-e-jāha (3.IRLS)
'to hunt, to chase'
- b. tik-ěj-hi (1S), ěj-hi (2S), t-ěj-hi (3), j-ěj-hi (1PI), o-j-ěj-hi (1PE),
ej-hĩ-lo (2P), o-t-ěj-hi (3P), t-ěj-hi (3.IRLS) 'to scratch'
- c. tak-i-rihi (1S), e-rihi (2S), t-e-rihi (3), j-e-rihi (1PI), o-j-erihi (1PE),
e-rihi-lo (2P), o-t-e-rihi (3P), t-e-rihi (3.IRLS) 'to reach'
- d. tik-e:-jȩāha / tak-a:-ȩāha (1S), e:-jȩāha (2S), t-e:-jȩāha (3),
j-e:-jȩāha (1PI), o-j-e:-jȩāha (1PE), e:-jȩāha-lo (2P),
o-t-e:-jȩāha (3P), t-e:-jȩāha (3.IRLS) 'to praise'
- (39) a. tāk-ĩ-r (1S), ě-r (2S), t-ě-r (3), j-ě-r (1PI), o-j-ě-r (1PE), ě-r-lo (2P),
o-t-ě-r (3P), t-ě-r (3.IRLS) 'to listen to'
- b. tik-e:-rȩim / tak-a:-rȩim (1S), e:-rȩim (2S), t-e:-rȩim (3),
j-e:-rȩim (1PI), o-j-e:-rȩim (1PE), e:-rȩim-lo / e:-rȩimi-lo (2P),
o-t-e:-rȩim (3P), t-e:-rȩim (3.IRLS) 'to jump (owing to joy or grief)' (also: *terȩim*)
- c. tik-ěj:j-tea / tak-ā:j-tea / tik-ě:j-tei (1S), ě:j-tea (2S), t-ě:j-tea (3),

- j-ẽ:j-tea (1PI), o-j-ẽ:j-tea (1PE), ẽ:j-tei-lo (2P), o-t-ẽ:j-tea (3P),
t-ẽ:j-tea (3.IRLS) ‘to shake, to swing’ (also: tẽjtea / tejtea)
- d. tik-e:-jteĩ (1S), e:-jteĩ (2S), t-e:-jteĩ (3), j-e:-jteĩ (1PI),
o-j-e:-jteĩ (1PE), e:-jteĩ-lo (2P), o-t-e:-jteĩ (3P), t-e:-jteĩ (3.IRLS)
‘to sing’ (also: tejteĩ)
- e. tik-ej-teim / tak-a-teim (1S), ej-teim (2S), t-ej-teim (3),
j-ej-teim (1PI), o-j-ej-teim (1PE), ej-teim-lo (2P), o-t-ej-teim (3P),
t-ej-teim (3.IRLS) ‘to look at’ (also: te:jteim)

§5.4.5 The third-person vowel /o/

The 3-vowel /o/ is generally preserved in the whole paradigm and is the thematic vowel (32c, 40). The prefix /tVk/- in the 1S-person of verbs with thematic /o/ is realized as /tok/-. If the root-initial consonant is /b/ or /m/, the 2-vowel is /a/ rather than /o/ (41). In (42) one finds an exception, because the 2-vowel is /e/.

- (40) tok-õ-ɰa (1S), õ-ɰa (2S), t-õ-ɰa (3), j-õ-ɰa (1PI), o-j-õ-ɰa (1PE),
o-ɰũ-lo (2P), o-t-õ-ɰa (3P), t-õ-ɰa (3.IRLS) ‘to bring, to carry’
- (41) a. t-o-biroho (1S), a-biroho (2S), ɬe-o-biroho / ts-o-biroho (3),
j-o-biroho (1PI), o-j-obiroho (1PE), a-biroho-lo / a-bihir-lo (2P),
o-ɬe-o-biroho / o-ts-o-biroho (3P), d-o-biroho (3.IRLS) ‘to break;
to drive, to pilot; to have stomach pains’ (also: tsobiɽo/ ɬobiɽo)
- b. t-o-bita (1S), a-bita (2S), ɬe-o-bita / ts-o-bita (3), j-o-bita (1PI),
o-j-obita (1PE), a-biti-lo (2P), o-ɬe-o-bita / o-ts-obita (3P),
d-o-bita (3.IRLS) ‘to cure; to blow’
- c. t-o-bit (1S), a-bit (2S), ts-o-bit / ɬe-o-bit (3), j-o-bit (1PI),
o-j-o-bit (1PE), a-biti-lo (2P), o-ts-o-bit / o-ɬe-o-bit (3P),
l-o-bit (3.IRLS) ‘to scare away insects’
- d. t-o-mtis (1S), a-mtis (2S), ts-o-mtis (3), j-o-mtis (1PI),
o-j-o-mtis (1PE), a-mtis-lo (2P), o-ts-omtis (3P),
n-o-mtis (3.IRLS) ‘to turn’

- (42) tok-o-liɛ (1S), e-liɛ (2S), tɛ-o-liɛ (3), j-o-liɛ (1PI), o-j-oliɛ (1PE),
e-liɛ-lo (2P), o-tɛ-o-liɛ (3P), d-o-liɛ (3.IRLS) ‘to suck’

§5.4.6 The third-person vowel /i/

The 3-vowel /i/ is usually the thematic vowel and turns into /a/, /e/ or /ej/ in the 2-person. /i/ turns into /a/ in the 2-person if associated with a phonetic alternation in the verb root (52-59, 61-63). These cases will be discussed in detail later on (see §5.4.9). By contrast, /e/ and /ej/ in the 2-person do not correlate with any alternation in the root. It is not possible to predict when a given verb has /e/ and when it has /ej/ in the 2-person. The 2-vowels /a/ and /e/ are diachronically prefixes which have replaced the high thematic vowels. Original thematic /i/ has been preserved in verbs with /ej/, where one can observe the early stage of the process that originated the current 2-vowel /e/ and /a/ in the other verbs with a high thematic vowel. For this reason /ej/ will be considered a subcase of /e/ in the 2-person.

- (43) t-i-tɛw (1S), a-tɛw (2S), tɛ-i-tɛw (3), j-i-tɛw (1PI),
o-j-i-tɛw (1PE), a-tɛw-lo (2P), o-tɛ-i-tɛw (3P), d-i-tɛw (3.IRLS)
‘to pierce; to dig; to write’

- (44) a. t-i-nkija (1S), e-nkija (2S), tɛ-i-nkija (3), j-i-nkija (1PI),
o-j-i-nkija (1PE), e-nkija-lo (2P), o-tɛ-i-nkija (3P),
n-i-nkija (3.IRLS) ‘to look at; to look properly’
b. t-i:-ɛi (1S), e:-ɛi (2S), tɛ-i:-ɛi (3), j-i:-ɛi (1PI); o-j-i:-ɛi (1PE),
e:-ɛi-lo (2P), o-tɛ-i:-ɛi (3P), d-i:-ɛi (3.IRLS) ‘to open’

- (45) a. t-i-behe (1S), ej-behe (2S), tɛ-i-behe (3), j-i-behe (1PI),
o-j-i-behe (1PE), ej-behe-lo (2P), o-tɛ-i-behe (3P),
d-i-behe (3.IRLS) ‘to change’
b. t-i-hu (1S), ej-hu (2S), tɛ-i-hu (3), j-i-hu (1PI), o-j-i-hu (1PE),

ej-hu-lo (2P), o-tɛ-i-hu (3P), d-i-hu (3.IRLS) ‘to untie, to release’

There are few prefixal verbs with the 3-vowel /i/ and /tVɤk/- in the 1S-person (46). In this case, V is generally /i/. /i/ rarely emerges in the prefix /tVɤk/- (46b). In the 1S-person /i/ can reduce to /i/ after the prefix /tVɤk/-. In conclusion, the CH front vowels /e/ and /i/ are not present in the prefix /tVɤk/-, with few exceptions, such as (46b).

- (46) a. tik-i-tɛi (1S), e-tɛi (2S), t-i-tɛi (3), j-i-tɛi (1PI), o-j-i-tɛi (1PE),
e-tɛi-lo (2P), o-t-i-tɛi (3P), t-i-tɛi (3.IRLS) ‘to defecate’
b. tik-i-jɔ / tik-i-jɔ / tik-i-jɔ (1S), e-jɔ (2S), t-i-jɔ (3), j-i-jɔ (1PI),
o-j-i-jɔ (1PE), e-j-lo (2P), o-t-i-jɔ (3P), t-i-jɔ (3.IRLS) ‘to bark;
to be gossipy’
c. tik-i-jɔ (1S), e-jɔ (2S), t-i-jɔ (3), j-i-jɔ (1PI), o-j-i-jɔ (1PE),
e-j-lo (2P), o-t-i-jɔ (3P), t-i-jɔ (3.IRLS) ‘to buy’

§5.4.7 The third-person vowel /u/

Prefixal verbs with thematic /u/ in the 3-person always take the 2-vowel /e/.¹⁰⁹ /a/ is not reported in the 2-person for prefixal verbs with thematic /u/, but is to be observed in thematic verbs in /u/- (see §5.5.5).

- (47) a. t-u:-s (1S), e:-s (2S), tɛ-u:-s (3), j-u:-s (1PI), o-j-u:-s (1PE),
e:-si-lo (2P), o-tɛ-u:-s (3P), d-u:-s (3.IRLS) ‘to rear (cattle);
to wring’
b. t-u: (1S), tuk (2S), ɛ-u: (3), j-u-hu (1PI), o-j-u-hu (1PE),
tuk-lo (2P), o-ɛ-u: (3P), d-u-hu (3.IRLS) ‘to kill, to hit, to beat;
to make, to do’

¹⁰⁹ The only exception is the verb *shuu* /ɛu:/, which will be discussed in §5.4.14.

- (48) a. tuk-u:-na (1S), e:-na (2S), tɛ-u:-na (3), j-u:-na (1PI),
 o-j-u:-na (1PE), e:-ni-lo (2P), o-tɛ-u:-na (3P), n-u:-na (3.IRLS)
 ‘to perceive, to feel’
 b. tuk-u-rka (1S), e-rka (2S), t-u-rka (3), j-u-rka (1PI), o-j-urka (1PE),
 e-rki-lo (2P), o-t-u-rka (3P), t-u-rka (3.IRLS) ‘to swing’

§5.4.8 The third-person vowel /i/

Prefixal verbs with thematic /i/ in the 3-person usually have the 2-vowel /e/ (49). If the verb takes the prefix /tVk/- in the 1S-person, V is /i/. In the 2-person, /a/ is also observed, but it is very rare among prefixal verbs with the 3-vowel /i/ (51).

- (49) t-i-mɛr (1S), e-mɛr (2S), tɛ-i-mɛr (3), j-i-mɛr (1PI), o-j-i-mɛr (1PE),
 e-mɛr-lo (2P), o-tɛ-i-mɛr (3P), n-i-mɛr (3.IRLS) ‘to keep’

- (50) tik-i-bite (1S), e-bite (2S), t-i-bite (3), j-i-bite (1PI), o-j-i-bite (1PE),
 e-bite-lo (2P), o-t-i-bite (3P), t-i-bite (3.IRLS) ‘to shout, to yell’

- (51) a. tik-i-be (1S), a-be (2S), t-i-be (3), j-i-be (1PI), o-j-i-be (1PE),
 a-be-lo (2P), o-t-i-be (3P), t-i-be (3.IRLS) ‘to look, to watch, to go
 to look’
 b. tik-i-bej (1S), a-bej (2S), t-i-bej (3), j-i-bej (1PI), o-j-i-bej (1PE),
 a-bej-lo (2P), o-t-i-bej (3P), t-i-bej (3.IRLS) ‘to look after, to take
 care of’

§5.4.9 Prefixal verbs with the third-person vowel /i/ and the second-person vowel /a/

In the 2-person of prefixal verbs some consonantal or vocalic alternations in the root may occur. These morphophonological processes are systematic and related to the vocalic pattern. In prefixal verbs a consonantal or vocalic alternation in the 2-person

root only occurs if the 3-vowel is /i/ and the 2-vowel is /a/.¹¹⁰ This section focuses on /tɛ/-verbs with thematic /i/ and the 2-vowel /a/. There are few /ts/-verbs which have these characteristics and will be discussed in detail in §5.4.14. These morphological processes are not observed in /d/- and /t/-verbs, because in the second class there are only a few verbs with thematic /i/, mainly having the 2-vowel /e/. Similar morphophonological processes occur in thematic verbs and will be discussed in §5.5. 3-person root-initial /tɛ/ corresponds to /ts/ in the 2-person (52-54).

(52) t-i-tɛw (1S), a-tɛw (2S), tɛ-i-tɛw (3), j-i-tɛw (1PI),
o-j-i-tɛw (1PE), a-tɛw-lo (2P), o-tɛ-i-tɛw (3P), d-i-tɛw (3.IRLS)
'to pierce; to dig; to write'

(53) t-i-tɛuwe (1S), a-tɛuwe (2S), tɛ-i-tɛuwe (3), j-i-tɛuwe (1PI),
o-j-i-tɛuwe (1PE), a-tɛuwe-lo / a-tɛuwe-lo (2P), o-tɛ-i-tɛuwe (3P),
d-i-tɛuwe (3.IRLS) 'to surround'

(54) t-i-tɛjër (1S), a-tɛjër (2S), tɛ-i-tɛjër (3), j-i-tɛjër (1PE), o-j-i-tɛjër (1PI),
a-tɛjër-lo (2P), o-tɛ-i-tɛjër (3P), d-i-tɛjër (3.IRLS) 'to graft'

So far, no /tɛ/-verb with thematic /i/, root-initial /tɛ/- and the 2-vowel /e/ has been found.

Root-initial /j/ corresponds to /l/ in the 2-person (55-59). Root-initial /j/ does not alternate with /l/ if the 2-vowel is /e/ (60).

(55) t-i-jehi (1S), a-lehi (2S), tɛ-i-jehi (3), j-i-jehi (1PI), o-j-i-jehi (1PE),
a-lehi-lo (2P), o-tɛ-i-jehi (3P), d-i-jehi (3.IRLS) 'to go often'

¹¹⁰ This does not necessarily mean that the change started in the 2-person (see also §5.5.4). The research of a diachronic explanation for such root alternation should be the object for further investigation.

- (56) t-i-jew (1S), a-lew (2S), tɛ-i-jew (3), j-i-jew (1PI), o-j-i-jew (1PE),
a-lewlo (2P), o-tɛ-i-jew (3P), d-i-jew (3.IRLS) ‘to go across the
river’
- (57) t-i-jej (1S), a-lej (2S), tɛ-i-jej (3), j-i-jej (1PI), o-j-i-jej (1PE),
a-lej-lo (2P), o-tɛ-i-jej (3P), d-i-jej (3.IRLS) ‘to know the answer’
- (58) t-i:-jo (1S), a:-lo (2S), tɛ-i:-jo (3), j-i:-jo (1PI), o-j-i:-jo (1PE), a:-li-lo /
a:-lo-lo (2P), o-tɛ-i:-jo (3P), l-i:-jo (3.IRLS) ‘to weave’ (also: tɛijo)
- (59) t-i-juwa (1S), a-luwa (2S), tɛ-i-juwa (3), j-i-juwa (1PI),
o-j-i-juwa (1PE), a-luwa-lo / a-luwa-lo / a-lu:-lo (2P),
o-tɛ-i-juwa (3P), d-i-juwa (3.IRLS) (also: tɛiwa) ‘to put’
- (60) t-i-juhu (1S), e-juhu (2S), tɛ-i-juhu (3), j-i-juhu (1PI), o-j-i-juhu (1PE),
e-juhu-lo (2P), o-tɛ-i-juhu (3P), d-i-juhu (3.IRLS) ‘to remove, to
extract’

If the root-initial consonant is /ɛ/, it corresponds to /s/ in the 2-person (61-63). If the verb has root-initial /s/, but /e/ in the 2-person, no root allomorphy is observed (64-66). In some verbs, the alternation between /a/ and /e/ in the 2-person vowel is to be found (67-68). These examples confirm that /a/ is actually associated with root allomorphy, because /ɛ/ occurs in the whole paradigm if the 2-vowel is /e/ and alternates with /s/ if the 2-vowel is /a/.

- (61) t-i-ɛ sak (1S), a-s sak (2S), tɛ-i-ɛ sak (3), j-i-ɛ sak (1PI),
o-j-i-ɛ sak (1PE), a-si-lo sak / a-s-lo sak (2P), o-tɛ-i-ɛ sak (3P),
d-i-ɛ sak (3P) ‘to take hold of something firmly, to grab firmly’
- (62) t-i-ɛɛhe (1S), a-sehe (2S), tɛ-i-ɛɛhe (3), j-i-ɛɛhe (1PI), o-j-i-ɛɛhe
(1PE), a-sehe-lo (2P), o-tɛ-i-ɛɛhe (3P), d-i-ɛɛhe (3.IRLS) ‘to catch

(an animal); to rape'

(63) t-i-*ɛ*ew (1S), a-sew (2S), *ɬ*-i-*ɛ*ew (3), j-i-*ɛ*ew (1PI), o-j-i-*ɛ*ew (1PE),
a-sew-lo / a-si-lo (2P), o-*ɬ*-i-*ɛ*ew (3P), d-i-*ɛ*ew (3.IRLS) 'to hold,
to take, to grab'

(64) t-i-*ɛ* (1S), e-*ɛ* (2S), *ɬ*-i-*ɛ* (3), j-i-*ɛ* (1PI), o-j-i-*ɛ* (1PE), e-*ɛ*-lo /
e-*ɛ*i-lo (2P), o-*ɬ*-i-*ɛ* (3P), d-i-*ɛ* (3.IRLS) 'to meet'

(65) t-i:-*ɛ*i (1S), *ɛ*:-*ɛ*i (2S), *ɬ*-i:-*ɛ*i (3), j-i:-*ɛ*i (1PI), o-j-i:-*ɛ*i (1PE), e:-*ɛ*i-lo /
e:-*ɛ*-lo (2P), o-*ɬ*-i:-*ɛ*i (3P), d-i:-*ɛ*i (3.IRLS) 'to open'

(66) t-i-*ɛ*it (1S), e-*ɛ*it (2S), *ɬ*-i-*ɛ*it (3), j-i-*ɛ*it (1PI), o-j-i-*ɛ*it (1PE),
e-*ɛ*iti-lo (2P), o-*ɬ*-i-*ɛ*it (3P), d-i-*ɛ*it (3.IRLS) 'to shake'

(67) t-i-*ɛ*ĩr (1S), a-sĩr/ e-*ɛ*ĩr (2), *ɬ*-i-*ɛ*ĩr (3), j-i-*ɛ*ĩr (1PI), o-j-i-*ɛ*ĩr (1PE),
a-sĩr-lo / e-*ɛ*ĩr-lo (2P), o-*ɬ*-i-*ɛ*ĩr (3P), d-i-*ɛ*ĩr (3.IRLS) 'to point to, to
indicate; to go to grab'

(68) tik-i-*ɛ*ak / t-i-*ɛ*ak (1S), a-sak (2S), *ɬ*-i-*ɛ*ak (3), j-i-*ɛ*ak (1PI),
o-j-i-*ɛ*ak (1PE), e-*ɛ*ak-lo / e-*ɛ*aki-lo (2P), o-*ɬ*-i-*ɛ*ak (3P),
d-i-*ɛ*ak (3.IRLS) 'to break'

In /t/-verbs, thematic /i/ is rare and no root allomorphy is observed. Note that *chish* /*ɬ**ɛ**ɛ*/ has /e/ in the 2-person (64), but it takes /a/ in the compound verb *chish sak* /*ɬ**ɛ**ɛ* sak/ (61), where one can observe root allomorphy.

When the first root-vowel follows /h/, the former can assimilate to the 2-vowel /a/ (69-71). In the verbs below, the alternation between /a/ and /e/ is to be observed in the 2-vowel. The first root-vowel is /i/, which is preserved if the 2-vowel is /e/, but it turns into /a/ when it assimilates to the 2-vowel /a/.

(69) t-i-hĩt (1S), a-hãt / e-hĩt (2S), *ɬ*-i-hĩt (3), j-i-hĩt (1PI), o-j-i-hĩt (1PE),

a-hāti-lo / a-hāt-lo / e-hīt-lo (2P), o-ṭe-ĩ-hit (3P), n-i-hīt /
d-i-hīt (3.IRLS) ‘to light, to illuminate’

(70) t-i-hĩtsa (1S), a-hātsa / e-hĩtsa (2S), ṭe-i-hĩtsa (3), j-i-hĩtsa (1PI),
o-j-i-hĩtsa (1PE), a-hatsã-lo / a-hāts-lo / a-hatsĩ-lo / e-hĩtsi-lo (2P),
o-ṭe-i-hĩtsa (3P), n-i-hitsã (3.IRLS) ‘to dig, to excavate’

(71) t-i-hitsim (1S), a-hatsim / e-hitsim (2S), ṭe-i-hitsim (3),
j-i-hitsim (1PI), o-j-i-hitsim (1PE), a-hatsim-lo / e-hitsim-lo (2P),
o-ṭe-i-hitsim (3P), d-i-hitsim (3.IRLS) ‘to bury’

In (72) root-initial /j/ corresponds to /h/ in the 2-person if the 2-vowel is /a/. No root allomorphy is to be observed if the 2-vowel is /e/.

(72) t-i-jok (1S), e-jok / a-hok (2S), ṭe-i-jok (3), j-i-jok (1PI),
o-j-i-jok (1PE), e-jok-lo / a-hok-lo (2P), o-ṭe-i-jok (3P),
d-i-jok (3.IRLS) ‘to frighten’

There are only a few prefixal verbs in which there is no correlation between the 2-vowel /a/ and root allomorphy in the 2-person, as in (33a) and (73-74). In some of these verbs the alternation between /a/ and /e/ in the 2-person is also to be found.

(73) t-i:-sēhe (1S), a:-sēhe / e:j-sēhe (2S), ṭe-i:-sēhe (3), j-i:-sēhe (1PI),
o-j-i:-sēhe (1PE), a:-sēhe-lo / e:j-sēhe-lo (2P), o-ṭe-i:-sēhe (3P),
n-i:-sēhe (3.IRLS) ‘to change, to turn into’ (used with reflexive pronouns)

(74) t-i:-sāha (1S), a:-sāha/ e:j-sāha (2S), ṭe-i:-sāha (3), j-i:-sāha (1PI),
o-j-i:-sāha (1PE), a:-sāhi-lo / e:j-sāha-lo (2P), o-ṭe-i:-sāha (3P),
n-i:-sāha (3.IRLS) ‘to incite; to quarrel’

§5.4.10 The vocalic patterns of prefixal verbs

To conclude, Table 5.2 lists all possible vocalic patterns found in prefixal verbs, ordered according to the 3-vowel. The table does not include all examples shown in the previous pages. Vocalic patterns marked with * are very rare and are observed in few exceptions. The cases in which the 3-vowel /i/ is preserved in the 2-person, where it consonantizes, are included in /i/-/e/-/i/. When the 3-vowel is a high vowel, the high thematic vowel generally turns into /e/ in the 2-person. The 2-vowel /a/ usually correlates with root allomorphy in the 2-person and thematic /i/, otherwise it is very rare.

Table 5.2. Vocalic patterns of Chamacoco prefixal verbs

1	2	3	Example(s)	1	2	3	Example(s)
a	a	a	(34)	i	e	i	(44-45)
i	a	a	(35)*	o	a	o	(41)
a	e	e	(36)	o	e	o	(42)*
i	a	e	(37)*	o	o	o	(40)
e	e	e	(32b)	u	e	u	(47-48)
i	e	e	(38c)	i	a	i	(51)*
i	a	i	(43)	i	e	i	(49-50)

§5.4.11 /tɛ/- and /ts/-verbs with the first-person prefix /tVɤ/-

/tɛ/- and /ts/-verbs generally take the prefix /t/- in the 1-person, while /tVɤ/- is typical of /t/- and /d/-verbs. The following examples show /tɛ/- and /ts/-verbs which do not follow the general tendency and take the 1-prefix /tVɤ/-. The thematic vowel can be /a/ (75), /o/ (76), /u/ (77) and /i/ (78).

- (75) a. tak-a-*la* (1S), a-*la* (2S), ts-a-*la* (3), j-a-*la* (1PI), o-j-a-*la* (1PI),
a-*li*-lo (2P), o-ts-a-*la* (3P), d-a-*la* (3.IRLS) ‘to lend, to rent’
b. tak-a-*lok* (1S), a-*lok* (2S), ts-a-*lok* (3), j-a-*lok* (1PI), o-j-a-*lok* (1PE),
a-*lok*-lo (2P), o-ts-a-*lok* (3P), l-a-*lok* (3.IRLS) ‘to make a mistake,
to be wrong’
c. tak-a-*tim* (1S), a-*tim* (2S), ts-a-*tim* (3), j-a-*tim* (1PI),
o-j-a-*tim* (1PE), a-*tim*-lo (2P), o-ts-a-*tim* (3P), l-a-*tim* (3.IRLS)
‘to order, to charge’
- (76) a. tok-o-*lie* (1S), e-*lie* (2S), *te*-o-*lie* (3), j-o-*lie* (1PI), o-j-o-*lie* (1PE),
e-*lie*-lo (2P), o-*te*-o-*lie* (3P), d-o-*lie* (3.IRLS) ‘to suck’
b. tok-o-*sir* (1S), o-*sir* (2S), ts-o-*sir* (3), j-o-*sir* (1PI), o-j-o-*sir* (1PE),
o-*sir*-lo (2P), o-ts-o-*sir* (3P), d-o-*sir* (3.IRLS) ‘to favour’
(also: *tsosir*)
c. tok-o-*wa* (1S), o-*wa* (2S), *te*-o-*wa* / ts-o-*wa* (3), j-o-*wa* (1PI),
o-j-o-*wa* (1PE), o-*wi*-lo (2P), o-*te*-o-*wa* (3P), l-*owa* (3.IRLS)
‘to show’
- (77) a. tuk-u:-*na* (1S), e:-*na* (2S), *te*-u:-*na* (3), j-u:-*na* (1PI),
o-j-u:-*na* (1PE), e:-*ni*-lo / e:-*na*-lo / e:-*n*-lo (2P), o-*te*-u:-*na* (3P),
n-u:-*na* (3.IRLS) ‘to perceive, to feel’
b. tuk-u-*nt* (1S), e-*nt* (2S), *te*-u-*nt* (3), j-u-*nt* (1PI), o-j-u-*nt* (1PE),
e-*nt*-lo (2P), o-*te*-u-*nt* (3P), n-u-*nt* (3.IRLS) ‘to hear’
- (78) a. *tik-i-raha* (1S), e-*raha* (2S), *te*-i-*raha* (3), j-i-*raha* (1PI),
o-j-i-*raha* (1PE), e-*raha*-lo / e-*ra*:-lo (2P), o-*te*-i-*raha* (3P),
d-i-*raha* (3.IRLS) ‘to know’ (also: *teirehe*)
b. *tik-i-rahak* (1S), e-*rahak* (2S), *te*-i-*rahak* (3), j-i-*rahak* (1PI),
o-j-i-*rahak* (1PE), e-*rahak*-lo (2P), o-*te*-i-*rahak* (3P),
d-i-*rahak* (3.IRLS) ‘to ignore’
c. *tik-i-tak* (1S), e-*tak* (2S), ts-i-*tak* (3), j-i-*tak* (1PI), o-j-i-*tak* (1PE),
e-*taki*-lo (2P), o-ts-i-*tak* (3P), d-i-*tak* (3.IRLS) ‘not to want,
to hate’

In (79-81) the thematic vowels are /e/ and /i/, which are not copied in the prefix /tVk/-. The 1S-person taking the prefix /tVk/- follows the same rules described above (see §5.4.4 and §5.4.6). (81) shows an exception, because the two prefixes /tVk/- and /t/- alternate.

(79) tak-a:-e-po / tik-e:-e-po (1S), e:-e-po (2S), tɛ-e:-e-po (3),
j-e:-e-po (1PI), o-j-e:-e-po (1PE), e:-e-lo-po (2P), o-tɛ-e:-e-po (3P),
d-e:-e-po (3.IRLS) ‘to come back’ (also: tɛe:e / tɛe:ei)

(80) tak-a-hi / tik-e-jhi (1S), e-jhi (2S), ts-e-jhi (3), j-e-jhi (1PI),
o-j-e-jhi (1PE), e-jhi-lo (2P), o-ts-e-jhi (3P), d-e-jhi (3.IRLS)
‘to go home’

(81) tik-i-eak / t-i-eak (1S), a-sak (2S), tɛ-i-eak (3), j-i-eak (1PI),
o-j-i-eak (1PE), e-eak-lo / e-eaki-lo (2P), o-tɛ-i-eak (3P),
d-i-eak (3.IRLS) ‘to break’

In (82-83) the 1S-thematic-vowel can optionally change into /i/ when the prefix is /a/ (which preserves the typical thematic /a/).

(82) tak-i-tso / tak-a-tso (1S), a-tso (2S), ts-a-tso (3), j-a-tso (1PI),
o-j-atso (1PE), a-tsi-lo (2P), o-ts-atso (3P), l-a-tso (3.IRLS)
‘to be satisfied’

(83) tak-i-tsok / tak-a-tsok (1S), a-tsok (2S), ts-a-tsok (3), j-a-tsok (1PI),
o-j-a-tsok (1PE), a-tsok-lo (2P), o-ts-atsok (3P), l-a-tsok (3.IRLS)
‘not to be satisfied’

§5.4.12 The first person singular in /t/-verbs

/t/-verbs usually have the prefix /tVk/- in the 1S-person. In (84-86) the vowel of the prefix /tVk/- is unexpected, because it is /tok/-,

while the expected form is /tak/-, which is also observed and can alternate with /tok/- (84-85). In (84-85) /tok/- and /tak/- can alternate, while the 1S-thematic-vowel is preserved. By contrast, *tāra* (86) takes /tok/- and has /o/ as 1S-vowel, although the 1P-vowel is /a/. In (87-88) thematic /i/ can drop in the 1S-person.

(84) tok-ã:-tea / tak-ã:-tea (1S), ã:-tea (2S), t-ã:-tea (3), j-ã:-tea (1PI),
o-j-ã:-tea (1PE), a:-teĩ-lo (2P), o-t-ã:-tea (3P), t-ã:-tea (3.IRLS)
‘to reach, to arrive’

(85) tak-ã:-te-po / tok-ã:-te-po (1S), ã:-te-po (2S), t-ã:-te-po (3),
j-ã:-te-po (1PI), o-j-ã:-te-po (1PE), a:-teĩ-l-po (2P),
o-t-ã:-te-po (3P), t-ã:-te-po ‘to return’

(86) tok-õ-ra (1S), ã-ra (2S), t-ã-ra (3), j-ã-ra (1PI), o-j-ã-ra (1PE),
ã-r-lo (2P), o-t-ã-ra (3P), t-ã-ra (3.IRLS) ‘to come from; to throw’

(87) tik-soho / tik-i-soho (1S), e-soho (2S), t-i-soho (3), j-i-soho (1PI),
o-j-i-soho (1PE), e-soho-lo (2P), o-t-i-soho (3P), t-i-soho (3.IRLS)
‘to have/take a bath, to bathe’ (also: tusoho)

(88) tik-i-sirĩhi / tik-sirĩhi (1S), e-sirĩhi (2S), t-i-sirĩhi (3), j-i-sirĩhi (1PI),
o-j-i-sirĩhi (1PE), e-sirĩhi-lo (2P), o-t-i-sirĩhi (3P),
t-i-sirĩhi (3.IRLS) ‘to have/take a bath, to bathe’

It is evident that in the 1S-person the speakers have functional reasons to prefer /tVk/- to /t/-: the 1S-person taking the prefix /t/- coincides otherwise with 3-person taking the prefix /t/-. There are, however, some /t/-verbs which take the prefix /t/- in the 1S-person. In this case, the 1S-person coincides with the 3-person (89). As already seen (§5.4.3, §5.4.4), few /t/-verbs with the 1S-prefix /t/- have an irregular vocalic pattern (90).

(89) a. t-a-xa (1S), a-xa (2S), t-a-xa (3), j-a-xa (1PI), o-j-a-xa (1PE),

- a-xi-lo (2P), o-t-a-xa (3P), t-a-xa (3.IRLS) ‘to fart’
- b. t-a-kaɛim (1S), a-kaɛim (2S), t-a-kaɛim (3), j-a-kaɛim (1PI),
o-j-a-kaɛim (1PE), a-kaɛim-lo (2P), o-t-a-kaɛim (3P),
t-a-kaɛim (3.IRLS) ‘to help’
- c. t-a-kie (1S), a-kie (2S), t-a-kie (3), j-a-kie (1PI), o-j-a-kie (1PE),
a-kie-lo (2P), o-t-a-kie (3P) ‘to be together’ (also: takieo)¹¹¹
- d. t-e-kirihi (1S), e-kirihi (2S), t-e-kirihi (3), j-e-kirihi (1PI),
o-j-ekirihi (1PE), e-kirihi-lo (2P), o-t-e-kirihi (3P),
t-e-kirihi (3.IRLS) ‘to visit’
- e. t-e-kir (1S), e-kir (2S), t-e-kir (3), j-e-kir (1PI), o-j-ekir (1PE),
e-kir-lo (2P), o-t-e-kir (3P) ‘to go for a walk’
- f. t-u-kun̩u (1S), e-kun̩u (2S), t-u-kun̩u (3), j-u-kun̩u (1PI),
o-j-u-kun̩u (1PE), e-kun̩u-lo (2P), o-t-u-kun̩u (3P),
t-u-kun̩u (3.IRLS) ‘to spy’ (also: tukun̩e/tukun̩a)
- (90) a. t-i:-ta (1S), a-ta (2S), t-a-ta (3), j-i:-ta (1PI), o-j-i:-ta (1PE), a-ta-lo /
a-ti-lo (2P), o-tata (3P), t-a-ta (3.IRLS) ‘to say, to report’
- b. t-i-tim (1S), a-tim (2S), t-a-tim (3), j-i-tim (1PI), o-j-i-tim (1PE),
a-tim-lo (2P), o-t-atim (3P), t-a-tim (3.IRLS) ‘to tell, to report’
- c. t-a-w (1S), e-w (2S), t-e-w (3), j-a-hu (1PI), o-j-ahu (1PE), e-w-lo /
e-li-lo (2P), o-t-e-w (3P), t-e-w (3.IRLS) ‘to eat’

Note that, apart from *taja* /*taxa*/ and the verbs in (90), the other /*t*-verbs with the prefix /*t*/- in the 1S-person could not use the prefix /*tVk*/- because it cannot be added to verbs with root-initial /*k*/.

One can suppose that /*t*-verbs have added epenthetic -/*Vk*/- between the 1S-prefix /*t*/- and the root, originating the prefix /*tVk*/-

¹¹¹ This verb is used with the noun *owich* /*owite*/ ‘place’ (see §10.4.3, ex. 13), which is also inflected:

(i) *takie powite* (1S), *akie owite* (2S), *takie lawite* / *dowite* (3), *jakie ōrjok owite* (1PI), *ojakie ejok owite* (1PE), *akielo olak owite* (2P), *wir otakie lawite* / *dowite* (3P).

in order to differentiate the 1-person from the 3-person. This innovation has presumably spread to other groups of verbs in which there is no need to distinguish the 1S-person from the 3-person, including /d/-verbs, which also have a dental consonant as 3-prefix and no specific form for the irrealis. Bertinetto (2011a: 14) has hypothesized that /tVk/- might have been created under the influence of the 1S-person independent pronoun *yok* /jok/.

§5.4.13 Alternation between /tɛ/- and /ts/- in the third person

/tɛ/- and /ts/-verbs exhibit the same morphological properties and in some cases the prefixes /tɛ/- and /ts/- may alternate. There is no alternation between /tɛ/- and the allomorph of /ts/-, /ɛ/-.¹¹²

- (91) a. t-o-biroho (1S), a-biroho (2S), tɛ-o-biroho / ts-o-biroho (3),
j-o-biroho (1PI), o-j-o-biroho (1PE), a-biroho-lo / a-bihir-lo (2P),
o-tɛ-obiroho / o-ts-obiroho (3P), d-o-biroho (3.IRLS)
(also: tsobiŋo/ tɛobiŋo) ‘to break; to drive, to pilot; to have
stomach pains’
- b. t-o-bita (1S), a-bita (2S), tɛ-o-bita / ts-o-bita (3), j-o-bita (1PI),
o-j-obita (1PE), a-biti-lo (2P), o-tɛ-o-bita / o-ts-o-bita (3P),
d-o-bita (3.IRLS) ‘to cure; to blow’
- c. t-o-bit (1S), a-bit (2S), ts-o-bit / tɛ-o-bit (3), j-o-bit (1PI),
o-j-o-bit (1PE), a-biti-lo (2P), o-ts-o-bit / o-tɛ-o-bit (3P),
l-o-bit (3.IRLS) ‘to scare away insects’
- d. tok-o-wa (1S), o-wa (2S), tɛ-o-wa / ts-o-wa (3), j-o-wa (1PI),
o-j-o-wa (1PE), o-tɛ-o-wa / o-ts-o-wa (3P), l-o-wa (3.IRLS)
‘to show’
- e. t-i-lota (1S), e-lota (2S), tɛ-i-lota / ts-i-lota (3), j-i-lota (1PI),

¹¹² In some cases (as in *chees* /tɛɛ:s/ and *chinaha* /tɛinaha/) the use of the prefix /ts/- in the 3-person is considered a tendency of the younger generations.

- o-j-i-lota (1PE), e-loti-lo (2P), o-*te*-i-lota / o-ts-i-lota (3P),
d-i-lota (3.IRLS) ‘to depend on’
- f. t-i-lis (1S), e-lis (2S), *te*-i-lis / ts-i-lis (3), j-i-lis (1PI), o-j-i-lis (1PE),
e-lis-lo (2P), o-*te*-i-lis / o-ts-i-lis (3P), d-i-lis (3.IRLS) ‘to blow up,
to inflate’
- g. t-i-*ṇa* (1S), e-*ṇa* (2S), ts-i-*ṇa* / *te*-i-*ṇa* (3), j-i-*ṇa* (1PI),
o-j-i-*ṇa* (1PE), e-*ṇi*-lo (2P), o-ts-i-*ṇa* / o-*te*-i-*ṇa* (3P),
n-i-*ṇa* (3.IRLS) ‘to finish, to end; to destroy, to kill’
- h. t-i-tĩr (1S), e-tĩr (2S), *te*-i-tĩr / ts-i-tĩr (3), j-i-tĩr (1PI), o-j-i-tĩr (1PE),
e-tĩr-lo (2P), o-ts-i-tĩr (3P), d-i-tĩr (3.IRLS) ‘to get nearer’ (used
with reflexive pronouns) (also: tsitĩr / *te*itĩr)
- i. t-i-nis (1S), e-nis (2S), *te*-i-nis / ts-i-nis (3), j-i-nis (1PI),
o-j-i-nis (1PE), e-nis-lo (2P), o-*te*-i-nis (3P), n-i-nis (3.IRLS)
‘to fry’
- j. t-i-tijěr (1S), e-tijěr (2S), *te*-i-tijěr / ts-i-tijěr (3), j-i-tijěr (1PI),
o-j-i-tijěr (1PE), e-tijěr-lo (2P), o-*te*-i-tijěr (3P), d-i-tijěr (3.IRLS)
‘to gather, to collect, to pile’
- k. t-i-naha (1S), e-naha (2S), *te*-i-naha / ts-i-naha (3), j-i-naha (1PI),
o-j-i-naha (1PE), e-naha-lo (2P), o-*te*-i-naha (3P), n-i-naha (3.IRLS)
‘to act strongly’¹¹³

§5.4.14 /*ɛ*/-verbs

Some /ts/-verbs take the prefix /*ɛ*/- in the 3-person. /*ɛ*/- and /ts/- are in complementary distribution, because /*ɛ*/- occurs before thematic /i/ or /u/, where /ts/- is not observed. For this reason also verbs with the prefix /*ɛ*/- have been referred to as /ts/-verbs. In prefixal verbs with thematic /i/ and the 2-vowel /a/, /a/ comes together with root

¹¹³ To these verbs one should also add *chees* /*tɕe:s*/ (see §5.4.4, ex. 37). According to the speakers, in the case of *chees* and *chinaha* /*tɕeinaha*/ (§5.4.13, ex. 91k), the form in /*te*/- would be the older form, while the younger generations would prefer the form in /ts/-.

allomorphy. In section §5.4.9 the situation in /tɛ/-verbs has been discussed but root allomorphy also occurs in /ts/-verbs, although they are less frequent. The morphophonological processes involved are not exactly the same. /ts/-verbs with the 3-vowel /i/ also take the 2-vowel /a/. Root-initial /j/ corresponds to /h/ in the 2-person (92). As already seen, under the same conditions root-initial /j/ in /tɛ/-verbs corresponds to /l/ in the 2-person (see §5.4.9).

In some cases the first root-vowel can assimilate to the 2-vowel /a/, as in (92e-g). The first root-vowel /a/ is replaced by -/ĩr/- in the 2-person of *shĩyas* /ɛĩjas/ (92a). Other changes have nothing to do with the vocalic pattern. In some cases root-initial /j/ can devoice in the 1-person and in the irrealis (92b-d, g). In *shiyero* /ɛijero/ (92b) the thematic vowel can delete and a syllable haplology is possible in the 1P-person. In *shiyokõr* /ɛijokõr/ (92e) intervocalic /k/ can delete and -/ko/- syncope occurs.

- (92) a. t-i-jās (1S), a-hĩrs (2S), ɛ-ĩ-jas (3), j-ĩ-jas (1PI), o-j-ĩ-jas (1PE),
a-hĩrsĩ-lo (2P), o-ɛ-ĩ-jas (3P), n-i-jas (3.IRLS) ‘to break’
b. t-(i)-jero (1S), a-hero (2S), ɛ-(i)-jero (3), (j-i)-jero (1PI),
o-(j-i)-jero (1PE), a-her-lo (2P), o-ɛ-(i)-jero (2P), d-i-jero (3.IRLS)
‘to drum, to tap’
c. t-i-jeru (1S), a-heru (2S), ɛ-i-jeru (3), j-i-jeru (1PI), o-j-i-jeru (1PE),
a-heru-lo (2P), o-ɛ-i-jeru (3P), d-i-jeru (3.IRLS) ‘to close, to tie’
d. t-i-jok (1S), a-hok (2S), ɛ-i-jok (3), j-i-jok (1PI), o-j-i-jok (1PE),
a-hoki-lo (2P), o-ɛ-i-jok (3P), d-i-jok (3.IRLS) ‘to frighten’¹¹⁴
e. t-i-jokõr (1S), a-hakõr (2S), ɛ-i-jokõr / ɛ-i-jõr (3), j-i-jokõr (1PI),
o-j-i-jokõr (1PE), a-hakõrlo (2P), o-ɛ-i-jokõr (3P), n-i-jokõr /
n-i-jokõr (3.IRLS) / o-ɲ-ijor (3P.IRLS) ‘to build, to make’¹¹⁵

¹¹⁴ *Shiyok* /ɛijok/ is a variant of *chihyok* /tɛijok/ (see §5.4.9, ex (26)).

¹¹⁵ *Nihyokõr* /nijokõr/ is also used as a variant of *nihyok* /nijok/ ‘there is not’ and

- f. t-i-jokorãha (1S), a-hakorãha (2S), e-i-jokorãha (3), j-i-jokorãha / j-i-jorãha (1PI), o-j-i-jorãha / o-j-i-jokorãha (1PE), a-hakorãha-lo (2S), o-e-i-jokorãha (3P), n-i-jokorãha (3.IRLS) ‘to teach’
- g. t-i-jokos (1S), a-hakos (2S), e-i-jokos (3), j-i-jokos (1PI), o-j-i-jokos (1PE), a-hakos-lo (2P), o-e-i-jokos (3P), d-i-jokos (3.IRLS) ‘to bother’

There is only one verb with the prefix /e/- and thematic /u/: *shuu* /eu:/ (93). This shows the alternation between -/uhu/- and -/u:/- in the paradigm. This process, in which the long vowel turns into two syllables with /h/ insertion, is common in Chamacoco, and here takes place in some persons of the paradigm (generally in the 1P-person and in the irrealis). The verb *shuu* /eu:/ conveys two meanings: ‘to do, to make’ and ‘to kill’. Each meaning has a different form for the 2S-person. Both 2-person forms are irregular.

When *shuu* /eu:/ means ‘to do, to make’, it is used as a causative verb (see §7.3) and can also occur in many verbal periphrases, such as (94), where the meaning of the nominal element *ibe* is opaque (see also §10.8). The 2-person form associated with this meaning is *uhu*, which is the verb theme -/u:/, -/uhu/. This 2-person form is clearly irregular, because thematic /u/ is preserved. It is the only case in the whole CH verb system where /u/ is preserved in the 2-person.¹¹⁶

The verb *shuu* /e-u:/ can also mean ‘to kill, to hit, to beat’. When the verb conveys this meaning, its 2S-person is *tuk*, which is completely irregular and should be considered a suppletion. The

both forms can coincide phonologically.

¹¹⁶ A similar case is to be observed in the possessive inflection of Chamacoco, see (§10.9).

verb *shuu* /ɛ-u:/ can also be used in verbal periphrases when it means ‘to kill, to hit’, as in (95), but it does not occur very frequently. The nominal element of the verbal periphrasis in (95), *leeych* /le:jtɛ/, means ‘sun’ and the meaning of the verbal periphrasis is not transparent.

- (93) a. t-u: (1S), tuk (2S), ɛ-u: (3), j-u-hu (1PI), o-j-u-hu (1PE), tuk-lo (2P),
o-ɛ-u: (3P), d-u-hu (3.IRLS) ‘to kill, to hit, to beat’
b. t-u: (1S), u-hu (2S), ɛ-u: (3), j-u-hu (1PI), o-j-u-hu (1PE),
u-hu-lo (2P), o-ɛ-u: (3P), d-u-hu (3.IRLS) ‘to make, to do’
(used in causative constructions)

- (94) a. t-u: ibe (1S), u-hu ibe (2S), ɛ-u: ibe (3), j-u-hu ibe (1PI),
o-j-u-hu ibe (1PE), u-hu-lo ibe (2P), o-ɛ-u: ibe (3P),
d-u-hu ibe (3.IRLS) ‘to praise (him/her)’

- (95) t-u: le:jtɛ (1S), tuk le:jtɛ (2S), ɛ-u: le:jtɛ (3), j-u-hu le:jtɛ (1PI),
o-j-u-hu le:jtɛ (1PE), tuk-lo le:jtɛ (2P), o-ɛ-u: le:jtɛ (3P),
d-u-hu le:jtɛ (3.IRLS) ‘to fight (against an evil spirit)’

After *shuu* /ɛu:/, *chii* /tɛi:/ (96) is the most frequently used verb in verbal periphrases (97).

- (96) t-i: (1S), e:j (2S), tɛ-i: (3), j-i: (1PI), o-j-i: (1PE), e:j-lo (2P),
o-tɛ-i: (3P), d-i: (3.IRLS) ‘to do, to make’
- (97) t-i: p-a-bejʔ (1S), e:j a-bejʔ (2S), tɛi: l-a-bejʔ (3), j-i: ejok a-bejʔ (1PI),
o-j-i: ɔrjok a-bejʔ (1PE), e:j-lo olak a-bejʔ (2P), o-tɛ-i: l-a-be-jʔ
(3P), d-i: l-a-bejʔ (3.IRLS) ‘to get married’ (with a man)
(lit. ‘to let someone be someone else’s husband’, cf. §11.7,
ex. 73 and §13.1.11, ex. 31)

§5.4.15 Other irregularities

The verbs in (98) and (99) have a peculiarity in the 1-person singular and plural, because the prefix is followed by the sequence *-ij/-*, not to be found in the rest of the paradigm. It could be an insertion, because it looks like the epenthetic *-V_k/-* which characterizes the 1S-prefix */tV_k/-*, but *-ij/-* is also inserted in the 1P-person. One can also surmise that *-ij/-* was part of the original root and is only preserved in the 1-persons. Note that in (98-99) intervocalic */k/* can drop and the syllables *-ka/-* (98) and *-ki/-* (99) are also deleted. In (99), when */k/* drops, */i/* assimilates to */a/*, so that a long vowel */a:/* is originated.

(98) *t-i-jakaha* / *t-i-jaha* (1S), *a-kaha* (2S), *ts-a-kaha* (3), *o-j-i-jakaha* / *o-j-i-jakaha* / *o-j-i-jaha* / *o-j-a-kaha* (1PE), *j-i-jakaha* / *j-a-kaha* / *j-i-jaha* (1PI), *a-kaha-lo* (2P), *o-ts-akaha* (3P), *l-a-kaha* (3.IRLS) ‘to sit’

(99) *t-i-jakir* (1S), *a-kir* (2S), *ts-a-kir* (3), *o-j-i-jakir* / *o-j-i-ja:r* (1PE), *j-i-jakir* / *j-i-ja:r* (1PI), *a-kir-lo* / *a-kirihi-lo* / *a-kiṛi-lo* (2P), *o-ts-a-kir* (3P), *l-a-kihir* (3.IRLS) ‘to sit down, to rest’

The verb *chiwãha* */tɛiwãha/* has an irregular 2-person. The 2-vowel is */a/*, usually associated with a change in the root, as in this case: in the 2-person *-nu/-* is added to the root after the inflectional vowel */a/*.

(100) *t-i-wãha* (1S), *a-nuwãha* (2S), *ɬe-i-wãha* (3), *j-i-wãha* (1PI), *o-j-i-wãha* (1PE), *a-nuwãha-lo* (2P), *o-ɬe-i-wãha* (3P), *n-i-wãha* (3.IRLS) ‘to sell’

The verb *seta* */tseta/* (101) has regular inflection, but alternating forms are reported in the 1- and the 2-persons. The second series

has thematic /a/ rather than /e/ and its forms are probably archaic, because they preserve /k/, which tends to drop in an intervocalic context in currently spoken Chamacoco.^{117 118}

- (101) t-e-ta (1S), e-ta (2S), ts-e-ta (3), j-e-ta (1PI), o-j-e-ta (1PE),
 e-ti-lo (2P), o-ts-eta (3P), d-e-ta (3.IRLS) ‘to greet, to hug’, also:
 t-a-kata (1S), a-kita / a-kata (2S), j-a-kata (1PI),
 o-j-a-kata (1PE), a-kati-lo / a-kata-lo (2P)¹¹⁹

The verb *teychim* /tejtɛim/ (102) has regular inflection. In the 2-person the verb also has the form *hmeychim* /mɛjtɛim/, only used in imperative contexts (in affirmative clauses). *Hmey* /mɛj/, a reduced form of *hmeychim* /mɛjtɛim/ can also be observed: *hmeychim wahacha!* /mɛjtɛim wahateɐ/ or *hmey wahacha!* /mɛj wahateɐ/ ‘look there!’. The initial /mɛ-/ should be considered a prefix, corresponding to the rare Chamacoco 2-prefix /m/- or /b/-, which will be discussed below. About this form, see also (§7.9).¹²⁰

- (102) tik-e-jtɛim / tak-a-tɛim (1S), e-jtɛim (2S), t-e-jtɛim (3),
 j-e-jtɛim (1PI), o-j-e-jtɛim (1PE), e-jtɛim-lo (2P),
 o-t-e-jtɛim (3P), t-e-jtɛim (3P) ‘to look at’ (also: tejtɛim)
 mɛ-e-jtɛim / mɛj (2S.IMP) / mɛ-e-jtɛim-lo (2P.IMP)

¹¹⁷ The difference in the thematic vowel between the different forms of *seta* is not surprising, because, as will be shown comparing Chamacoco with Ayoreo and Old Zamuco (§7.2.8, §14.3.9), CH /e/ and /a/ often have the same origin and generally correspond to AY and O.Z /a/.

¹¹⁸ About the apocope of /-k/, cf. §13.7.3.

¹¹⁹ On this verb, see also Sequera (2009: 1016).

¹²⁰ Note that the imperative forms characterized by initial /mɛ-/ have undergone further semantic specialization, because they are only employed when the direct object lies in the field of vision of the addressee.

In (103) the 2-persons *ekushãha* /ekueãha/ and *ekushãhalo* /ekueãhalo/ exhibit /u/ in the root, not present in the other forms of the paradigm. It is probably copied from thematic /u/.

- (103) t-u-keãha (1S), e-kueãha (2S), te-u-keãha (3), j-u-keãha (1PI),
 o-j-u-keãha (1PE), e-kueãha-lo (2P), o-te-u-keãha (3P),
 d-u-keãha (3.IRLS) ‘to fill’

The verb *chipaãsho* /teipã:eo/ (104a) or *chapaãsho* /teapã:eo/ (104b) is characterized by two alternative thematic vowels, /i/ (104a) and /a/ (104b).

- (104) a. t-i-pã:eo (1S), e-pã:eo (2S), te-i-pã:eo (3), j-i-pã:eo (1PI),
 o-j-i-pã:eo (1PE), e-pã:ei-lo / e-pã:ɛ-lo (2P), o-te-i-pã:eo (3P),
 d-i-pã:eo (3.IRLS) ‘to fold; to make someone sleep’
 b. t-a-pã:eo (1S), a-pã:eo (2S), te-a-pã:eo (3), j-a-pã:eo (1PI),
 o-j-a-pã:eo (1PE), a-pã:ei-lo (2P), o-te-a-pã:eo (3P),
 d-a-pã:eo (3.IRLS) ‘to fold; to make someone sleep’

§5.4.16 Metathesis in prefixal verbs

Metathesis occurs in the 2-person of some verbs. /r/ is moved before /h/ in the 2-person and the result of /r/ + /h/ is /ɾ/.¹²¹ The devoicing of /r/ if followed by /h/ is to be found when an intermediate sound, such as /o/ in (105), is deleted. In (105a) and (106) all persons also show a variant with /ɾ/.

- (105) a. t-a-hirm (1S), a-ɾim (2S), ts-a-hirm (3), j-a-hirm (1PI),
 o-j-a-hirm (1PE), a-ɾimi-lo / a-ɾim-lo (2P), o-ts-a-hirm (3P),

¹²¹ In the orthography <rh> indicates /ɾ/, the outcome of /r/ + /h/, but not /rh/, which is not to be found in Chamacoco.

n-a-hirm (3.IRLS) ‘to deny, to prohibit’. Also the following forms are reported: t-ã-řim (1S), ts-ã-řim (3), j-ã-řim (1PI), o-j-ã-řim (1PE), o-ts-ã-řim (3P)

- b. tok-o-hirm (1S), o-řim (2S), t-o-hirm (3), j-o-hirm (1PI), o-j-o-hirm (1PE), o-řim-lo (2P), o-t-o-hirm (3P), t-o-hirm (3.IRLS) ‘to submerge; to tame’

- (106) t-o-biroho / t-o-biřo (1S), a-biroho / a-biřo (2S), ʈe-o-biroho / ʈe-o-biřo (3), j-o-biroho / j-o-biřo (1PI), o-j-o-biroho (1PE), a-biroho-lo / a-bihir-lo / a-biřo-lo (2P), ʈe-o-biroho / ʈe-o-biřo (3P), d-o-biroho / d-o-biřo (3.IRLS) ‘to break; to drive, to pilot; to have stomach pains’ (also: tsobiřo/ tsobiřoho)

§5.4.17 /d/-verbs

The following subclass includes verbs whose 3-prefix is /d/-, /l/-, /n/- or /j/- . These prefixal verbs will be called /d/-verbs. /d/- and /l/- are free allomorphs in word-initial position (107-114), while /n/- is the nasalized counterpart of /d/- or /l/- and its presence depends on nasal harmony (this prefix only occurs in (115)). The verb *yana* /jana/ (116) is the only one to take the prefix /j/- in the 3-person. This verb has been placed in the group of /d/-verbs because it has the same morphological properties of the latter verbs. /d/-verbs have no morphological opposition between realis and irrealis in the 3-person. The 3-prefix /d/- is used to form the irrealis of /ʈe/- and /ts/-verbs. It is thus plausible to suppose that in these verbs the original form for the 3-realis was replaced by the irrealis. The 1S-person takes the prefix /tVk/-. The thematic vowel follows the same rules as in prefixal verbs. *Yana* /jana/ shows an irregularity in the vocalic pattern, because the 3-vowel is /a/, while the 1-vowel is /i/. The latter is the original thematic vowel (on this verb, see also §7.6 and §10.5). The verb *debuhi* exhibits the 1S-vowel /a/.

- (107) tak-a-le (1S), a-le (2S), d-a-le (3), j-a-le (1PI), o-j-ale (1PE), a-li-lo / a-le-lo (2P), o-d-ale (3P), d-a-le (3.IRLS) ‘to go quickly to’
- (108) tak-a-li: (1S), a-li: (2S), d-a-li: (3), j-a-li: (1PI), o-j-ali: (1PE), a-li:-lo (2P), o-d-ali: (3P), d-a-li: (3.IRLS) ‘to stretch’
- (109) tak-a-buhu (1S), e-buhu (2S), d-e-buhu (3), j-e-buhu (1PI), o-j-e-buhu (1PE), e-buhu-lo (2P), o-d-ebuhu (3P), d-e-buhu (3.IRLS) ‘to live’¹²²
- (110) tok-o-hir (1S), o-hir (2S), d-o-hir (3), j-o-hir (1PI), o-j-o-hir (1PE), o-hir-lo (2P), o-d-ohir (3P), d-o-hir (3.IRLS) ‘to go up’
- (111) tuk-u-ra (1S), e-ra (2S), d-u-ra (3), j-u-ra (1PI), o-j-u-ra (1PE), e-r-lo (2P), o-d-u-ra (3P), d-u-ra (3.IRLS) ‘to feel like (something)/(doing something)’
- (112) tik-i-rk (1S), e-rk (2S), d-i-rk (3), j-i-rk (1PI), o-j-i-rk (1PE), e-rki-lo (2P), o-d-i-rk (3P), d-i-rk (3.IRLS) ‘to walk’
- (113) tok-o-ta (1S), o-ta (2S), l-o-ta (3), j-o-ta (1PI), o-j-o-ta (1PE), o-ti-lo / o-ta-lo (2P), o-l-o-ta (3P), l-o-ta (3.IRLS) ‘to play’
- (114) tok-o-ter (1S), o-ter (2S), l-o-ter (3), j-o-ter (1PI), o-j-o-ter (1PE), o-ter-lo (2P), o-l-oter (3P), l-o-ter (3.IRLS) ‘to make fun of somebody, something’
- (115) tik-i-na (1S), e-na (2S), n-i-na (3), j-ina (1PI), o-j-i-na (1PE), e-ni-lo (2P), o-n-i-na (3P), n-i-na (3.IRLS) ‘to thank; to hug’

¹²² Note that the 1-person *takabuhu* cannot reduce to *tikibuhu* according to the informants, because otherwise it coincides with the 1-person of *tibuhu* ‘to yawn; to lick’.

(also: n-i-ne)¹²³

(116) tik-i-na (1S), a-na (2S), j-a-na (3), j-i-na (1PI), o-j-i-na (1PE),
a-ni-lo (2P), o-j-ana (3P), j-a-na (3.IRLS) ‘to laugh’¹²⁴

Note that in /d/-verbs the 3-person initial-consonant gives no indication about the inflectional class, because the 3-person begins with /n/-, /j/- or /d/- and the 3-person of radical verbs can begin with one of these consonants too.

§5.5 Thematic verbs

In §5.5 and §5.6 verbs belonging to the second macro-class, that is the thematic and radical verbs, are discussed. These verb classes only include a few elements, but show many irregularities. Section §5.5.1 briefly introduces thematic verbs. According to the 3-vowel, thematic verbs are divided into: thematic verbs in /i/- (§5.5.2), thematic verbs in /u/- (§5.5.5) and thematic verbs in /e/- (§5.5.6). Thematic verbs in /i/- are divided into two subgroups (§5.5.3, §5.5.4). The vocalic patterns of thematic verbs are summarized in (§5.5.7). Thematic verbs have four ways to form the irrealis (§5.5.8).

¹²³ This verb also has a radical variant, cf. §5.6.3, ex. (156). Since its AY counterpart is also radical (cf. §7.8, ex. 103), one can surmise that its root-initial consonant /n/ was reinterpreted as 3-prefix. On the reinterpretation of root-initial consonants as 3-prefixes, a well documented phenomenon in Zamucoan, see §7.6 and §7.8.

¹²⁴ According to the informants, among these two verbs there is also a difference concerning the accent [tiki'na?] ‘to thank’ (1S) [ti'kina?] ‘to laugh’ (1S), [ji'na?] ‘to thank’ (1PI) [jina?] ‘to laugh’ (1PI).

§5.5.1 General characteristics of thematic verbs

The 3-person of thematic verbs has no phonologically expressed person prefix. Only high vowels are observed in the 3-person: /i/, /u/ or /i/. Although these verbs are called thematic verbs, the vowel which fills the slot of the thematic vowel is not always the original thematic vowel, which is often replaced by a prefix vowel or has undergone a change. This is also true of the inflectional class of thematic verbs in Old Zamuco and of thematic nouns in the Zamucoan languages.

Thematic verbs generally take the prefix /tVk/- in the 1S-person and show the opposition realis vs. irrealis in the 3-person. They have, however, different ways to form the irrealis. Thematic verbs show a peculiarity in the 3P-person, where the pre-prefix /o/- usually replaces the high 3-vowel (with some exceptions in which the vowel is preserved after the prefix). This group exhibits many irregularities which will be discussed below in detail. The following examples list all thematic verbs found in Chamacoco.

§5.5.2 Thematic verbs in /i/-

The largest group of thematic verbs is represented by verbs with /i/ as 3-vowel. These can be divided into two subgroups, differing in: (1) The 1-vowel; (2) The morphology of the irrealis; (3) The 2-vowel and the alternation of the root-initial consonant; (4) The frequency of other irregularities.

§5.5.3 The first subgroup of thematic verbs in /i/-

The first subgroup consists of verbs beginning with /ije/-, /ijo/- or /iju/- in the 3-person. These verbs are more regular than those of the second subgroup. In the 3P-person, thematic /i/ is always

replaced by the pre-prefix /o/-. The 1-vowel is always /i/. The 1S-prefix can be /t/- or /tVk/-, where V is /i/ (as in prefixal verbs with thematic /i/) but can also be /i/. These prefixes can alternate in the same verb. The 2-vowel is always /a/, so that the vocalic pattern of these verbs is /i/-a/-i/, which is very regular. As in prefixal verbs with thematic /i/, the presence of /a/ in the 2-person is associated with root allomorphy. Root-initial /j/ corresponds to /l/ in the 2-person, which can nasalize into /n/ (122). In the irrealis, the thematic vowel drops and this form begins with /ts/, which looks like a prefix, but in fact stems from root-initial /j/. The irrealis coincides with the root and /j/ turns into /ts/ word-initially. The comparison with the other Zamucoan languages will confirm it (see §7.7). The following vowel is the first root-vowel and can undergo some adaptations: /e/ of *iyem* /ijem/ (122) lengthens in *seem* /tse:m/ (122) and /u/ in *iyuwe* /ijuwe/ turns into /o/ in *sowe* /tsowe/ (123).

(117) t-i-je:be / tik-i-je:be (1S), a-le:be (2S), i-je:be (3), j-i-je:be (1PI),
o-j-i-je:be (1PE), a-le:bi-lo / a-le:be-lo (2P), o-je:be (3P),
tse:be (3.IRLS) ‘to guide’

(118) t-i-jehe / tik-i-jehe (1S), a-lehe (2S), i-jehe (3), j-i-jehe (1PI),
o-j-i-jehe (1PE), a-lehe-lo (2P), o-j-ehe (3P), tsehe (3.IRLS)
‘to stop’

(119) t-i-jehet / tik-i-jehet / tik-i-jehet (1S), a-lehet (2S), i-jehet (3),
j-i-jehet (1PI), o-j-i-jehet (1PE), a-leheti-lo / a-lehet-lo (2P),
o-jehet (3P), tsehet (3.IRLS) ‘to stand, to stand up’

(120) t-i-jehi (1S), a-lehi (2S), i-jehi (3), j-i-jehi (1PI), o-j-i-jehi (1PE),
a-lehi-lo (2P), o-jehi (3P), tsehi (3.IRLS) ‘not to reach’¹²⁵

¹²⁵ The irrealis form of this verb is rarely used, because in irrealis contexts (in

(121) *tik-i-jo* (1S), *a-lo* (2S), *i-jo* (3), *j-i-jo* (1PI), *o-j-i-jo* (1PE), *a-li-lo* / *a-lo-lo* (2P), *o-jo* (3P), *tso* (3.IRLS) ‘to jump; to fly’

(122) *t-i-jem* / *tik-i-jem* / *tik-i-jem* (1S), *a-nem* (2S), *i-jem* (3), *j-i-jem* (1PI), *o-j-i-jem* (1PE), *a-nem-lo* / *a-nemi-lo* (2P), *o-jem* (3P), *tse:m* (3.IRLS) ‘to wait’

(123) *tik-i-juwe* (1S), *a-luwe* (2S), *i-juwe* (3), *j-i-juwe* (1PI), *o-j-i-juwe* (1PE), *a-luwe-lo* / *a-luwi-lo* (2P), *o-juwe* (3P), *tsowe* (3.IRLS) ‘to exceed, to overtake’. Reduced forms: *tik-i-ju* (1S), *a-lu* (2S), *i-ju* (3), *j-i-ju* (1PI), *o-j-i-ju* (1PE), *a-lu-lo* (2P),¹²⁶ *o-ju* (3P), *tso* (3.IRLS) ‘to exceed, to overtake’

There is also an irregular verb which should be added to this group, *ihnimich* /*ṇimite*/ (124) ‘to go down, to come down’. It is a compound formed by a verb belonging to this group, probably *iyō* /*ijo*/ ‘to jump’, and *hnimich* /*ṇimite*/ ‘earth, ground’. If so, the verbs would literally mean ‘to jump to the ground’. The second syllable of *iyō* /*ijo*/, /*jo*/ or /*lo*/, has been lost in the whole paradigm, with the exception of the 3P-person, where only final /*o*/ has been lost, and the irrealis, where *so* /*tso*/ is preserved in *sohnimich* /*tsoṇimite*/. Note, however, that the 3-realis of this verb also tends to be used in irrealis contexts.

(124) *tik-i-ṇimite* / *tik-i-ṇimite* (1S), *a-ṇimite* (2S), *i-ṇimite* (3), *j-i-ṇimite* (1PI), *o-j-i-ṇimite* (1PE), *a-ṇimite-lo* (2P),

particular after negation) the positive form of its antonym, *terihi* ‘to reach’, is often preferred.

¹²⁶ According to the speakers, the form *alilo* cannot be used for the 2P-person, because it would coincide with the 2P-person of *iyō* /*ijo*/ ‘to jump; to fly’ (121).

o-j-ŋimitɛ (3P), i-ŋimitɛ / tsoŋimitɛ (3.IRLS) ‘to go down, to come down’

§5.5.4 The second subgroup of thematic verbs in /i/-

Most of these verbs have /o/ as 1-vowel. In *iim* /i:m/ (133) and *ĩya* /ĩja/ (135), however, the 1P-vowel is /u/. In *ĩya* /ĩja/ (135) the forms *yũya* /jũja/ and *oyũya* /ojũja/ in the 1P-person alternate with the irregular 1P-persons *yukwĩya* /jukwĩja/ and *oyukwĩya* /ojukwĩja/. In *iim* /i:m/ (133), the 1P-person is irregular: *yukwim* /jukwim/ (1PI), *oyukwim* /ojukwim/ (1PE).

In (127) /e/ is also observed as 1-vowel. In the 3P-person thematic /i/ can be replaced by the pre-prefix /o/. Nevertheless, in some verbs the 3-vowel /i/ is preserved in the 3P-person form (127, 131-134).

Verbs belonging to this subgroup generally have a 3-person root which is different from the rest of the paradigm (including the irrealis). For reasons which will become clear comparing thematic verbs with prefixal verbs, such root allomorphy is somehow correlated with the presence of the 2-vowel /a/.

Verbs with 3-person root-initial /tɛ/ have /ts/ in the rest of the paradigm (125), (126), (128), including the 2-person which shows the inflectional vowel /a/. The same alternation between /tɛ/ and /ts/ is also found in prefixal verbs with /i/ as 3-vowel and /a/ in the 2-person (§5.4.9), but in such a case root-initial /ts/ only occurs in the 2-person. In (129-131), 3-person root-initial /j̥/ corresponds to /l̥/ in the rest of the paradigm. In (132) and (136) there is nasalization, so that /j̥/ and /j/ in the 3-person correspond to /ŋ̥/ and /n/ in the rest of the paradigm. Note that in (129), (131-132) and (136) the 2-vowel is /a/. A very similar alternation is observed in prefixal verbs with the 3-vowel /i/ and the 2-vowel /a/, which

display root-initial /l/ in the 2-person and /j/ in the rest of the paradigm (§5.4.9). Note that there are no prefixal verbs with root-initial /j/ and for this reason there are no prefixal verbs with the 3-vowel /i/ and the 2-vowel /a/ where root-initial /j/ corresponds to /l/ or /ŋ/ in the 2-person.

In conclusion, the presence of /a/ in the 2-person correlates with root-allomorphy in both prefixal and thematic verbs. Both groups have different root in the 3-person and the 2-person, but in prefixal verbs the rest of the paradigm displays the 3-person root, while in thematic verbs it displays the 2-person root.¹²⁷ Verbs with the 2-vowel /e/ do not show any consonantal alternation in the root (134, 135). The only exception is represented by *ĩhi* (127), where root-initial /h/ in the 3-person corresponds to /j/ in the rest of the paradigm. *iim* /i:m/ (133) shows the 2-vowel /o/, also to be found in the 1S-person and the irrealis, which is the original thematic vowel. In *iin* /i:n/ and *iim* /i:m/ the 3-vowel /i/ turns into /j/ and occurs after the thematic vowel in the whole paradigm (except in the irregular 1P-persons *yukwim* /jukwim/ and *oyukwim* /ojukwim/ (133)). The verbs *iim* /i:m/ (133) and *ĩya* /ĩja/ (135) have irregular forms for the 2-persons: *moym* /mojm/ (2S), *moymlo* /mojmlo/ (2P) and *měya* (2S) /meja/, *měylo* /mejlo/ (2P). The initial /m/- should be considered a 2-prefix. The verbs *iim* /i:m/ (133) and *ĩya* /ĩja/ (135) share thus two irregularities: both verbs have epenthetic /kw/- in the 1P-person, which is the relic of the Proto-Zamucoan plural suffix (see §7.9), and the prefix /m/- in the 2-person. These features are very interesting if compared with the verb morphology of the other Zamucoan languages, as will be shown in §7.9. In particular,

¹²⁷ Excluding thematic verbs in /ije/-, /ijo/- or /iju/- (§5.5.3), which in this respect behave like prefixal verbs.

the 2-prefix /m/- finds its devoiced counterpart in the prefix /ᵐ/ of *hmeychim* /mejᵐeim/. The difference between /m/- and /ᵐ/- is that the latter prefix is only used in irrealis contexts.

The irrealis is obtained by means of the prefix /d/- or /l/-, which can nasalize into /n/-, as in prefixal verbs. The thematic vowel is /o/. In the irrealis of *iim* /i:m/ (133) and *iin* /i:n/ (134) the 3-vowel is preserved, as in the other forms of the paradigm, so that the irrealis is not unexpected, while in *īhi* (127) the irrealis is *noyhi* /nojhi/. This could be related to the fact that in *īhi* (127) the 3-vowel /i/ is not replaced by the pre-prefix /o/- in the 3P-person. Note, however, that not all verbs preserving the 3-vowel /i/ in the 3P-person also preserve this vowel in the irrealis: *ihyo* /iᵑjo/ (131) and *ihyōk* /iᵑōk/ (132), for instance, have the irrealis forms *dohlo* /doᵑlo/ (131) and *nohnok* /noᵑok/ (132).

(125) tok-o-tsa (1S), a-tsa (2S), i-tᵉa (3), j-o-tsa (1PI), o-j-o-tsa (1PE),
a-tsa-lo / a-tsi-lo (2P), o-tᵉa (3P), l-o-tsa (3.IRLS) ‘to lay’

(126) tok-o-tsehe (1S), a-tsehe (2S), i-tᵉehe (3), j-o-tsehe (1PI),
o-j-o-tsehe (1PE), a-tsehe-lo (2P), o-tᵉehe (3P), l-o-tsehe (3.IRLS)
‘not to do something well’

(127) tok-ō-jᵑi / tok-ē-jᵑi (1S), ē-jᵑi (2S), ī-hi (3), j-ō-jᵑi / j-ē-jᵑi (1PI), o-j-ō-jᵑi /
o-j-ē-jᵑi (1PE), e-hī-lo (2P), ō-jᵑi (3P), n-ōj-hi (3.IRLS)
‘to get married’ (used with *ahir*)

(128) tok-o-tso (1S), a-tso (2S), i-tᵉo (3), j-o-tso (1PI), o-j-otso (1PE),
a-tsi-lo (2P), o-tᵉo (3P), l-o-tso (3.IRLS) ‘to throw, to shoot’

(129) tok-o-ᵑa (1S), a-ᵑa (2S), i-ja (3), j-o-ᵑa (1PI), o-j-o-ᵑa (1PE), a-ᵑi-lo /
a-ᵑa-lo (2P), d-o-ᵑa (3P), d-o-ᵑa (3.IRLS) ‘to kill, to hit the centre of
(with a gun)’

- (130) tok-o-_{le} (1S), a-_{le} (2S), i-_{je} (3), j-o-_{le} (1PI), o-j-o-_{le} (1PE), a-_{li}-lo / a-_{le}-lo (2P), o-_{je} (3P), d-o-_{le} (3.IRLS) ‘to be in mourning’
- (131) tok-o-_{lo} (1S), a-_{lo} (2S), i-_{jo} (3), j-o-_{lo} (1PI), o-j-o-_{lo} (1PE), a-_{li}-lo / a-_{lo}-lo (2P), o-j-_{jo} (3P), d-o-_{lo} (3.IRLS) ‘to cut’
- (132) tok-o-_{nok} (1S), a-_{nok} (2S), i-_{jök} (3), j-o-_{nok} (1PI), o-j-o-_{nok} (1PE), a-_{jök}i-lo / a-_{jök}-lo (2P), ö-j-_{jok} (3P), n-o-_{nok} (3.IRLS) ‘to carry something on the shoulder’
- (133) tok-oj-m (1S), m-oj-m (2S), i:-m (3), j-u-kwim (1PI), o-j-u-kwim (1PE), m-oj-m-lo (2P), oj-m (3P), n-oj-m (3.IRLS) ‘to leave’
- (134) tok-oj-n (1S), e:j-n (2S), i:-n (3), j-oj-n (1PI), o-j-oj-n (1PE), e:j-ni-lo (2P), o-j-n (3P), n-oj-n (3.IRLS) ‘to swallow’
- (135) tok-ö-_{ja} (1S), m-ë-_{ja} (2S), i-_{ja} (3), j-u-kwĩja / j-ũ-_{ja} (1PI), o-j-u-kwĩja / o-j-ũ-_{ja} (1PE), j-ö-j-lo [nojlo] (1PI.GP), m-ë-j-lo (2P), ö-_{ja} (3P), n-o-_{ja} (3.IRLS) ‘to accompany’
- (136) tok-o-naha (1S), a-naha (2S), i-jãha (3), j-o-naha (1PI), o-j-o-naha (1PE), a-naha-lo (2P), o-jãha (3P), n-o-naha (3.IRLS) ‘to wear; to travel by; to ride’

§5.5.5 Thematic verbs in /u/-

The thematic verbs in (137) and (138) have the 3-vowel /u/. The vocalic pattern is here /u/-/a/-/u/. The 2-vowel is /a/, while it is /e/ in prefixal verbs with the 3-vowel /u/. The 1S-prefix is /tVk/-, as expected. *Umo* also shows the alternation between *tukumo* and *tokomo* in the 1S-person, where /u/ can turn into /o/. The verb *umo* conveys two meanings, ‘to sleep’ and ‘to see’, each one with a

different form for the irrealis. The irrealis form of ‘to sleep’ is *umo*, coinciding with the 3-realis, while the irrealis form of ‘to see’ takes the prefix /n/- and the 3.IRLS-vowel /o/: *nomo*. Also the verb *uushi* /u:-ei/ takes the 3.IRLS-vowel /o/ (a short vowel instead of the 3-vowel /u:/) but shows the prefix /tɕ/- in the irrealis form *choshi* /tɕoɕi/.¹²⁸

- (137) tok-o-mo / tuk-u-mo (1S), a-mo (2S), u-mo (3), j-u-mo (1PI),
o-j-u-mo (1PE), a-m-lo (2P), o-mo (3P) ‘to sleep; to see’

‘to sleep’ → u-mo (3.IRLS), o-mo (3P.IRLS)

‘to see’ → n-o-mo (3.IRLS), o-n-o-mo (3.IRLS)

- (138) tuk-u:-ei (1S), a:-ei (2S), u:-ei (3), j-u:-ei (1PI), o-j-u:-ei (1PE),
a:-ei-lo (2P), o:-ei (3P), tɕ-o-ei (3.IRLS) ‘to run’

§5.5.6 Thematic verbs in /i/-

There are a few verbs (139-143) with /i/ as 3-vowel. These verbs have /a/ (140, 142, 143) or /e/ (139, 141) as 2-vowel. Here root-initial /ɕ/ in the 3-person corresponds to /s/ in the rest of the paradigm, including the 2-person. The consonantal alternation between /ɕ/ and /s/ in root-initial position is also to be found in prefixal verbs with the 3-vowel /i/ and the 2-vowel /a/. Such verbs have root-initial /s/ in the 2-person and /ɕ/ in the rest of the paradigm (§5.4.9). For this reason, also in (142, 143) one may surmise that the presence of the 2-vowel /a/ is associated with root-allomorphy. By contrast, if the 2-vowel is /e/, rather than /a/, root-

¹²⁸ Probably owing to the fact that the irrealis *choshi* /tɕoɕi/ cannot be automatically traced back to *uushi* /u:-ei/, sometimes the 3-realis *uushi* also tends to be used in irrealis contexts, although *choshi* is still preferred.

initial /ɛ/ is observed in the whole paradigm. The verb *ishi* /iɛi/ (141), from which *ishim* /iɛim/ (142) and *ishimihi* /iɛimihi/ (143) derive, exhibits the 2-vowel /e/. No consonantal alternation occurs in *ishi* /iɛi/, while it occurs in *ishim* /iɛim/ (142) and *ishimihi* /iɛimihi/ (143), which have /a/ in the 2-person. Note, however, that in prefixal verbs with the 3-vowel /i/, the 2-vowel /a/ is rare and is not related to root allomorphy in the root (see §5.4.8). The presence of /a/ in *imehe* is functional to distinguish this verb from *timehe* ‘to depend, to follow’, which has the 2-person *emehe*.¹²⁹

The 1S-prefix is /tVk/- in all verbs and the 1-thematic-vowel is /o/, excluding (140), in which the thematic vowel is /i/. These characteristics are also shared by the second subgroup of thematic verbs in /i/- (see §5.5.4). The second vowel of the verb *ihi* (139) always assimilates the first root-vowel.¹³⁰ In the 3P-person, the 3-vowel is usually replaced by the pre-prefix /o/-. As in thematic verbs in /i/-, the irrealis has thematic /o/ in all verbs, with the only exception of *imehe* (where /i/ is preserved). The prefix is generally /d/- or /n/-, depending on nasalization. In *ishim* /iɛim/ (142) and *ishimihi* /iɛimihi/ (143) the prefix is /d/-, because /ɛ/ tends to block nasalization. Although the verb *imehe* (140) has an irrealis form, its 3-real is can also be used in irrealis contexts (see also (137) and (138)). Note that the 1-person of *imehe* (140) cannot be *timehe*, which is the 3-person of the verb *timehe* ‘to depend, to follow’.

(139) tok-o-ho (1S), e-he (2S), i-hi (3), j-o-ho (1PI), o-j-o-ho (1PE),
e-he-lo (2P), o-ho (3P), d-o-ho (3.IRLS) ‘to drink’

¹²⁹ However, the 1-persons of *imehe* and *timehe* coincide.

¹³⁰ Vocalic assimilation in Chamacoco occurs very frequently when two vowels are separated by /h/.

- (140) tik-i-mehe (1S), a-mehe (2S), i-mehe (3), j-i-mehe (1PI),
o-j-i-mehe (1PE), a-mehe-lo (2P), o-mehe (3P), i-mehe /
n-i-mehe (3.IRLS) ‘to squash, to crush’
- (141) tok-o-ɛi (1S), e-ɛi (2S), i-ɛi (3), j-o-ɛi (1PI), o-j-o-ɛi (1PE),
e-ɛi-lo (2P), o-ɛi (3), d-o-ɛi (3.IRLS) ‘to pay, to give’
- (142) tok-o-sim (1S), a-sim (2S), i-ɛim (3), j-o-sim (1PI), o-j-osim (1PE),
a-sim-lo (2P), o-ɛim (3P), d-o-sim (3.IRLS) ‘to give to’
- (143) tok-o-simihi (1S), a-simihi (2S), i-ɛimihi (3), j-o-simihi (1PI),
o-j-o-simihi (1PE), a-simihi-lo (2P), o-ɛimihi (3P),
d-o-simihi (3.IRLS) ‘to give (as a present)’

§5.5.7 The vocalic patterns of thematic verbs

The vocalic patterns of the thematic verbs are summarized in the following table. The vocalic patterns reported below with the 1-vowel /o/ are not to be observed in prefixal verbs. When the thematic vowel is /u/, thematic verbs show the 2-vowel /a/, while prefixal verbs have /e/. /i/-/a/-/i/ is rare among both prefixal and thematic verbs.

Table 5.3. Vocalic patterns of Chamacoco thematic verbs

1	2	3	Examples
i	a	i	(117-123)
o	a	i	(125-126, 128-132, 136)
o	e	i	(127, 134, 135)
o	o	i	(133)
o	a	u	(137)
u	a	u	(137, 138)
o	a	ĩ	(142, 143)
o	e	ĩ	(139, 141)
ĩ	a	ĩ	(140)

§5.5.8 The irrealis form

Thematic verbs are characterized by five ways to form the 3-irrealis, which can:

- (1) coincide with the 3-realis;
- (2) coincide with the verb root, whose root-initial /j/ turns into /ts/;
- (3) take the prefix /d/- and the 3.IRLS-vowel /o/;
- (4) take the prefix /tɕ/- and the 3.IRLS-vowel /o/.

Such variability cannot be found in any other inflectional class of Chamacoco verbs. The most frequently used ways to form the irrealis are (2) and (3). Also prefixal verbs use the prefix /d/- for the irrealis, but show the same vowel as the 3-realis. (2) and (4) are only to be observed in thematic verbs, and (4) is only found in one verb.

§5.6 Radical verbs

In radical verbs, the 3-person consists of the mere root. This class includes few verbs, showing many irregularities which will be discussed in detail. Radical verbs will be organized and discussed according to the root-initial consonant in the 3-person. One can distinguish radical verbs beginning with: bilabial consonant (§5.6.1), /k/- (§5.6.2), /n/- (§5.6.3), /ŋ/ and /m/- (§5.6.4), /t/- (§5.6.5) and /j/ (§5.6.6). The vocalic patterns of radical verbs are irregular and will be summarized in (§5.6.7).

In radical verbs the inflectional vowel is usually a high vowel in the 1-person (the most frequent is /i/) and /a/ or /e/ in the 2-person. The 1-vowel and the 2-vowel can harmonize to the original first root-vowel and are often unpredictable. The difference between /a/ and /e/ in the 2-person does not correlate with the presence of consonantal alternation in the root.

The 1-prefix is in most cases /tVk/- but /t/- can also be used. It is not possible to predict whether /t/- or /tVk/- is used. Radical verbs have no morphological distinction between realis and irrealis in the 3-person.

Root-initial consonants can undergo fortition in the 3-person. There are historical-comparative reasons (not discussed here) to surmise that in this class of verbs the original first root-vowel is preserved in the 3-person, but it often reduces to /i/ or deletes in the rest of the paradigm (see also §10.6). These morphophonological processes are unpredictable and will be discussed in detail. The 3P-person shares the same features as the 3-person.

§5.6.1 Radical verbs beginning with bilabial consonants (/b/- or /p/-)

In *beshi* /beci/ (144) the first root-vowel /e/ in the 3-person reduces to /i/ in the rest of the paradigm. The 1-vowel and the 2-vowel (/e/) harmonize to the 3-person first root-vowel. The verb *beshi* /beci/ is generally observed with the preposition =/ihi/ (*beshihi* /becihi/). Nowadays this verb is rarely used, because the Spanish loan *kay* /kaj/ (cf. Spanish *caer* ‘to fall’) is preferred.

- (144) t-e-bici (1S), e-bici (2S), Ø-Ø-beci (3), j-e-bici (1PI),
o-j-e-bici (1PE), e-bici-lo (2P), o-beci (3P), Ø-Ø-beci (3.IRLS)
‘to fall’

Root-initial /b/ turns into /p/ in the 3-person of the verbs *pota* (145) and *poter* (146). The 3-person first root-vowel /o/ reduces to /i/ in the rest of the paradigm (as in (144)). The 1-thematic-vowel /o/ harmonizes to the original first root-vowel /o/. The 2-vowel is /a/.

- (145) t-o-bitā (1S), a-bitā (2S), Ø-Ø-pota (3), j-o-bitā (1PI),
o-j-o-bitā (1PE), a-bitā-lo / a-biti-lo / a-bit-lo (2P), o-pota (3P),
Ø-Ø-pota (3.IRLS) ‘to envy, to lust after’

- (146) t-o-biter (1S), a-biter (2S), Ø-Ø-poter (3), j-o-biter (1PI),
o-j-o-biter (1PE), a-biter-lo (2P), o-poter (3P),
Ø-Ø-poter (3.IRLS) ‘to scold’

Needless to say, word-initial /p/ in the 3-person is not due to fortition in (147-149). These verbs show the 2-vowel /a/. In (150) the 3-person first root-vowel /o/ deletes in the rest of the paradigm, where /j/ vocalizes into /i/. The 1-thematic-vowel is /u/ in (147) and /i/ in (148-150). In (150) /i/ and /u/ alternate in the 1P-person.

(147) tuk-u-po (1S), a-po (2S), Ø-Ø-po (3), j-u-po (1PI), o-j-u-po (1PE),
a-po-lo / a-pi-lo (2P), o-po (3P), Ø-Ø-po (3.IRLS) ‘to make
someone shut up’¹³¹

(148) tik-i-po:k (1S), a-po:k (2S), Ø-Ø-po:k (3), j-i-po:k (1PI),
o-j-i-po:k (1PI), a-po:k-lo (2P), o-po:k (3P), Ø-Ø-po:k (3.IRLS)
‘to be ashamed’

(149) tik-i-pwej (1S), a-pwej (2S), Ø-Ø-pwej (3), j-u-pwej (1PI),
o-j-u-pwej (1PE), a-pwej-lo (2P), o-pwej (3P),
Ø-Ø-pwej (3.IRLS) ‘to vomit’

(150) tik-i-pim (1S), a-pim (2S), Ø-Ø-pojm (3), j-u-pim / j-i-pim (1PI),
o-j-u-pim / o-j-i-pim (1PE), a-pim-lo (2P), o-pojm (3P),
Ø-Ø-pojm (3.IRLS) ‘to be ashamed’¹³²

§5.6.2 Radical verbs beginning with /k/-

Root-initial /k/ is preserved in the whole paradigm. The first root-vowel is preserved in the 3-person, but reduces to /i/ or deletes in the rest of the paradigm. The first root-vowel /a/ in *kahnir* /kaɲir/ reduces to /i/ in the 1-persons (151). In *keytkēr* /kējtkēr/ the 3-person first root-vowel /e/ deletes in the rest of the paradigm, where /j/ vocalizes into /i/.

The thematic vowel of the 1-person is a high vowel: /i/ (151), /i/ (152) and /u/ in (153). The 1-vowel /u/ in *kwita* (153) is probably

¹³¹ According to the informants, this verb is rarely used and *sapik* /tsapik/ is preferred.

¹³² According to the informants, *pook* /po:k/ (148) and *poym* /pojɲ/ (150) are synonyms, but *pook* /po:k/ is more frequently used.

due to the influence of the labiovelar /w/ in the root. The 2-vowel can be /e/ (152-153) or /a/ (151). In (151) the 2-vowel probably harmonizes to /a/ in the verb root.

- (151) t-i-kiñir (1S), a-kañir (2S), Ø-Ø-kañir (3), j-i-kiñir (1PI),
o-j-i-kiñir (1PE), a-kañir-lo / a-kañiri-lo (2P), o-kañir (3P),
Ø-Ø-kañir (3.IRLS) ‘to appreciate’
- (152) t-i-kĩtkēr / t-i-kĩtkēr (1S), e-kĩtkēr (2S), Ø-Ø-kějtkēr (3),
j-i-kĩtkēr (1PI), o-j-i-kĩtkēr (1PE), e-kĩtkēr-lo / e-kĩtkēri-lo (2P),
o-kějtkēr (3P), Ø-Ø-kějtkēr (3.IRLS) ‘to speak, to talk’
(also: kējtkēr)
- (153) t-u-kwita (1S), e-kwita (2S), Ø-Ø-kwita (3), j-u-kwita (1PI),
o-j-u-kwita (1PE), e-kwita-lo / e-kwit-lo / e-kwiti-lo (2P),
o-kwita (3P), Ø-Ø-kwita (3.IRLS) ‘to wake up;
to stand up suddenly’¹³³

In the verb *chukwitim* /tɕukwitim/ (or *kwitim*) there is alternation between the 3-person with the prefix /tɕ/- and the radical 3-person *kwitim* (154). In this case, there are two forms for the irrealis, *lukwitim* (the regular irrealis form of *chukwitim* /tɕukwitim/) and *kwitim*, coinciding with the third (radical) person, as in all radical verbs. In (155) the 3-person is *chukutim* /tɕukutim/, but there is a radical form *kwitim* used for all persons. It was probably a radical 3-person form. One can suppose that in *kutim* and *kwitim* the 3-person forms *chukutim* /tɕukutim/ and *chukwitim* /tɕukwitim/ are due to assimilation to the class of /tɕ/- and /ts/-verbs, the most conspicuous verb class of Chamacoco.

¹³³ Note that the form *kwita* is also used with all persons as an uninflectable form.

(154) t-i-kwitim / t-u-kwitim (1S), e-kwitim (2S), tɛ-u-kwitim /
 Ø-Ø-kwitim (3), j-u-kwitim (1PI), o-j-u-kwitim (1PE),
 e-kwitimi-lo / e-kwitim-lo (2P), o-kwitim / o-tɛ-u-kwitim (3P),
 Ø-Ø-kwitim / l-u-kwitim (3.IRLS) ‘to take advantage of,
 to hasten’¹³⁴

(155) t-u-kutim (1S), e-kutim (2S), tɛ-u-kutim (3), j-u-kutim (1PE),
 o-j-u-kutim (1PI), e-kutim-lo (2P), o-tɛ-u-kutim (3P),
 d-u-kutim (3.IRLS) ‘to increase fire; to refuse to work’¹³⁵

§5.6.3 Radical verbs beginning with /n/-

The verbs *nina* and *naha* preserve the 3-person root in the whole paradigm. The first and the 2-vowel are /i/ and /e/ respectively.

(156) tik-i-nina (1S), e-nina (2S), Ø-Ø-nina (3), j-i-nina (1PI),
 o-j-i-nina (1PE), e-nini-lo (2P), o-nina (3P), Ø-Ø-nina (3.IRLS)
 ‘to thank; to hug’

(157) tik-i-naha (1S), e-naha (2S), Ø-Ø-naha (3), j-i-naha (1PI),
 o-j-i-naha (1PE), e-naha-lo (2P), o-naha (3P), Ø-Ø-naha (3.IRLS)
 ‘to mistake; not to grab well’

In (158-159) the fortition of /r/ in word-initial position occurs. In *naha* (158) and *nihī* (159), root-initial /r/ turns into /n/ in the radical 3-person. Both verbs also show alternating prefixal 3-persons, *chirāha* /tɛirāha/ (158) and *chirīhi* /tɛirīhi/ (159), in which no

¹³⁴ In the 1S-person two forms, *tikwitim* and *tukwitim*, are reported. The presence of thematic /i/ in this paradigm is probably due to the reduction of /u/.

¹³⁵ When the form *kutim* means ‘to refuse to work’, it can be used for all persons.

fortition occurs. This type of alternation in the 3-person is observed in (154-155) and is also to be found in *nishii* /*niɕi:*/ (159). One can suppose that the third radical person was the original 3-person of the verb and the presence of a prefixal 3-person is due to the fact that the verb has been regularized following the main verb class of Chamacoco. In all cases there are two forms for the irrealis, one corresponding to the prefixal 3-person in /*tɛ*/-, the other coinciding with the root.

The 3-person of *naha* ‘to mistake’ coincides with the radical 3-person of *naha* ‘to load up’ (158).

The verb *nihi* ~ *teirĩhi* /*teirĩhi*/ also has two forms for the 1S-person. The 1S-person *tikirĩhi* takes the prefix /*tVk*/-, the form usually expected in a radical verb, while the prefix /*t*/- in the 1S-person characterizes /*tɛ*/-verbs. This last form is possibly more recent and is the result of assimilation to /*tɛ*/-verbs.

The first root-vowel /*i*/ of the 3-person *nishii* /*niɕi:*/ (159) deletes in the rest of the paradigm, including the prefixal 3-person.

- (158) *t-i-rāha* (1S), *e-rāha* (2S), *tɛ-i-rāha* / *Ø-Ø-naha* (3), *j-i-rāha* (1PI),
o-j-i-rāha (1PE), *e-rāha-lo* (2P), *o-tɛ-i-rāha* (3P), *d-i-rāha* /
n-i-rāha / *Ø-Ø-naha* (3.IRLS)¹³⁶ ‘to load up’ (also: *teirēhe*).¹³⁷

- (159) a. *tik-i-rĩhi* (1S), *e-rĩhi* (2S), *Ø-Ø-nihi* (3), *j-i-rĩhi* (1PI),
o-j-i-rĩhi (1PE), *e-rĩhi-lo* (2P), *o-nĩhi* (3P), *Ø-Ø-nihi* (3.IRLS)
‘to get up’
b. *t-i-rĩhi* (1S), *e-rĩhi* (2S), *tɛ-i-rĩhi* (3), *j-i-rĩhi* (1PI), *o-j-i-rĩhi* (1PE),

¹³⁶ The most frequently used form for the irrealis is *niraha*.

¹³⁷ The 1S-person is *tirāha*, not to be confused with *tikirāha* (1S) ‘to urinate all over’. However, the 3-person of *tirāha* (1S) ‘to urinate all over’ coincides with the 1S-person of *tirāha* ‘to load up’. Note that *naha* (3) ‘to load up’ seems to coincide with *naha* ‘to mistake’.

e-rĩhi-lo (2P), o-te-i-rĩhi (3P), n-i-rĩhi (3.IRLS) ‘to get up’¹³⁸

- (160) t-i-nei: (1S), e-nei: (2S), te-i-nei: / Ø-Ø-niei: (3), j-i-nei: (1PI),
o-j-i-nei: (1PE), e-nei:-lo (2P), o-te-i-nei: / o-niei: (3P), n-i-nei: /
Ø-Ø-niei: (3.IRLS) ‘to arrange, to sort out’

§5.6.4 Radical verbs beginning with /ŋ/- and /m/-

The verbs in (161-163) have the 3-person beginning with /ŋ/. The 1-prefix is /tVk/- and the 1-thematic-vowel is /i/. The 2-vowel is /e/ (162-163) or /a/ (161). In *hnaas* /ŋa:s/ the 2-vowel (/a/) probably harmonizes to /a:/ in the verb root. The first root-vowel /e/ in the 3-person of *hmeta* /ŋeta/ deletes in the rest of the paradigm, but the 2-vowel /e/ and epenthetic /e/ between the root and the suffix -/lo/ harmonize to the 3-person first root-vowel.

- (161) tik-i-ŋa:s (1S), a-ŋa:s (2S), Ø-Ø-ŋa:s (3), j-i-ŋa:s (1PI),
o-j-i-ŋa:s (1PE), a-ŋa:s-lo (2P), o-ŋa:s (3P), Ø-Ø-ŋa:s (3.IRLS)
‘to move’

- (162) tik-i-ŋta (1S), e-ŋta (2S), Ø-Ø-ŋeta (3), j-i-ŋta (1PI), o-j-i-ŋta (1PE),
e-ŋti-lo / e-ŋte-lo (2P), o-ŋeta (3P), Ø-Ø-ŋeta (3.IRLS) ‘to be
patient with someone’ (also: ŋete)

- (163) tik-i-ŋina (1S), e-ŋina (2S), Ø-Ø-ŋina (3), j-i-ŋina (1PI),
o-j-i-ŋina (1PE), e-ŋini-lo (2P), o-ŋina (3P), Ø-Ø-ŋina (3.IRLS)
‘to cough’ (also: ŋine)

¹³⁸ In this paradigm the 1S-person *tikirĩhi* is associated with the 3-person *nih* by the speakers, while the 1-person *tirĩhi* is usually associated with the 3-person *chirĩhi* /teirĩhi/.

There is only one verb with root-initial /m/. The first vowel of the 3-person *masaha* (/a/) deletes in the rest of the paradigm. The 1-thematic-vowel is /o/ and the 1S-prefix is /t/. The 2-vowel is /a/, rather than /e/. This vowel probably harmonizes to the vowels of the root.

- (164) t-o-msaha (1S), a-msaha (2S), Ø-Ø-masaha (3), j-o-msaha (1PI),
 o-j-o-msaha (1PE), a-msaha-lo (2P), o-masaha (3P),
 Ø-Ø-masaha (3.IRLS) ‘to enter’ (also: masehe)

§5.6.5 Radical verbs beginning with /t/-

In (165-173) one finds verbs whose root begins with /t/-. Root-initial /t/ is generally preserved in the whole paradigm. The 1S-prefix is usually /tVk/-, the 1S-prefix /t/- is only found in *tĩr* (169). The 1-thematic-vowel is a high vowel, mostly /i/ (165, 166, 169-173), but /i/ (166, 167) and /u/ (168) are also to be found. In *tur* (168), the presence of thematic /u/ in the 1-person *tukutur* is influenced by /u/ in the root. The 2-vowel is mostly /a/, but /e/ is to be observed in (168-169). In (171-173) the first vowel of the 3-person (the diphthong /oj/- in (173)) reduces to /i/ in the rest of the paradigm. In (166) two alternating forms are reported for some persons. The syncope of /ko/- is a sheer irregularity and does not depend on verb inflection. In the verb *tabĩtehe* (170), root-initial /t/ can be cancelled in the 2-persons and the 1P-person. Here the verb can thus behave as a prefixal verb. In these alternative forms, the first root-vowel /a/ is preserved (170).

- (165) tik-i-tarãha (1S), a-tarãha (2S), Ø-Ø-tarãha (3), j-i-tarãha (1PI),
 o-j-i-tarãha (1PE), a-tarãha-lo (2P), o-tarãha (3P),
 Ø-Ø-tarãha (3.IRLS) ‘to be eager to’

- (166) tik-i-tokole / tik-i-tokole (1S), a-tokole (2S), Ø-Ø-tokole (3),
j-i-tokole / j-i-tokole (1PI), o-j-i-tokole / o-j-i-tokole (1PE),
a-tokoli-lo / a-tokol-lo (2P), o-tokole (3P), Ø-Ø-tokole (3.IRLS)
‘to exit, to come out, to happen’.

Reduced forms: tik-i-tole (1S), a-tole (2S), Ø-Ø-tokole (3),
j-i-tole, (1PI), o-j-i-tole (1PE), a-toli-lo / atol-lo (2P),
o-tokole (3P), Ø-Ø-tokole (3.IRLS) ‘to exit, to come out, to
happen’

- (167) tik-i-tolihi (1S), a-tokolihi (2S), Ø-Ø-tokolihi (3), j-i-tokolihi (1PI),
o-j-i-tokolihi (1PE), a-tokolihi-lo (2P), o-tokolihi (3P),
Ø-Ø-tokolihi (3.IRLS) ‘to appear; to exit from, to come out
from’

- (168) tuk-u-tur (1S), e-tur (2S), Ø-Ø-tur (3), j-u-tur (1PI), o-j-u-tur (1PE),
e-tur-lo (2P), o-tur (3P), Ø-Ø-tur (3.IRLS) ‘to make up’

- (169) t-i-tîr (1S), e-tîr (2S), Ø-Ø-tîr (3), j-i-tîr (1PI), o-j-i-tîr (1PE),
e-tîr-lo (2P), o-tîr (3P), Ø-Ø-tîr (3.IRLS) ‘to go to’

- (170) tik-i-bitehe (1S), a-tibitehe / a-bitehe (2S), Ø-Ø-tabitehe (3),
j-i-tibitehe / j-a-bitehe (1PI), o-j-i-tibitehe / o-j-a-bitehe (1PE),
a-bitehe-lo / a-tibitehe-lo (2P), o-tabitehe (3P),
Ø-Ø-tabitehe (3.IRLS) ‘to soak’

- (171) tik-i-tina (1S), a-tina (2S), Ø-Ø-tana (3), j-i-tina (1PI),
o-j-i-tina (1PE), a-tini-lo (2P), o-tana (3), Ø-Ø-tana (3.IRLS)
‘to dive’

- (172) tik-i-tila (1S), a-tila (2S), Ø-Ø-tola (3), j-i-tila (1PI), o-j-i-tila (1PE),
a-tili-lo (2P), o-tola (3P), Ø-Ø-tola (3.IRLS) ‘to fear, to be
afraid of’

- (173) tik-i-ti / tuk-wi-ti (1S), a-ti (2S), Ø-Ø-toj (3), j-i-ti (1PI),
o-j-i-ti (1PE), a-ti-lo (2P), o-toj (3P), Ø-Ø-toj (3.IRLS) ‘to die’

§5.6.6 Radical verbs beginning with /j/-

There are two verbs whose root begins with /j/. The 3-person root is preserved in the whole paradigm. The 1-thematic-vowel is /i/ (possibly influenced by root-initial /j/), and the 2-vowel is /e/ (possibly attracted by /e/ in the root). The 1S-prefix is /tVk/-.

(174) tik-i-jeṛãha (1S), e-jeṛãha (2S), Ø-Ø-jeṛãha (3), j-i-jeṛãha (1Pl),
o-j-i-jeṛãha (1PE), e-jeṛãha-lo (2P), o-jeṛãha (3P),
Ø-Ø-jeṛãha (3.IRLS) ‘to complain’

(175) tik-i-jeṛ (1S), e-jeṛ (2S), Ø-Ø-jeṛ (3), j-i-jeṛ (1Pl), o-j-i-jeṛ (1PE),
e-jeṛ-lo (2P), o-jeṛ (3P), Ø-Ø-jeṛ (3.IRLS) ‘to cry’

§5.6.7 The vocalic patterns of radical verbs

In the following table all vocalic patterns found in radical verbs are reported.

Table 5.4. Vocalic patterns of Chamacoco radical verbs

1	2	3	Examples
e	e	Ø	(144)
i	a	Ø	(166) (167)
i	e	Ø	(152) (174) (175)
o	a	Ø	(145) (146) (164)
u	a	Ø	(147)
u	e	Ø	(153) (154) (155) (168)
i	a	Ø	(148-151) (161) (165) (166) (170-173)
i	e	Ø	(156-160) (162) (163) (169)

Eight possible combinations can be found. Generally the thematic vowel behaves as if a high vowel were present in the 3-person. The only exceptions are thematic /e/ and /o/ in the 1-person, which occur in few verbs. The 1-vowel /u/ and the 2-vowel /a/ do not co-occur in prefixal verbs, which only have /u/-e-/u/. The vocalic pattern /u/-a-/u/ is only found in thematic verbs. All the other combinations reported in Table 5.4 are observed in prefixal verbs, including /o/-a/-Ø, corresponding to /o/-a/-o/ in prefixal verbs. The vocalic pattern /o/-a/-o/ in prefixal verbs is a subregularity which occurs when the root-initial consonant is /b/ or /m/. Also the radical verbs with /o/-a/-Ø show root-initial /b/ or /m/.

§5.7 Irregular verbs

The verbs *no* (176), *noj* (177) and *i:* (178) are irregular, because they cannot be included in any of the above described inflectional classes. These verbs take the 1S-prefix /tVk/- and show the opposition between realis and irrealis in the 3-person. In the

2-person they show forms beginning with /b/-.¹³⁹ It is an archaic 2-prefix, whose nasalized counterparts, /m/- and /ṃ/-, are found in *iim* /i:-m/ (179), *ĩya* /ĩja/ (180) and *hmeychĩm* /ṃejteim/ (181).

Moreover, as in *iim* /i:-m/ (179) and *ĩya* /ĩja/ (180), the presence of /k/- or /kw/- in the 1P-person (e.g. *yukwii* /jukwi:/, *yukii* /juki:/ (177) and *yukwi*² / *yuki*² (178)) is a relic of the Proto-Zamucoan 1P-suffix (see §7.9). The verbs *ii* /i:/ and *hnoy* /ṇoj/ have similar inflection. *Hnoy* /ṇoj/ and *ii* /i:/ have the same irrealis form.

(176) tak-a-ha (1S), bo / bu (2S), ṇo (3), j-u-ko (1PI), o-j-u-ko (1PE),
b-u-li-lo / b-o-li-lo (2P), o-ṇo (3P), do (3.IRLS) ‘to go’¹⁴⁰

(177) tok-a-hi: / tak-a-hi: (1S), boj (2S), ṇoj (3), j-u-kwi: / j-u-ki: (1PI),
o-j-u-kwi: / o-j-u-ki: (1PE), boj-lo / boli-lo (2P), o-ṇoj (3P),
d-oj (3.IRLS) ‘to take’

(178) tak-a-hi² (1S), b-ej (2S), i: (3), j-u-kwi² / j-u-ki² (1PI), o-j-u-kwi² /
o-j-u-ki² (1PE), b-e-j-lo / b-e-li-lo (2P), oj (3P), d-oj (3.IRLS)
‘to go to bring, to get’¹⁴¹

(179) tok-oj-m (1S), m-oj-m (2S), i:-m (3), j-u-kwim (1PI),
o-j-u-kwim (1PE), m-oj-m-lo (2P), oj-m (3P), n-oj-m (3.IRLS)
‘to leave’

¹³⁹ In some of these forms, which will be analyzed in detail in §7.9, the prefix /b/ has been reinterpreted as part of the root.

¹⁴⁰ Other 2P-forms of this verb are listed in §5.8, ex. (185e), cf. also §5.9, ex. (187).

¹⁴¹ Note that the 1P-person of *ii* /i:/, *yukwi* /jukwi²/ does not coincide with the 1PI-person of *chukwi* /tʰukwi/ ‘to look for’, which is *yukwi* /jukwi/. *Hno* /ṇo/ and *ii* /i:/ will be discussed in detail in §7.9. For reasons of simplicity, in (178) the reduced lexical suffix -i²/ is not indicated (see §7.9).

(180) tok-ō-ja (1S), m-e-ja (2S), ĭ-ja (3), j-u-kwĩja / j-ũ-ja (1PI),
o-j-u-kwĩja / o-j-ũ-ja (1PE), j-ō-j-lo [nojlo] (1PI.GP),
m-e-j-lo (2P), ō-ja (3P), n-o-ja (3.IRLS) ‘to accompany’

(181) tik-e-jteim / tak-a-teim (1S), e-jteim (2S), t-e-jteim (3),
j-e-jteim (1PI), o-j-e-jteim (1PE), e-jteim-lo (2P),
o-t-e-jteim (3P), t-e-jteim (3P) ‘to look at’ (also: te:jteim);
m̥-e-jteim / m̥ej (2S.IMP) / m̥-e-jteim-lo (2P.IMP)

§5.8 The structure of the second person plural

The 2P-person is morphologically dependent on the 2S-person. It is formed by adding the suffix *-lo/* to the 2S-person. The 2P-person takes no prefix and its formation does not depend on the verb class. The suffix *-lo/* is also used to form the plural or the greater plural in free pronouns and the MP in nominal morphology (although it is not the predominant MP suffix). The 2-person singular and plural share the same irregularities, especially when the root in the 2S-person is different from the rest of the paradigm, as in the following examples.

(182) tē-i-jo (3) ‘to weave’ a-lo (2S) → a-lo-lo / a-li-lo / a-l-lo (2P)
tē-i-ēw (3) ‘to hold, to take, to grab’, a-sew (2S)
→ a-sew-lo / a-si-lo (2P)
tē-i-tēuwe (3) ‘to surround’, a-tsuwe (2S)
→ a-tsuw-lo / a-tsuwe-lo (2P)
tē-i-juwa (3) ‘to put’ a-luwa (2S)
→ a-luwa-lo / a-luwa-lo / a-lu:-lo (2P)

In the 2P-person, some morphophonological processes can occur between root and suffix. If the verb root ends in a vowel (183), there are three possibilities: (1) The final vowel is preserved; (2) The final vowel reduces to */i/*; (3) The final vowel is deleted.

According to CH speakers, older speakers tend to preserve the final vowel, while middle-aged speakers prefer the possibility (2) or (3). If the verb root ends in a consonant (184), this is preserved and one can add epenthetic /i/ between root and suffix, but this is not obligatory.¹⁴² It is not possible to predict which process will occur in a given verb. The following examples (183-184) only list forms that I have personally elicited. Other forms might exist, although not reported here.

- (183) *te-e-kuɛu* (3) ‘to pick, to harvest’, *e-kuɛu* (2S)
 → *e-kuɛu-lo* / *e-kuci-lo* (2P)
te-i-hĩtsa (3) ‘to dig, to excavate’, *a-hĩtsa* / *e-hĩtsa* (2S)
 → *a-hatsã-lo* / *a-hĩts-lo* / *a-hĩtsi-lo* / *e-hĩtsi-lo* (2P)
te-i-hu (3) ‘to untie, to release’, *ej-hu* (2S)
 → *ej-hu-lo* / *ej-hi-lo* (2P)
te-i-nkija (3) ‘to look at; to look properly’, *e-nkija* (2S)
 → *e-nkija-lo* / *e-nki-lo* (2P)
te-i:-ta (3) ‘to serve something to drink’, *a:-ta* (2S)
 → *a:-ti-lo* / *a:-t-lo* / *a:-ta-lo* (2P)
te-u-kwěra (3) ‘to name, to call’, *e-kwěra* (2S)
 → *e-kwěr-lo* / *e-kwěra-lo* / *e-kwěri-lo* (2P)
te-u:-na (3) ‘to feel, to perceive’, *e:-na* (2S)
 → *e:-ni-lo* / *e:-na-lo* / *e:-n-lo* (2P)
te-i-mija (3) ‘to take someone in one’s own arms’, *e-mija* (2S)
 → *e-mija-lo* / *e-mi:-lo* (2P)
te-i-pa (3) ‘to make someone work’, *e-pa* (2S)
 → *e-pi-lo* / *e-pa-lo* (2P)
te-i-pã:eo (3) ‘to fold; to make someone sleep’, *e-pã:eo* (2S)

¹⁴² Epenthetic /i/ was not indicated in the previous examples. It will only be indicated in the morphological segmentation of examples (184), (186) and (190).

- e-pā:ei-lo / e-pā:ε-lo (2P)
 tε-a-pā:eo (3) ‘to fold; to make someone sleep’, a-pā:eo (2S)
 → a-pā:ei-lo (2P)
 tε-i-pē:sa (3) ‘to surround’, e-pē:sa (2S)
 → e-pē:si-lo / e-pē:sa-lo (2P)
 d-a-le (3) ‘to go quickly to’, a-le (2S) → a-li-lo / a-le-lo (2P)
 Ø-Ø-ŋeta / Ø-Ø-ŋete (3) ‘to be patient with someone’, e-ŋta (2S)
 → e-ŋti-lo / e-ŋte-lo (2P)
 i-ja (3) ‘to kill, to hit the centre of (with a gun)’, a-ja (2S)
 → a-li-lo / a-ja-lo (2P)
 i-je:be (3) ‘to guide’, a-le:be (2S) → a-le:bi-lo / a-le:be-lo (2P)
 i-jo (3) ‘to jump’, a-lo (2S) → a-li-lo / a-lo-lo (2P)
 i-juwe (3) ‘to exceed, to overtake’, a-luwe (2S)
 → a-luwe-lo / a-luwi-lo (2P)
 Ø-Ø-kwita (3) ‘to wake up; to stand up suddenly’, e-kwita (2S)
 → e-kwita-lo / e-kwit-lo / e-kwiti-lo (2P)
 l-o-ta (3) ‘to play’, o-ta (2S) → o-ti-lo / o-ta-lo (2P)
 ts-ẽ-ru (3) ‘to burn’, e-rũ (2S) → e-rũ-lo / ẽ-r-lo (2P)
 t-a-ta (3) ‘to tell, to report’, a-ta (2S) → a-ta-lo / a-ti-lo (2P)
- (184) tε-i-hīt (3) ‘to light, to illuminate’, a-hāt / e-hīt (2S)
 → a-hāt-i-lo / a-hāt-lo / e-hīt-lo (2P)
 tε-i-ε (3) ‘to meet’, e-ε (2S) → e-ε-lo / e-ε-i-lo (2P)
 tε-i-ε sak (3) ‘to take hold of something firmly, to grab firmly’,
 a-s sak (2S) → a-s-i-lo sak / a-s-lo sak (2P)
 tε-i-εit (3) ‘to strain, to winnow, to sift’, e-εit (2S)
 → e-εit-i-lo / e-εit-lo (2P)
 i-jōk (3) ‘to carry something on the shoulder’, a-ŋōk (2S)
 → a-ŋōk-i-lo / a-ŋōk-lo (2P)
 i-j-ehet (3) ‘to stand, to stand up’, a-lehet (2S)
 → a-lehet-i-lo / a-lehet-lo (2P)
 i-jem (3) ‘to wait’, a-nem (2S) → a-nem-lo / a-nem-i-lo (2P)
 Ø-Ø-kwitim (3) ‘to take advantage of, to hasten’, e-kwitim (2S)
 → ekwitim-i-lo / e-kwitim-lo (2P)

- ts-a-hat (3) ‘to make love, to copulate’, a-hat (2S)
 → a-hat-i-lo/ a-hat-lo (2P)
 ts-a-ṇim (3) ‘to unload’, a-ṇim (2S) → a-ṇim-i-lo / a-ṇim-lo (2P)
 ts-e-ṇimitɛ (3) ‘to cut, to drop, to strike (to make drop)’
 e-ṇimitɛ (2S) → e-ṇimitɛ-lo / eṇimi-lo (2P)
 ts-i-ṇew (3) ‘to do something with force, enthusiasm’, e-ṇew (2S)
 → e-ṇew-lo / e-ṇew-i-lo (2P)

In (185a) labiovelar /w/ can turn into /l/ in the 2P-person of *tew*. In the 2P-person of *tōhwa* /tōw̥a/ the last vowel assimilates to /w/ and turns into /u/ (185b). The preferred syllabic structure is CV and there are usually no geminated consonants. An exception is documented in the 2P-person. If the verb ends in -/lV/, the last vowel can delete before the prefix -/lo/ and vowel syncope yields consonant gemination (185c-d). The verbs *hno* /ṇo/ (185e) and *ii* /i:/ (185f) are irregular. The former has two 2S-persons, *bo* and *bu*. The 2P-person *bolilo*, *bululo* and *bulilo* do not exactly correspond to the 2S-persons and for this reason they are rare exceptions. Consonant gemination owing to the dropping of /i/ or /u/ is to be found in the 2P-person forms *bollo* and *bullo*. *Ii* /i:/ (185f) has the irregular 2S-person *bey* /bej/ and the 2P-persons *beylo* /bejlo/ and *belilo*. The 2P-persons of *hno* /ṇo/ and *ii* /i:/ will be analyzed in more detail in chapter (§7.9).

- (185) a. t-e-w (3) ‘to eat’, e-w (2S) → e-w-lo / e-li-lo (2P)
 b. t-ō-w̥a (3) ‘to bring, to carry’, ō-w̥a (2S) → o-w̥ū-lo (2S)
 c. Ø-Ø-tokole (3) ‘to exit, to come out, to happen’, atokole (2S)
 → a-tokoli-lo / a-tokol-lo (2P)
 d. Ø-Ø-tokole (3) ‘to exit, to come out, to happen’, a-tole (2S)
 → a-toli-lo / a-tol-lo (2P)
 e. ṇo (3) ‘to go’, bo (2S) → b-o-li-lo (2P) > b-o-l-lo (2P),
 bu (2S) → b-u-lu-lo (2P), b-u-li-lo (2P) > b-u-l-lo (2P)
 f. i: (3) ‘to go to bring, to get’ (3), b-ej (2S) → b-ej-lo / b-eli-lo (2P)

§5.9 The greater plural

As in free pronouns (see §3.2), in verb inflection the 1PI-person also has a greater plural form, obtained by adding the suffix *-lo/* to the 1PI-person. This is the same suffix used for the 2P-person. When *-lo/* is added to the 1PI-person, the same morphophonological processes pointed out in the formation of the 2P-person occur in the greater plural of the 1PI-person.¹⁴³ A list of forms reported for the 1PI-person is provided in (186). In (187) the 1PI-person is *yuko* /juko/. Root-final /u/ in *yukulo* /jukulo/ shows assimilation to the 1P-vowel /u/ (cf. ex. 176).

- (186) *te-i:* (3) ‘to do, to make’, *j-i:* (1PI) → *j-i:-lo* (1PI.GP)
te-i-teuwe (3) ‘to surround’, *j-i-teuwe* (1PI) → *j-i-teuwe-lo* /
j-i-teu:-lo (1PI.GP)
te-i-nkija (3) ‘to look at; to look properly’, *j-i-nkija* (1PI)
→ *j-i-nki-lo* / *j-i-nkija-lo* (1PI.GP)
te-i-ε (3) ‘to meet’, *j-i-ε* (1PI) → *jie-i-lo* / *jie-lo* (1PI.GP)
te-i-εak (3) ‘to break’, *j-i-εak* (1PI) → *j-i-εak-lo* /
j-i-εak-i-lo (1PI.GP)
te-i-jo (3) ‘to weave’, *j-i-jo* (1PI) → *j-i-jo-lo* / *j-i:-lo* (1PI.GP)
te-u-kwêra (3) ‘to call, to name’, *j-u-kwêra* (1PI)
→ *j-u-kwêr-lo* (1PI.GP)
te-i-pa (3) ‘to make someone work’, *j-i-pa* (1PI) → *j-i-pa-lo* /
j-i-pi-lo (1PI.GP)
te-i-pê:sa (3) ‘to surround’, *j-i-pê:sa* (1PI) → *j-i-pê:s-lo* (1PI.GP)
te-i-râha (3) ‘to load up’, *j-i-râha* (1PI) → *j-i-râha-lo* /
j-i-rêhe-lo (1PI.GP)

¹⁴³ Since these morphophonological processes have been discussed in the previous section, they will not be discussed in detail here.

- Ø-Ø-*ṇeta* (*ṇete*) (3) ‘to be patient with someone’, *j-i-ṇta* (1PI)
 → *j-i-ṇte-lo* (1PI.GP)
- i-tea* (3) ‘to lay’, *j-o-tsa* (1PI) → *j-o-tsi-lo* / *j-o-tsa-lo* (1PI.GP)
- i-ṇimate* (3) ‘to go down, to come down’, *j-i-ṇimate* (1PI)
 → *j-i-ṇimate-lo* (1PI.GP)
- i-je* (3) ‘to be in mourning’, *j-o-le* (1PI) → *j-o-li-lo* (1PI.GP)
- i-jo* (3) ‘to cut’, *j-o-ḷo* (1PI) → *j-o-li-lo* / *j-o-ḷo-lo* (1PI.GP)
- i-jem* (3) ‘to wait’, *j-i-jem* (1PI) → *j-i-jem-lo* / *j-i-jem-i-lo* (1PI.GP)
- i-ju* (3) ‘to exceed, to overtake’, *j-i-ju* (1PI)
 → *j-i-ju-lo* / *j-i-ji-lo* (1PI.GP)
- i-juwe* (3) ‘to exceed, to overtake’, *j-i-juwe* (1PI)
 → *j-i-juwe-lo* (1PI.GP)
- Ø-Ø-*kwitim* (3) ‘to take advantage of, to hasten’, *j-u-kwitim* (1PI)
 → *j-u-kwitim-lo* / *j-u-kwitim-i-lo* (1PI.GP)
- l-o-ta* (3) ‘to play’, *j-o-ta* (1PI) → *j-o-ti-lo* / *j-o-ta-lo* (1PI.GP)
- l-o-ter* (3) ‘to make fun of something/somebody’, *j-o-ter* (1PI)
 → *j-oter-lo* (1PI.GP)
- Ø-Ø-*po* (3) ‘to make someone shut up’, *j-u-po* (1PI)
 → *j-u-pi-lo* / *j-u-po-lo* (1PI.GP)
- t-a-ta* (3) ‘to tell, to report’, *j-i:-ta* (1PI)
 → *j-i:-ta-lo* / *j-i:-ti-lo* (1PI.GP)
- t-e-w* (3) ‘to eat’, *j-a-hu* (1PI) → *j-a-hu-lo* (1PI.GP)
- t-i-mehe* (3) ‘to depend, to follow’, *j-i-mehe* (1PI)
 → *j-i-mehe-lo* (1PI.GP)

- (187) *ṇo* (3) ‘to go’, *j-u-ko* (1PI) → *j-u-ku-lo* / *j-u-ki-lo* (1PI.GP)
 (cf. ex. 185e)

§5.10 Defective verbs

Some CH verbs have reduced inflection, for (in addition to the 3-person) they can only take the verb affixes *-lo/* and */o/-*. In (188) one can find a list of these verbs. The 3-person is used for all

persons, with the exception of the 3P-person, the 2P-person and the 1PI.GP-person. Onomatopoeic verbs, such as *hworōk* /wɔrōk/ ‘to swallow (quickly)’, *kwisht* /kwiet/ ‘to break; to happen rapidly’ are to be observed.¹⁴⁴ Other verbs are only used for the 3-person, such as *dahat* ‘to boil’. Some verbs are used impersonally, such as *ibik* ‘to rain’, which has no inflection.

(188) *dahat* (3) ‘to boil’ (only used in the 3-person)

kem (3) ‘to realize, to discover’

kwiet (3) ‘to break; to happen rapidly’

marta (3) ‘to drown’

narim (3) ‘to be proud’

neruhu (3) ‘to choke’

noji (3) ‘to leave’

noei (3) ‘to pour, to spill’

poṇa (3) ‘to get angry; to explode; to flourish’

ẽṽra (3) ‘to be born’

tabita (3) ‘to move’

tĩra (3) ‘to open’

tĩrije (3) ‘to crumple, to crease’

ũru (3) ‘to stain’

jahalot (3) ‘to come’¹⁴⁵

jaka (3) ‘to go to the bottom, to sink’

jakaha (3) ‘to happen’

jatsa (3) ‘to settle, to perch’ (for animals); ‘to rest’ (for persons).

juwo (3) ‘to escape’

¹⁴⁴ There are also some ideophones showing reduplication, which are used as independent verbs, for instance: (*e*)*tek tek* ‘to fall to the ground’, *parak parak parak* ‘to blink’. These elements will not be discussed, because they have no inflection. About ideophones in Ayoreo, see Bertinetto (2009: 16).

¹⁴⁵ This is an archaic word, nowadays *taãtea* /tã:tea/ is preferred, cf. §5.13, ex. (205).

- juwɪ (3) ‘to escape (with someone)’
- juwɪr (3) ‘to end’
- warnak (3) ‘to disobey, to be naughty’ (archaic word)
- worðk (3) ‘to swallow (quickly)’
- ibik ‘to rain’ (impersonal verb)

§5.10.1 Loans

Chamacoco has had intense linguistic contact with Spanish. Some verbs used in currently spoken Chamacoco are Spanish loanwords. These elements have reduced inflection, because most inflectional mechanisms of the verb were no longer productive when the Spanish loans entered the language. Like the verbs in (188), the 3-person is used for all persons, with the exception of the 3P-person, which takes the pre-prefix /o/-, the 2P-person and the 1PI.GP-person, which take the suffix -/lo/. The Spanish form which entered the language is not the infinitive form, but the present indicative 3S-person, as one can see when a diphthongization is present in Spanish verbs (*pwele*, *tiyente* /tɨjente/).

- (189) entreka (3) ‘to give’ (used instead of *ieɛi*, although the Chamacoco verb is predominant in this case) (Spanish: *entregar*)
- ewenta (3) ‘to bear, to endure, to put up with’ (Spanish: *aguantar*)
- palta (3) ‘to be missing’ (Spanish: *faltar*)¹⁴⁶
- kaj (3) ‘to fall’ (Spanish: *caer*) (it tends to replace *beshi* /beɕi/ (144), which is now rarely used)
- kre (3) ‘to believe’ (Spanish: *creer*)
- prowa (3) ‘to try’ (Spanish: *probar*)
- pjens / pjensa (3) ‘to think’ (Spanish: *pensar*; cf. *piensa*)

¹⁴⁶ The form [falta] has also been observed, although [f] does not belong to the phonological inventory of Chamacoco.

- (3S.IND.PRES))
pwele (3) ‘can’ (Spanish: poder; cf. puede (3S.IND.PRES))
(no indigenous word with this meaning is observed)
tijente (3) ‘to understand’ (Spanish: entender; cf. entiende
(3S.IND.PRES))
tonkĭja (3) ‘to rest, to have a rest’ (cf. the Guaraní root *-tongea* ‘to
rest, to have a rest’)¹⁴⁷

§5.10.2 The third person plural pre-prefix /o/- and the suffix -/lo/

In defective verbs, /o/- is added to the 3-person in order to obtain the 3P-person; -/lo/ is used to obtain the 2P-person and the greater plural of the 1PI-person. Since in these verbs there is no prefixation when -/lo/ is added, the greater plural of the 1PI-person cannot be identified as such. Since some verbs belonging to this group are Spanish loans and entered the language recently, this means that such mechanisms of formation are still productive, while the rest of verb inflection is no longer productive. In these verbs, the use of the affixes /o/- (for the 3P-person) and -/lo/ seems to be optional. When defective verbs take the suffix -/lo/, the same morphophonological processes pointed out in (§5.8) and (§5.9) may occur. The use of /o/- is not observed when the verb begins with a vowel, such as *ewenta* and *ũrhu* /ũɾu/.

- (190) ewenta (3) ‘to bear, to endure, to put up with’ ewenti-lo (2P/1PI.GP)
palt(a) (3) ‘to be missing’ → palt-lo (2P/1PI.GP)
kaj (3) ‘to fall’ → kaj-lo (2P/1PI.GP)
kre (3) ‘to believe’ → kre-lo (2P/1PI.GP)
prowa (3) ‘to try’ → prow-i-lo (2P/1PI.GP)

¹⁴⁷ On Guaraní, see Krivoshein de Canese & Acosta Alcaraz (1997).

pjens / pjensa (3) 'to think' → pjensi-lo (2P/1Pl.GP)
 pwele (3) 'can' → pwele-lo (2P/1Pl.GP)
 tijente (3) 'to understand' → tijenti-lo (2P/1Pl.GP)
 tonkĩja (3) 'to rest, to have a rest' → tonkĩja-lo (2P/1Pl.GP)
 marta (3) 'to drown' → marta-lo (2P/1Pl.GP)
 kem (3) 'to realize, to discover' → kem-lo / kem-i-lo (2P/1Pl.GP)
 nerũhu (3) 'to choke' → nerũhu-lo (2P/1Pl.GP)
 nõji (3) 'to leave' → nõji-lo (2P/1Pl.GP)
 poña (3) 'to get angry; to explode; to flourish'
 → poña-lo (2P/1Pl.GP)
 ũru (3) 'to stain' → ũru-lo (2P/1Pl.GP)
 jahalot (3) 'to come' → jahalot-lo (2P/1Pl.GP)
 jatsa (3) 'to settle, to perch' (for animals); 'to rest' (for persons)
 → jatsi-lo (2P/1Pl.GP)
 juwo (3) 'to escape' → juwo-lo (2P/1Pl.GP)

- (191) palt(a) (3) 'to be missing' → o-palt (3P)
 kaj (3) 'to fall' → o-kaj (3P)
 kre (3) 'to believe' → o-kre (3P)
 prowa (3) 'to try' → o-prowa (3P)
 pjens / pjensa (3) 'to think' → o-pjensa (3P)
 pwele (3) 'can' → o-pwele (3P)
 tijente (3) 'to understand' → o-tijente (3P)
 tonkĩja (3) 'to rest, to have a rest' → o-tonkĩja (3P)
 marta (3) 'to drown' → o-marta (3P)
 kem (3) 'to realize, to discover' → o-kem (3P)
 neruhu (3) 'to choke' → o-neruhu (3P)
 noji (3) 'to leave' → o-noji (3P)
 poña (3) 'to get angry; to explode; to flourish' → o-poña (3P)
 eũra (3) 'to be born' → o-eũra (3P)
 tabita (3) 'to move' → o-tabita (3P)
 jahalot (3) 'to come' → o-jahalot (3P)
 jakaha (3) 'to happen' → o-jakaha (3P)
 jatsa (3) 'to settle, to perch' (for animals); 'to rest' (for persons)

→ o-jatsa (3P)

juwo (3) ‘to escape’ → o-juwo (3P)

§5.11 Existential or locative verbs

The verb *de* is an existential or locative verb. The verb either indicates that the subject simply exists or that is located in the place expressed by the noun phrase or adpositional phrase following *de* (192). *De* is generally used in realis contexts. Its irrealis counterpart is *chihî* /*tɛihî*/ (193).¹⁴⁸ *De* has reduced person inflection, but shows the realis vs. irrealis opposition *de* vs. *chihî*. Both these forms can take the 3P pre-prefix /o/-: *ode*, *ochihî* /*otɛihî*/.

- (192) T-iita uu dihip kinehe-t lishi uje de
 /T-i:ta u: dihip kinehe-t liɛi uxe de/
 1S DET.MS foreign strange-MS.FF dead.MS SUB 3.EXIST
 Ishir-o òr ahîr=ni wahacha, uje tik-irâha,
 /iɛir-o òr ahîr=ni wahateɔ uxe tik-irâha/
 Chamacoco-MP 3P with=PST there SUB 1S-know
 wahacha ese, uu Pwerto Katorse.
 /wahateɔ ese u: pwerto Katorse/
 there that.MS DET.MS Puerto 14_de_Mayo

‘I tell about a dead foreigner who, according to what I know, stayed with Chamacoco there, there in Puerto 14 de Mayo.’
 (Ciucci, field notes)

¹⁴⁸ *Chihî* can also be observed in realis contexts, although it is generally used in irrealis contexts.

- (193) ǂJe pohnuu eyhi-rāk chihi ire?
 /xe poŋu: ejhi-rāk teihi ire/
 INT gun seed-IF.FS 3.EXIST.IRLS 3S
 ‘Does it have a bullet (lit. ‘seed of gun’) in its body?’ (referring to
 an animal) (Ciucci, field notes)

There is also a negative existential verb *nihyōk* /*nijok*/. *Nihyōk* /*nijok*/ ‘there is no’ has reduced inflection, but can display the pre-prefix /o/- in the 3P-person.¹⁴⁹

§5.12 The verb *itso*

The verb *itso* (3) ‘to look like, to be like’ has reduced person inflection, but has the irrealis form *ilo* which is also used for all persons. Verbs such as *de* and *itso* show that modality in Chamacoco can be expressed even if there is reduced inflection. The realis is expressed by the infix *-ts/-* which corresponds to the 3-realis prefix */ts/-* of */ts/-*verbs, while the irrealis is expressed by the infix *-l/-*¹⁵⁰ which corresponds to the prefix */d/-* or */l/-* used for the irrealis. The verb *itso* can take the plural suffix *-lo/* for the 1PI.GP-person and the 2P-person, but cannot take the 3P-suffix */o/-*, which, as already mentioned, is not to be observed for defective verbs beginning with a vowel.

- (194) T-uu yok mans-aap, t-uu yok itso waa
 /t-u: jok mans-a:p t-u: jok itso wa:/
 1S-do 1S docile-DIM.BF 1S-do 1S 3.look_like DET.FS

¹⁴⁹ The form *onihyōk* /*onijok*/ is rare, although it is to be observed. Note that, according to some speakers, *nihyōk* also has a variant *nihyokōr* /*nijokōr*/, coinciding with the irrealis form of *shiyokōr* /*ɕijokōr*/ ‘to make’.

¹⁵⁰ In this case, the alternation with */d/* is not observed.

obej-ta.

obex-ta/

sheep-FS.FF

‘I make myself docile, I make myself look like a sheep’

(Ciucci, field notes)

(195) Ye yok ili timchar-rza=pe.

/je jok ili timtɕaɭ-ɭa=pe/

NEG 1S 3.IRLS.look_like woman-FS.FF=NEG

‘I don’t look like a woman.’¹⁵¹ (Ciucci, field notes)

The realis vs. irrealis contrast is also visible in the adverbial pair *itsorz* /itsorz/ and *ilorz* /ilorz/ ‘so, this way’, clearly derived from *itso*. *Itsorz* is the form used in irrealis contexts (65), while *ilorz* is its irrealis counterpart (66).

(196) Esee=kite hn ese hnakirb-ich hōr n-erāh-ta ich

/ese:=kite ŋ ese ŋakirb-itɕ hōr n-erāh-ta itɕ/

DM=PST CONJ DET man-MS.FF with RFL-wife-FS.FF CONJ

o-mehe-ship eeych per ye o-pook=pe uje

/o-mehe-ɕip e:jɕ per je o-po:k=pe uxe/

3P-be naked-ELAT on but NEG 3P-be_ashamed=NEG SUB

ōr itsorz.

/ōr itsorz/

3P so.RLS

‘And then, the man and his wife were naked, but they didn’t feel ashamed to be so.’ (Ulrich & Ulrich 2001: 5)

¹⁵¹ In this example *ilo* is realized as *ili* owing to the reduction of the final vowel, a frequent phenomenon in Chamacoco.

- (197) Esee=kite uje Rubén ch-unt uje sehe o-d-uhu
 /ese:=kite uxe ruben tɛ-unt uxe tsehe o-d-uhu/
 DM=PST COMP Rubén 3-hear COMP VOL P-3.IRLS-kill
 ilorɜ, heke sehe tak-ashim José.
 /ilorɜ heke tsehe tak-acim xose/
 this_way.IRLS therefore VOL 1S-help José
 ‘And then, when Rubén hears that they want to kill (José) in this way, therefore he wants to help José.’ (Ulrich & Ulrich 2001: 136)

§5.13 Verbs ending in *-im/*, *-ihi/* and *-ap/*

In some verbs ending in *-im/*, this element is a suffix which introduces an indirect object. The verb *tata* (198) is a transitive verb followed by the object, while *tatim*, derived from *tata* conveys the same meaning but can be followed by an indirect object (199). The verb *ishi* /iɛi/ has several meanings: ‘to pay’, ‘to deliver’, ‘to contaminate’ (Ulrich & Ulrich 2000b: 49). It is followed by the object (200). By contrast, its derived verb *ishim* /iɛim/ ‘to give’ takes an indirect object and the direct object (201).

- (198) T-iita uu k-ushjâr-o uje tuk-umo wahacha.
 /t-i:ta u: k-uɛxâr-o uxe tuk-umo wahatea/
 1S-say DET.MP GF-thing-MP SUB 1S-see there
 ‘I say the things that I have seen there.’ (Ciucci, field notes)

- (199) T-itim owa je oy-uku=pe.
 /t-itim owa xe oj-uku=pe/
 1S-tell 2S COMP 1PE-come=NEG
 ‘I tell you that we are not going to come.’ (Ciucci, field notes)

- (200) Esee ich ishi oryōk ich oy-uko oy-eyhi.
 /ese: ite iei orjōk ite oj-uko oj-ejhi/
 DM and 3.pay 1PE and 1PE-go 1PE-go_home
 ‘And then he pays us and we go home.’ (Ciucci, field notes)

- (201) Ishim yok poho-chi=ke.
 /ieim jok poho-tei=ke/
 3.give 1S dog-MS.FF=PST
 ‘He has given me a dog.’ (Ciucci, field notes)

CH *-/im/* corresponds to the AY adposition *ome*, which introduces an indirect object and can be included in the verb, working as a lexical suffix. *Ome* also introduces the indirect object in Old Zamuco (see Chomé 1958: 123-124). Such an adposition no longer exists in Chamacoco, but one can suppose that it has existed and has only been preserved when it has been included in the verb. In a few cases also the preposition *=/ihi/* (see §5.14) has been included in the verb, losing its function of preposition and changing the meaning of the verb, as in *ishimihi* */ieimihi/* ‘to give (as a present)’, which is derived from *ishim* */ieim/* ‘to give’. *-/ihi/* clearly corresponds to AY *-/ihi/*, but the AY lexical suffixes *-/ome/* and *-/ihi/* follow the plural suffix, while *-/im/* and *-/ihi/* precede it (see §4.8.6).

-/ap/ is a reduced form of the diminutive suffix *-/a:p/* (see §13.6). It can be added to the verb to convey attenuating nuances (202). This also occurs in Ayoreo (§4.8.6). Few verbs show a suffix which modifies the lexical meaning of the verb. Like AY lexical suffixes, this element has been included in the verb, but does not belong to the root, because it is separated from the root by the plural suffix. In (204) *-/ap/* is added to all persons of the verb in (203), with the exception of the 3-persons.

- (202) tak-a-teim (1S) ‘to look’ → tak-a-teim-a:p (1S) ‘to look a little’
 j-e-jteim (1PI) ‘to look’ → j-e-jteim-a:p (1PI) ‘to look a little’
- (203) t-i:-s (1S), a:-s (2S), te-e:-s / ts-e:-s (3), j-i:-s (1PI), o-j-i:-s (1PE),
 a:-s-lo (2P), o-te-e:-s / o-ts-e:-s (3P), d-i:-s / l-i:-s (3.IRLS)
 ‘to bite, to sting, to criticize’ (also: tæs)
- (204) t-i:-s-ap (1S), a:-s-ap (2S), te-e:-s / ts-e:-s (3), j-i:-s-ap (1PI),
 o-j-i:-s-ap (1PE), a:-si-l-ap (2P), o-te-e:-s (3P), d-i:-s /
 l-i:-s (3.IRLS) ‘to taste’

Also the clitic =/po/ ‘again’ has been included in the verb *taãcha* /tã:tea/ ‘to arrive’ to form the verb *taãchpo* /tã:tepo/ ‘to come back’.

- (205) tok-ã:-tea / tak-ã:-tea (1S), ã:-tea (2S), t-ã:-tea (3), j-ã:-tea (1PI),
 o-j-ã:-tea (1PE), a:-teĩ-lo (2P), o-t-ã:-tea (3P), t-ã:-tea (3.IRLS)
 ‘to come, to arrive’
- (206) tak-ã:-te-po / tok-ã:-te-po (1S), ã:-te-po (2S), t-ã:-te-po (3),
 j-ã:-te-po (1PI), o-j-ã:-te-po (1PE), a:-teĩ-l-po (2P),
 o-t-ã:-te-po (3P), t-ã:-te-po (3.IRLS) ‘to come back’

§5.14 The polyfunctional preposition =/ihi/

In CH syntax there is a basic distinction between arguments and adjuncts. All adjuncts are usually introduced by =/ihi/.¹⁵² This element is a polyfunctional preposition added to the last word preceding the adjunct. In (207a) the verb *tibich* /tibite/ ‘to shout’

¹⁵² In most cases =/ihi/ actually works as an applicative, but not all adjuncts are introduced by it. For instance, comitative adjuncts are introduced by the preposition *hõr* ‘with’. The use of =/ihi/ is only optional for temporal adjuncts. The /i/ of =/ihi/ can assimilate to the vowel of its host.

has valency 1. The enclitic *=/ihi/* is added to the verb in order to introduce the indirect object (207b). The verb in (208a) is transitive and the enclitic *=/ihi/* is attached to *oyayuwa* /*ojajuwa*/ in order to add the temporal adjunct ‘in the river’. *=/ihi/* corresponds to the AY adposition *iji*. *=/ihi/* has no specific meaning. For this reason in the phrase *=ihi onoota ehet* /*ihi ono:ta ehet*/ ‘in the river’, the positional relation is conveyed by a locative postposition, such as *ehet* ‘inside’. As most locative postpositions, *ehet* is morphologically a nominal. As already noted (§5.13), *=/ihi/* can be included in the verb, changing its lexical meaning.

- (207) a. *Timchar-rza t-ibich-i=ke.*
/timtɕaɭ-ɭa t-ibitɕ-i=ke/
 woman-FS.FF 3-shout-EPENT=PST
 ‘The woman screamed / shouted.’ (Ciucci, field notes)

- b. *Timchar-rza t-ibich=ihi boshesh-t.*
/timtɕaɭ-ɭa t-ibitɕ=ihi boɕɕɕ-t/
 woman-FS.FF 3-shout=PREP child-MS.FF
 ‘The woman shouts at the child.’ (Ciucci, field notes)

- (208) a. *Hnakirb-ich umo oyayuwa-t.*
/ɲakirb-itɕ umo ojajuwa-t/
 man-MS.FF 3.see giant_anaconda-MS.FF
 ‘The man sees the giant anaconda.’ (Ciucci, field notes)

- b. *Hnakirb-ich umo oyayuwa-t=ihi onoo-ta*
/ɲakirb-itɕ umo ojajuwa-t=ihi ono:-ta
 man-MS.FF 3.see giant_anaconda-MS.FF=PREP river-FS.FF
ehe-t.
ehe-t/
 3.inside-MS.FF
 ‘The man sees the giant anaconda in the river.’
 (Ciucci, field notes)

§5.15 Conclusions

This chapter has described CH verb morphology. Chamacoco shows clusivity, a feature not found in the other Zamucoan languages, and the 1PI-person exhibits a distinction between plural and greater plural. Depending on the 3-person, some groups of verbs have been distinguished: prefixal verbs (/tɕ/-verbs, /ts/-verbs, /t/-verbs and /d/-verbs), thematic verbs and radical verbs. Prefixal verbs mostly have regular morphology, while radical and thematic verbs show many irregularities, in particular the vocalic pattern is often unpredictable. Root allomorphy and consonantal changes can occur in the root depending on the vocalic pattern and on the verb class. The language has a realis vs. irrealis opposition in the 3-person, which is not expressed in /t/-verbs, /d/-verbs, radical verbs, and in most verbs with reduced person inflection.

§6 Old Zamuco verb inflection

The present chapter describes the verb inflection of Old Zamuco. The verb structure consists of: person prefix, thematic vowel, root and plural suffix (§6.1). The person inflection is discussed in §6.2. Old Zamuco shows a realis vs. irrealis opposition which is expressed in the whole paradigm. Depending on the 3-person, four classes of verbs are distinguished: /tɛ/-verbs (§6.3), /t/-verbs (§6.4), thematic verbs (§6.5) and radical verbs (§6.6). One may wonder whether a group of /s/-verbs also existed (§6.7). Section §6.8 deals with irregular verbs which cannot be included in any of the above mentioned verb classes. O.Z prefixation shares some similarities with the so-called ‘conjunct/disjunct systems’ (§6.9). Section §6.10 lists the O.Z verbs reported in Chomé’s grammar and their AY and CH cognates. In §6.10 the verb suffixation of Old Zamuco is compared with AY and CH verb suffixation. The verb prefixation of the Zamucoan languages is compared in the next chapter.

§6.1 Generalities

In this section the verb morphology of Old Zamuco is discussed. The data come from the grammatical description by Chomé (1958 [ante 1745]). Despite the remarkable quality of Chomé’s grammar, it is based on the Latin grammars of his time and therefore it needs reinterpretation. The verb paradigms provided by Chomé are generally incomplete, but offer very important information for a better understanding of verb morphology in the whole Zamucoan family. The structure of O.Z verbs is reported in (1).

(1)	THEME						
	PREFIX	+	THEMATIC VOWEL	+	ROOT + PLURAL SUFFIX	+	(LEXICAL SUFFIX)

Old Zamuco is a tenseless language in which time is expressed by temporal markers. The language is characterized by a realis vs. irrealis distinction. The realis is used when the speaker is sure that the event takes place (or has taken place), while the irrealis is used when the event does not take place, has not yet taken place or the speaker is not sure whether it will take place. Thus, the realis is typically used in affirmative sentences which refer to a present (2a) or a past event (2b), while the irrealis is used in negative sentences (2c), to express the imperative (2d) or in affirmative sentences which refer to the future (2e-f).

- (2) a. ch-imecêre ‘he loves’
3.RLS-love
- b. a-imecêre ica ‘I loved’
1S.RLS-love PST
- c. ca d-imêcêre ‘he does not love’
NEG 3.IRLS-love
- d. ch-imecêre ‘let me love’ (imperative)
1S.IRLS-love
- e. ch-imecêre=ri ‘I will love’ (near future)
1S.IRLS-love=NFUT
- f. ch-imecêre=nei ‘I will love’ (remote future)
1S.IRLS-love=RFUT

The presence of two moods in Old Zamuco has been described by Chomé as a future vs. non-future distinction. According to Chomé, the forms for the imperative (2d) and the negation (2c), among others, should derive from the future forms (Chomé 1958:

151-152), while the opposite turns out to be true. Also Kelm (1964), comparing Ayoreo and Old Zamuco, seems to accept the future vs. non-future distinction proposed by Chomé for the verb. As Bhat points out, the use of the future vs. non-future distinction to convey realis-irrealis is very common in old grammars:

“Basic modal distinctions are frequently described as tense distinctions. [...] The existence of a more basic realis-irrealis distinction has been recognised only recently. There is therefore a need to make an unbiased examination of many of these languages in order to obtain a better understanding of the exact nature of the modal category occurring in them.” (Bhat 1999: 131)

“Most of the earlier grammars (and some recent ones too) wrongly describe these modal forms as showing a past-present-future (or future/non-future) tense distinction.” (Bhat 1999: 67)

§6.2 Person inflection and verb classes

A paradigm of an O.Z verb is provided in Table 6.1.¹⁵³

¹⁵³ This verb is the most frequently used by Chomé in his examples (1958: 143-145).

<u>chimecêre</u> ‘to love’	
<u>Realis</u>	<u>Irrealis</u>
a-i-mecêre (1S)	ch-i-mecêre (1S.IRLS)
d-a-mecêre (2S)	Ø-a-mecêre (2S.IRLS)
ch-i-mecêre (3)	d-i-mecêre (3.IRLS)
a-i-mecê-co (1P)	ch-i-mecê-co (1S.IRLS)
d-a-mecê-ño (2P)	Ø-a-mecê-ño (2P.IRLS)
ore ch-i-mecêre (3P)	ore d-i-mecêre (3P.IRLS)

Table 6.1

The first component is the prefix, the second the thematic vowel. The verb prefixes are different from the free personal pronouns. The prefixes of the realis are /a/- for the 1-person, /d/- for the 2-person and /tɛ/- for the 3-person. In the irrealis the prefixes are /tɛ/- for the 1-person and /d/- for the 3-person, while the 2-person has no prefix. The 1P- and the 2P-person differ from the corresponding singular persons, only because they take the suffix *-co* (*-/ko/*) and *-ño* (*-/ɲo/*), respectively. This occurs in both realis and irrealis. For this reason, I will focus on the prefixation of the first three persons. Suffixation will be discussed in detail later on (see §6.11).

The prefix for the 3-realis (*ch-*) and the 1-irrealis (*ch-*) seem to coincide. In Table 6.1 the 3-realis and the 1S-irrealis would phonologically coincide, but this does not occur in all verbs. The digraph <ch> used by Chomé corresponds to /tɛ/ in the 3-person, but according to Bertinetto (2011a: 5), it could correspond to [ɟʃ] in the 1-person. Indeed, it was not possible to indicate the sound [ɟʃ] with the Spanish orthography used by Chomé. [ɟʃ] (<ch>) would be an allophone of /j/, frequently found in the Ayoreo

1-prefix. This is a plausible hypothesis, but, owing to lack of data, in this work <ch> will always be considered the digraph for /tɕ/.

The prefix for the 3-irrealis coincides with the prefix for the 2-realis, but the 2S-realis and the 3-irrealis are phonologically different because they have a different vowel. In the 2-person (both realis and irrealis) the thematic vowel may be replaced by a vowel originally belonging to the prefix, as in Table 6.1, where /i/ is replaced by /a/. In this case, it is functional to distinguish the 2S-realis from the 3-irrealis. In other cases these two persons phonologically coincide. The vocalic pattern is very regular and will be analyzed in detail below. The vocalic pattern of the verb can be easily predicted given the vowel of the 3-person (realis), but, for reasons which will be explained below, it cannot always be predicted if only the 2-vowel is known. The morphological behaviour of the thematic vowel is the same in both realis and irrealis.

The 3-realis (henceforth: 3-person) will be considered the reference form and the basis of the inflection. In this case, the 3-person takes the prefix *ch-* (/tɕ/-). Depending on the morphology of the 3-person, three verb groups can be distinguished: prefixal verbs (e.g. *ch-i-mecêre* /tɕ-i-mesêre/ (3) ‘to love’), thematic verbs (e.g. *i-yague* /i-jage/ (3) ‘to stand up’) and radical verbs (e.g. *Ø-Ø-tota* (3) ‘to be blackened’). In Chomé, as in Latin grammars, the reference form used to cite a verb is the 1S-person.

There is no specific form for the 3P-person. The 3-person forms *chimecêre* (/tɕimesêre/) and *dimecêre* (/dimesêre/) in Table 6.1 are used for both singular and plural. In Old Zamuco the subject is obligatorily expressed only when it is a 3P-person, because it cannot otherwise be distinguished from the 3-person (3). For this reason, in Table 6.1 the 3P-person is indicated by the 3-person preceded by the 3P-pronoun *ore*. This does not mean that *ore*

obligatorily occurs. If the 3P-person subject is phonologically expressed, as in (4), *ore* is not used.

(3) Old Zamuco (Chomé 1958: 142)

Ore ch-echâre da-igueda-tie.
 3P 3-demolish 3.RFL-house-MS.FF
 ‘They demolish their own house.’

(4) Old Zamuco (Chomé 1958: 140)

U desi-oddoe ch-ani yu.
 DET boy-MP.FF 3-bother 1S
 ‘Those boys bother me.’

§6.3 Prefixal verbs in /tɕ/-

The vast majority of verbs in Old Zamuco are prefixal verbs characterized by the prefix /tɕ/- in the 3-person. The 3-irrealis takes the prefix /d/- (as in Table 6.1). These verbs are generally very regular. If the verb has /a/ or /e/ as thematic vowel, the vowel is usually preserved in the whole paradigm (5a-b, 6a-b). In (5a) the 1-prefix /a/- and thematic /a/ merge in the 1-person. *Chaecâre* (/tɕaekâre/) (6c), whose 1-person coincides with the 1-person of *checâre* (/tɕeekâre/) (6b), is a verb with thematic /a/, which merges with the prefix /a/ in the 1-person.

(5)a. a-mata (1S), d-a-mata (2S), ch-a-mata (3) ‘to choose’¹⁵⁴

b. a-ôrâ (1S), d-a-ôrâ (2S), ch-a-ôrâ (3) ‘to praise’

(6)a. a-e-yac (1S), d-e-yac (2S), ch-e-yac (3) ‘to guide’

¹⁵⁴ From now on, in the glosses where the mood is not indicated, it is understood that the form is a realis one.

b. a-e-câre (1S), d-e-câre (2S) ch-e-câre (3), e-câre (2S.IRLS)

‘to follow’¹⁵⁵

c. a-ecâre (1S), d-a-ecâre (1S), ch-a-ecâre (1S) ‘to change’

If the 3-person is a high vowel, that is /i/ or /u/, the vowel is preserved in the 1-person, but turns into /a/ in the 2-person. The 2-vowel /a/ is diachronically a prefix vowel which has replaced the high thematic vowel (and by contrast is replaced by non-high vowels). Thus, verbs with /i/ as 3-thematic-vowel generally show the following vocalic pattern: /i/-/a/-/i/ (7).

(7)a. a-i-micêre (1S), d-a-micêre (2S), ch-i-micêre (3) ‘to fish (with bait)’

b. a-i-zau (1S), d-a-zau (2S), ch-i-zau (3) ‘to take’

In (8) one finds some exceptions. In (8a) the possible origin of the 2-vowel /a/ as 2-prefix is still to be found, because /i/ has not been replaced by /a/. The verb *chihi* (/tɕihi/) (8b) has the 2-thematic-vowel /i/ and there is no trace of the prefix vowel /a/. This is a very rare exception, not only in Old Zamuco, but in the whole language family (see §7.3). In the 1-person of *chiazore* (/tɕiasore/) (8c) there is insertion of -y- (/j/), probably in order to prevent the formation of a triphthong. In the 1-person of *chihi* (/tɕihi/) too, there is consonantal insertion between the prefix and the thematic vowel. One may surmise that the epenthetic consonant was originally /j/, which has turned into /h/, because it has assimilated to root-initial /h/. In (8b) also the (regular) 3-irrealis-form is provided by Chomé. In (8d) the syllable /ru/ drops in the 3-person.

¹⁵⁵ In Chomé (1958: 149) the 2-persons of *checâre* (/tɕeekâre/) are reported without the symbol for nasalization, while here it has been added following Lussagnet (1962: 58).

- (8) a. a-i-ze (1S), da-i-ze (2S), ch-i-ze (3), a-i-co (1P), da-i-zo (2P)
 ‘to reach’
 b. a-h-i-hi (1S), d-i-hi (2S), ch-i-hi (3), d-i-hi (3.IRLS) ‘to make’
 (causative verb)
 c. a-i-yazore (1S), d-a-zore (2S), ch-i-azore (3) ‘to help, to favour’
 d. a-i-rugu (1S), ch-i-gu (3) ‘to get angry’

Verbs with /u/ as 3-thematic-vowel show the vocalic pattern /u/-/a/-/u/ (9a). In *chuagoz* (/tɕuagos/) (9b) thematic /u/ is replaced by /a/ in the 2-person *dagoz* (/dagos/), where the latter vowel merges with the first root-vowel /a/. In the 1-person, thematic /u/ turns into /w/ (<gu>) in order to prevent the formation of a triphthong, as in (8c). Note that in (9b) /w/ is represented as <gu> by Chomé.

- (9) a. a-u-gau (1S), d-a-gau (2S), ch-u-gau (3) ‘to thread’
 b. a-gu-agoz /a-w-agos/ (1S), d-a-goz (2S), ch-u-agoz (3) ‘to hide’¹⁵⁶

The insertion of -y- (/j/) or the consonantization of /u/ avoid the formation of a triphthong in the 1-person (realis), when the prefix is a vowel and the root begins with a vowel. According to Chomé’s words, this phenomenon was relatively frequent in Old Zamuco, because Chomé refers to two groups of verbs:

“si a la característica del verbo siguiere una y consonante, esta se dexa. *Aiyazore*... patrocinar. 2a *dazore*. 3a *chiazore*.” (Chomé 1958: 148)

“Los actiuos cuya característica, es A, quien sigue una *gu*, la 2a haze *da*, y la 3a *chu*. *Aguagoz*... Esconder. 2a *dagoz*. 3a *chuagoz*.” (Chomé 1958: 148)

¹⁵⁶ In Chomé’s grammar another prefixal verb is reported, but its 2-person (which is supposed to be regular) is not provided: *aumate* (1S), *chumate* (3) ‘to finish’.

Owing to the scarcity of O.Z verbs for which both the 1- and the 3-person are reported, only one further verb with consonantal insertion in the 1-person can be found.

(10) a-i-yozochere (1S), ch-i-ozochere (3) ‘to win, to exceed’

These phenomena of consonantal insertion in the 1-person (realis), which are due to morphophonological constraints, do not occur in the other Zamucoan languages, because the 1-prefix is a consonant in both Ayoreo and Chamacoco.

In Chomé’s grammar there are few examples of verbs with thematic /o/, which is preserved in the whole paradigm and replaces the 1-realis prefix /a/ (see also 12e-f). The verb in (11) should be considered an exception, because it consists of the mere thematic vowel.

(11) o (1S), d-o (2S), ch-o (3), o-co (1P), do-yo (2P) ‘to look like,
to be like’;
ch-o (1S.IRLS), o (2S.IRLS), d-o (3.IRLS), ch-o-co (1P.IRLS),
o-yo (2P.IRLS) ‘to look like, to be like’

§6.4 Prefixal verbs in /t/-

There is a small group of prefixal verbs which take the prefix /t/- in the 3-person. The 3-irrealis of /t/-verbs coincides with the 3-realis. The behaviour of the thematic vowel follows the same rules as in /tɛ/-verbs. In (12b-c) the 1-thematic-vowel /a/ merges with the 1-prefix /a/. In (12e-f) the thematic vowel is /o/: in this case too, the 1-prefix /a/- is replaced by the thematic vowel, consequently the 1S-realis and the 2S-irrealis coincide in (12f). These examples show that vowel-replacement by /o/ in the 1-person is a

phenomenon related to thematic /o/, rather than a particularity of the verb *cho* (/tɕo/) (11). /t/-verbs take the prefix *y-* (/j/-) rather than /tɕ/- for the 1-persons of the irrealis (12). /j/- is the original 1-irrealis prefix used in Proto-Zamucoan, while /tɕ/- is probably an O.Z innovation.

- (12) a. *y-a-que* (1S.IRLS), *t-a-c* (3.RLS/IRLS) ‘to eat’¹⁵⁷
 b. *a-gari* (1S), *t-a-gari* (3.RLS/IRLS) ‘to believe’
 c. *a-gu* (1S), *t-agu* (3.RLS/IRLS) ‘to eat’
 d. *a-i-bidi* (1S), *t-i-bidi* (3.RLS/IRLS) ‘to call’
 e. *o-râ* (1S), *t-o-râ* (3.RLS/IRLS) ‘to bring, to take’
 f. *o-ria* (1S), *d-o-ria* (2S), *t-o-ria* (3.RLS/IRLS), *o-ria* (2S.IRLS)
 ‘to steal’¹⁵⁸

§6.5 Thematic verbs

Few verbs have the 3-person only consisting of the theme. In this small group of thematic verbs, only thematic /i/ is observed. The inflection of the realis is very regular, but the irrealis yields some surprises. The 3-irrealis or *iyague* (/ijage/) corresponds to the verb root *-yague-* (/jage/), but the fortition of /j/ in word-initial position occurs, so that *-y-* (/j/) turns into *-ch-* (/tɕ/). In the 1-irrealis, the prefix is not *ch-* (/tɕ/), but *y-* (/j/) (on this prefix, see §7.1).

- (13) a. *a-i-yague* (1S), *d-a-yague* (2S), *i-yague* (3), *a-i-yague-go* (1P),
d-a-yague-o (2P) ‘to stand up’
y-i-yague (1S.IRLS), ..., *Ø-Ø-chague* (3.IRLS), *y-i-yaguego* (1P.IRLS),

¹⁵⁷ As in Ayoreo, the last vowel of *yirique* (/jirike/) is a default vocoid /e/.

¹⁵⁸ Note that some forms of this verb in Chomé are reported with the symbol of nasality on the last vowel, not to be found here, because nasality is not present in all forms reported by Chomé.

- a-y-agueo (2P.IRLS) ‘to stand up’
- b. a-i-yau (1S), i-yau (3) ‘to stop, to quit’

§6.6 Radical verbs

The last inflectional class is represented by the so-called ‘radical verbs’, whose 3-person consists of the mere root (14-16). The inflectional vowel is /i/ in the 1-person and /a/ in the 2-person. There are radical verbs whose 3-person begins with /t/ (14), y (/j/) (15) or /d/ (15). Root-initial /t/ or y (/j/) remain unchanged in the whole paradigm (14-15), while root-initial /r/ turns into /d/ in the 3-person (16). This change should be considered the fortition of /r/ in word-initial position. The vocalic pattern is the same in both realis and irrealis. The 3-irrealis coincides with the 3-realis. The prefix for the 1-irrealis is not *ch-* (/tɛ/-), but *y-* (/j/-) (14d-16a). In *toi* (/toj/), final *-i* (-/j/) is separated from the root by the plural suffix.

- (14) a. a-i-taña (1S), d-a-taña (2S), Ø-Ø-taña (3) ‘to be strong’
 - b. a-i-tanârâ (1S), d-a-tanârâ (2S), Ø-Ø-tanârâ (3) ‘to tremble’
 - c. a-i-tota (1S),..., Ø-Ø-tota (3), a-i-tota-go (1P), d-a-tota-o (2P) ‘to be blackened’
 - y-i-tota (1S.irl),..., Ø-Ø-tota (3.IRLS) ‘to be blackened’
 - d. a-i-toi (1S),..., Ø-Ø-toi (3) ‘to die, to be dead’
 - y-i-toi (1S.IRLS), a-toi (2S.IRLS), Ø-Ø-toi (3), y-i-to-go-i (1P.IRLS) ‘to die, to be dead’
- (15) a. a-i-yozo (1S), d-a-yozo (2S), Ø-Ø-yozo (3) ‘to need’
 - b. a-i-yuare (1S),..., Ø-Ø-yuare (3) ‘to cry’
- (16) a. y-i-raque (1S.IRLS), Ø-Ø-dac (3.RLS/IRLS) ‘to come’
 - b. a-i-rugut (1S), Ø-Ø-dugut (3.RLS/IRLS) ‘to be fed up’

In conclusion, /tɛ/-verbs differ from the other verbs in the expression of the irrealis. These verbs represent the vast majority of O.Z verbs and take the prefix *ch-* (/tɛ/-) and /d/- for the 1- and 3-irrealis, respectively. By contrast, /t/-verbs, thematic verbs and radical verbs have the 3-realis which coincides with the 3-irrealis and show the prefix *y-* (/j/-) in the 1-irrealis. This was the original prefix used in Proto-Zamucoan. Only /tɛ/-verbs take the prefix *ch-* (/tɛ/-) in the 1-irrealis. This prefix is very similar to the free pronouns for the 1-person *yu* /ju/ (1S) and *yoc* /jok/ (1P). The 2-person is the same for both /tɛ/-verbs and the others.

§6.7 Prefixal verbs in *z-* (/s/-)?

According to Chomé (1958: 150), there is a group of verbs with the following characteristics:

- (1) The 3-realis begins with *z-* (/s/-)
- (2) 3-person-initial *z-* (/s/-) is replaced by /n/ in the 3-irrealis
- (3) The 1-irrealis begins with *z-* (/s/-)

Since 3-person-initial *z-* (/s/-) is replaced by /n/ in the 3-irrealis, one may surmise that *z-* (/s/-) is a 3-prefix and these verbs are prefixal verbs in *z-* /s/-. The prefix /n/- in the 3-irrealis reminds of /d/-, the prefix for the 3-irrealis of O.Z /tɛ/-verbs. In Ayoreo and Chamacoco, /d/ and /n/ can be allomorphs. Another similarity with Old Zamuco /tɛ/-verbs is that the 3-prefix is also the 1-irrealis prefix. This group of verbs could correspond to CH /ts/-verbs, which are morphologically very similar to /tɛ/-verbs.

Nevertheless, there are no data to confirm this hypothesis, because only one example of this type of verb, *zoru* (/soru/) (17), is provided by Chomé, but it is an irregular verb and it is not possible

to decide whether the other verbs of this group shared the same irregularities. For this reason, this verb will be considered a sheer irregularity and should not be considered a prefixal verb. The root of this verb is probably *horu*. Root-initial /h/ undergoes fortition word-initially, where it turns into -z- (/s/) (see also §7.8, ex. 109).¹⁵⁹ The 1-person *ahoru* is irregular, because the 1-vowel is not attested, probably replaced by the prefix /a/. In the irrealis, if -z- (/s/) is not a prefix, the 1-person *zoru* (/soru/) is irregular. The 3-irrealis *noru* is irregular too, if *zoru* (/soru/) is not a prefixal verb, because radical verbs take the prefix y- (/j/-) in the 1-irrealis and do not express the distinction realis vs. irrealis in the 3-person.

- (17) a-horu (1S), zo-ru (3), a-hoco (1P), d-a-hoyo (2P) ‘to close’
 zoru (1S.IRLS), no-ru (3.IRLS) ‘to close’

In conclusion, *zoru* (/soru/) is too irregular to be considered a prefixal or a radical verb, but the fortition occurring in the 3-person *zoru* (/soru/) suggests that it was originally a radical verb which had acquired some features of the prefixal verbs. Owing to lack of data, it is not possible to establish whether the verbs beginning in /s/- mentioned by Chomé formed a group of prefixal verbs in z- (/s/-) or a group of verbs sharing the same irregularities of *zoru* (/soru/).

¹⁵⁹ If *zoru* were a prefixal verb, /h/ would be an insertion. In this case, /o/ would be the thematic vowel. Nevertheless, /h/ insertion was never to be found in the 2-person.

§6.8 Irregular verbs

In this section irregular verbs are discussed. The following verbs are also considered irregular by Chomé (1958: 153-154). The verbs *ina* (18) and *i* (19) are similar to thematic verbs in the 3-person, and, like thematic verbs, also take the prefix *y-* (/j/-) in the 1S-irrealis, but like prefixal verbs they take the prefix /n/- (18) or /d/- (19) in the 3-irrealis. In particular the prefix /n/- is only found in *zoru* /*soru*/ (§6.7). Note that the 1P-irrealis of *ina* (18) and *i* (19) do not take any prefix.¹⁶⁰ These verbs end in the syllable *-na/* (18) or in *-i* (*-j/*) (19), which occur after the plural suffix and behave like a lexical suffix. These elements are rarely observed in Old Zamuco. The vocalic pattern is irregular (18-19). In (18) thematic /o/ is pervasive, but is not preserved in the whole paradigm.

The verb *no* (20) cannot be compared with any other O.Z verb. The forms *bo* and *boyo* (/bojo/) are probably irrealis forms, since, according to Chomé, they are only used for the imperative. The 1P-irrealis of *no* (20) takes the prefix *y-* (/j/-) and the suffix *-go/* is followed by *-i* (*-j/*). The verbs in (18-20) show traces of the prefixes /m/- and /b/- for the 2-irrealis, which are not otherwise found in Old Zamuco. These are the regular 2S-prefixes in Ayoreo.¹⁶¹

- (18) o-na (1S), d-o-na (2S), i-na (3), o-co-na (1P), d-o-yo-na (2P) ‘to roll’
 y-a-hi-na (1S.IRLS), mo-na (2S.IRLS), no-na (3.IRLS),
 i-co-na (1P.IRLS), mo-ño-na (2P.IRLS)

¹⁶⁰ The Ayoreo 1-prefix /j/- may drop when the 1-person is used in irrealis contexts.

¹⁶¹ In Ayoreo these prefixes may drop when the 2S-person is used in irrealis contexts.

(19) oi (1S), doi (2S), i (3), ocoi (1P), doyai (2P) ‘to go’
y-a-hi (1S.IRLS), be (2S.IRLS), doi (3.IRLS), icoi (1P.IRLS),
beyoi (2.IRLS)

(20) a-i-no (1S), no (3) ‘to go’ (translated as *irse* by Chomé)
bo (2S.IMP) / boyo (2P.IMP), y-i-no-go-i (1P.IRLS)

§6.9 Old Zamuco prefixation and conjunct/disjunct systems¹⁶²

This section shows that O.Z verb prefixation shares some similarities with so-called conjunct/disjunct systems, although Old Zamuco has no conjunct/disjunct system itself. A conjunct/disjunct system “is a binary system, with ‘conjunct’ used for first person in statements and second person in questions, while ‘disjunct’ is used for second and third person in statements and first and third person in questions” (Curnow 2002: 611).¹⁶³ Table 6.2 illustrates the distribution of conjunct and disjunct.

¹⁶² I would like to express my gratitude to Balthasar Bickel, for suggesting me many of the ideas on which the present section is based.

¹⁶³ On conjunct/disjunct systems, see, among others, Hale (1980), Hargreaves (1991), Curnow (2002), Bickel & Nichols (2007: 223-224), Bickel (2008), Creissels (2008), Tournadre (2008), Loughnane (2011) and Post (2013). In particular, there is no general consensus on the use of the term ‘conjunct/disjunct’. For a different terminology, see Creissels (2008), Tournadre (2008) and Post (2013).

Table 6.2

	Statements	Questions
1-person	conjunct	disjunct
2-person	disjunct	conjunct
3-person	disjunct	disjunct

(Curnow 2002: 614)

As one can see in Table 6.3, the 1S-realis of *cho* ‘to look like’ (/tɕo/) coincides with the 2S-irrealis. If one considers that (i) the 1S-realis occurs more frequently in positive statements than its irrealis counterpart and that (ii) the 2S-irrealis occurs more frequently in questions than the 2S-realis, then the 1S-realis and the 2S-irrealis correspond to the ‘conjunct’, which is the “speaker in statements and the addressee in questions” (Bickel & Nichols 2007: 223), i.e. the “person who the speaker supposes or claims to be the immediate supplier of the information” (*ibidem*). It is called ‘informant’ by Bickel & Nichols (2007: 223), but can also be called ‘locutor’, ‘assertor’ (see Creissels 2008) or ‘egophoric’ (Tournadre 2008).

Table 6.3

cho ‘to look like, to be like’	
<u>Realis</u>	<u>Irrealis</u>
o (1S)	cho (1S)
do (2S)	o (2S)
cho (3)	do (3)
oco (1P)	choco (1P)
doyo (2P)	oyo (2P)

The 1S-realis and the 2S-irrealis of *cho* (/tɕo/) coincide, but this does not occur in most O.Z verbs, such as *chimecêre* /tɕimesẽre/ (3) ‘to love’. However, 1S-realis and 2S-irrealis share the same morphological device, that is the prefix /a/-. In the 2-person, /a/ fills the slot of the thematic vowel, but was originally the 2-prefix (in the irrealis) or part of it (in the realis). In the 2-person, /a/ has replaced the high thematic vowel, but has been replaced by non-high thematic vowels. In the 1-person, both the prefix /a/- and the thematic vowel are usually preserved (the 1-person of *cho* is an exception).

Table 6.4

chimecêre ‘to love’	
<u>Realis</u>	<u>Irrealis</u>
a-i-mecêre (1S)	ch-i-mecêre (1S)
d-a-mecêre (2S)	a-mecêre (2S)
ch-i-mecêre (3)	d-i-mecêre (3)
a-i-mecê-co (1P)	ch-i-mecê-co (1P)
d-a-mecê-ño (2P)	a-mecê-ño (2P)

The original 2-prefix /a/ is present in all Zamucoan languages, while the 1-prefix /a/ is only found in Old Zamuco and could be an innovation. Old Zamuco also has some exceptions, as in *chize* (/tɕise/) (Table 6.5), where thematic /i/ in the 2-person is not replaced by the prefix-vowel /a/. Unfortunately, the irrealis forms of *chize* are not reported by Chomé, but can be reconstructed by means of his grammatical description (Table 6.5).¹⁶⁴ In this case, the 1S-real is and the 2S-irrealis coincide.

¹⁶⁴ According to Chomé (1958: 149), the 2S-irrealis “se haze de la 2a persona

Table 6.5

chize ‘to reach’	
<u>Realis</u>	<u>Irrealis</u>
a-i-ze (1S)	*ch-i-ze (1S)
da-i-ze (2S)	*a-i-ze (2S)
ch-i-ze (3)	*d-i-ze (3)
a-i-co (1P)	*ch-i-co (1P)
da-i-zo (2P)	*a-i-zo (2P)

In Ayoreo too, which shows a disappearing realis vs. irrealis distinction, the 1S-realism and the 2S-irrealism used to coincide in verbs with non-high thematic vowels. However, in both Ayoreo and Old Zamuco, despite the above reported similarities, there is no conjunct/disjunct system. First, the uses of the 1S-realism and the 2S-irrealism do not correspond to the conjunct in negative or future-referring statements. For instance, the 2S-irrealism is also used in negative statements or in imperative contexts where it does not refer to the informant. Second, the correspondence between the 1P-realism and the 2P-irrealism is only to be found in prefixation, because they have different suffixes in both Ayoreo and Old Zamuco. Third, in a conjunct/disjunct system (see Table 6.3) the disjunct person includes the 1-person and the 3-person in questions, the 2-person and the 3-person in statements, which share the same morphological devices. This is not the case in either Ayoreo or Old Zamuco.

del mismo singular [2S-realism], quitando la *d*.” In other word, the 2-irrealism is identical to the 2-realism, but it lacks initial /d/. The same is true of the 2P-realism and irrealism.

To conclude, Ayoreo and Old Zamuco do not have a full-fledged conjunct/disjunct system, although the verb forms which refer to the informant can coincide to some extent. This can explain the use of the original 2-irrealis prefix /a/- in the 1-realis of Old Zamuco, a feature which is not to be found in the other Zamucoan languages. One logical hypothesis that one is invited to put forth is that, possibly, Proto-Zamucoan (or maybe a later stage of the ancestral language out of which all the Zamucoan languages have emerged) had a conjunct/disjunct system, which has survived in somewhat reduced form until the modern era.¹⁶⁵

§6.10 On the correspondence of Old Zamuco verbs in Ayoreo and Chamacoco

The present section lists the verbs from Chomé's grammar *Arte de la lengua zamuca* and the corresponding AY and CH verbs (Table 6.6). The 1S-person and the 3-person of each verb are indicated (provided these forms are found in Chomé's grammar). Verbs are ordered according to the Old Zamuco 3-person. If the latter is not reported, verbs are ordered according to the 1S-person. If a verb is uninflectable, the person is not indicated in the gloss. When the symbol Ø appears alone in a cell, no cognate has been found in Ayoreo or Chamacoco. The data reported in this section are discussed in more detail in §6.10 and in chapter §7, where the verb morphology of the Zamucoan languages is compared.

¹⁶⁵ The same overlap between 1S-realis and 2S-irrealis is found in Chorote (Mataguayan), so that this could be the result of language contact taking place at a very remote period, see Ciucci (2014b) and Ciucci & Bertinetto (submitted).

Table 6.6

OLD ZAMUCO	AYOREO	CHAMACOCO
a-i-mo (1S) 'to see; to sleep'	ɬe-i-mo (3) 'to see', Ø-Ø-mo (3) 'to sleep', ɲ-i-mo (1S) 'to see; to sleep'	tok-o-mo / tuk-u-mo (1S), u-mo (3) 'to sleep; to see'
a-i-nuzi (1S) 'to remember'	Ø-Ø-ɲusina (3), ɲ-u-ɲusina (1S) 'to remember' cf. also Ø-Ø-ɲusi (3) 'to be sad, to miss someone/something'	Ø
a-i-piazu (1S) 'to do'	j-i-pesu (1S), Ø-Ø-pesu (3) 'to make, to do'	Ø
a-i-poc (1S) 'to be ashamed'	ɬe-i-pogu (3), j-i-po-gu (1S) 'to hide, to conceal'	tik-i-po:k (1S), Ø-Ø-po:k (3) 'to be ashamed'
a-i-yo (1S) 'to fly'	Ø-Ø-ɬeo (3), j-i-jo (1S) 'to jump, to leap, to fly'	tik-i-jo (1S), i-jo (3) 'to jump, to fly'
a-i-yotare (1S) 'to be warm', ¹⁶⁶	Ø	Ø
a-nnire (1S) 'to scuttle, to bore'	ɲ-a-nire (1S), ɬe-a-nire (3) 'to bawl out, to scold'	Ø
a-o-z (1S) 'to cast out'	Ø-Ø-sose / ɬe-ose (3),	Ø

¹⁶⁶ On this verb, see Kelm (1964: 776, note 186).

	j-i-hose (1S) ‘to push (the enemy) back; to squeeze’	
arocore (1S) ‘to do something slowly’	Ø	Ø
a-u-cêrê (1S) ‘to point’	te-u-sêre (3), jusêre (1S) ‘to point’	Ø
bec ‘to rain’	beke ‘to rain’	ibik ‘to rain’
ch-a-mata (3), a-mata (1S) ‘to choose’	te-a-mata / te-i-mata (3), n-a-mata / n-i-mata (1S) ‘to collect’	ts-a-mita (3), t-a-mita (1S) ‘to put together, to collect’
ch-a-ecâre (3), a-ecâre (1S) ‘to change’	te-e-kâre (3), j-e-kâre (1S) ‘to change, to replace’	Ø
ch-a-ôrâ (3), a-ô-râ (1S) ‘to praise’	Ø	Ø
ch-e-câre (3), a-e-câre (1S) ‘to follow’	Ø	Ø
ch-e-yac (3), a-e-yac (1S) ‘to guide’	te-i-ṇak (3), n-i-ṇak (1S) ‘to lead, to guide’	Ø
ch-i-azore (3), a-i-yazore (1S) ‘to help, to favour’	te-o-sôre (3), n-o-sôre (1S) ‘to provide comfort by helping, to pity by helping’	ts-o-sir (3), tok-o-sir (1S) ‘to help, to favour’ (also: tsosîr)
Ø-Ø-chigu (3), a-i-rugu (1S)	te-u-runu / te-u-gu / te- u-suru / Ø-Ø-suru	Ø

‘to get angry’	(3), <i>ɲ-u-ruɲu</i> / <i>ɲ-u-suruɲu</i> (1S) ‘to pout at, to act disgusted’	
ch-i-hi (3), a-hihi (1S) ‘to make’ (causative verb)	Ø	ɛ-u: (3), t-u: (1S) ‘to make’ (causative verb)
ch-i-mecêre (3), a-i-mecêre (1P) ‘to love’	ɬe-i-mesêre (3), <i>ɲ-i-mesêre</i> (1S) ‘to want, to prefer’	ts-a-mur (3), t-a-mur (1S) ‘to love’
ch-i-micêre (3), a-i-micêre (1S) ‘to fish (with bait)’	ɬe-i-mesêre <i>gaj</i> (3), <i>j-i-mesêre</i> <i>gaj</i> (1S) ‘to sprinkle’ ¹⁶⁷	ɬe-e-ɛer (3), t-e-ɛer (1S) ‘to fish’
ch-i-zau (3), a-i-zau (1S) ‘to take’	ɬe-i-sa (3), <i>j-i-sa</i> (1S) ‘to pick up, to grab, to accept’	ɬe-i-ɛew (3), t-i-ɛew (1S) ‘to hold, to take, to grab’
ch-i-ze (3), a-i-ze (1S) ‘to reach’	ɬe-i-se (3), <i>j-i-se</i> (1S) ‘to find, to meet, to reach’	ɬe-i-ɛ (3), t-i-ɛ (1S) ‘to meet, to reach’
ch-o (3), o (1S) ‘to look like, to be like’	ɬe-o (3), <i>j-o</i> (1S) ‘to be like, to sound like’	itso (3), Ø (1S) ‘to be like, to look like’
ch-u-agoz (3), a-gu-agoz (1S) ‘to hide, to conceal’	ɬe-a-kose (3), <i>j-a-kose</i> (1S) ‘to hide, to conceal’	ts-a-kis (3), t-a-kis (1S) ‘to hide, to conceal’
ch-u-gau (3), a-u-gau (1S) ‘to thread’	ɬe-u-ga (3), <i>j-u-ga</i> (1S) ‘to sew, to mend’	Ø

¹⁶⁷ According to Kelm, O.Z. *chimicêre* (/ɬeimesêre/) corresponds to AY *chimesêre gai* /ɬeimesêre *gaj*/ ‘to sprinkle’, see Kelm (1964: 774 and 448, note 76).

ch-u-mate (3), a-u-mate (1S) ‘to finish’	te-i-mate (3), n-i-mate (1S) ‘to finish, to complete’	te-i-mit (3), t-i-mit (1S) ‘to finish, to complete’
Ø-Ø-dac (3), y-i-raque (1S.IRLS) ‘to come’	Ø-Ø-dike (3), j-i-rike (1S) ‘to walk’	d-i-rk (3), tik-i-rk (1S) ‘to walk’
dahat ‘to boil’	dahate ‘to boil’	dahat ‘to boil’
Ø-Ø-dugut (3), a-i-rugut (1S) ‘to be fed up’	Ø-Ø-kuta (3), j-u-kuta (1S) ‘to be fed up, to be lazy’	Ø
i (3), o-i (1S) ‘to go’	d-o-j (3), j-i-hi / ji (1S) ‘to bring, to do, to get (to go to bring)’	i: (3), tak-a-hi? (1S) ‘to go to bring, to get’
i-na (3), o-na (1S) ‘to roll/to go round’	Ø-Ø-nona / te-i-ṇina (3), j-i-ṇina (1S) ‘to accompany, to go with’ (also: teihina)	ĩ-ja (3), tok-õ-ja (1S) ‘to accompany’
i-yague (3), a-i-yague (1S) ‘to stand up’	Ø-Ø-teage (3), j-i-jage (1S) ‘to stand up’	i-jehet (3), t-i-jehet / tik-i-jehet / tik-i-jehet (1S) ‘to stand, to stand up’
i-yau (3), a-i-yau (1S) ‘to stop, to quit’	Ø-Ø-tea (3), j-i-ja (1S) ‘to stop, to quit’	i-jehe (3), t-i-jehe / tik-i-jehe (1S) ‘to stop’
no (3), a-i-no (1S) ‘to go’	ṇo (3), j-i-hi / ji (1S) ‘to go, to leave’	ṇo (3), tak-a-ha (1S) ‘to go’
i-zi (3), o-zi (1S) ‘to give’	te-i-si (3), j-i-si (1S) ‘to give’	i-ɛi (3), tok-o-ɛi (1S), ‘to pay; to give’
t-a-c (3), y-a-que (1S.IRLS) ‘to eat’	t-a-ke (3), j-a-ke (1S) ‘to eat’ (also: tak)	t-a:-k (3), tak-a:-k (1S) ‘to eat’
t-a-gari (3), a-gari (1S),	t-a-ṇari (3), n-/j-aṇari	t-ẽ-r (3), tãk-ĩ-r (1S)

‘to believe’	(1S) ‘to listen to, to pay attention to, to obey to’	‘to listen to’
t-a-gu (3), a-gu (1S) ‘to eat’	t-a-gu (3), j-a-gu (1S) ‘to eat, to bite’	t-e-w (3), t-a-w (1S) ‘to eat’
Ø-Ø-taña (3), a-i-taña (1S) ‘to be strong’	Ø-Ø-taja (3), j-i-taja (1S) ‘to be strong, to be firm’	Ø
Ø-Ø-tanârâ (3), a-i-tanârâ (1S) ‘to tremble’	Ø-Ø-târara (3), j-i-târara (1S) ‘to tremble; to shake involuntarily’	Ø
Ø-Ø-tata (3), y-i-tata (1S.IRLS) ‘to say, to tell’	te-a-tata (3), j-a-tata (1S) ‘to advise; to tell’	t-a-ta (3), t-i:-ta (1S) ‘to say, to report’
t-i-bidi (3), a-i-bidi (1S) ‘to call’	t-i-bidi (3), j-i-bidi (1S) ‘to call, to summon’	t-i-bi: (3), tik-i-bi: (1S) ‘to call, to summon’
Ø-Ø-tocade (3), a-i-tocade (1S) ‘to come out, to happen’	tokade ‘to come out, to happen’	Ø-Ø-tokole (3), tik-i-tokole / tik-i-tokole (1S) ‘to exit, to come out, to happen’
Ø-Ø-toi (3), a-i-toi (1S) ‘to die, to be dead’	Ø-Ø-to-j (3), j-i-to-j (1S) ‘to die’	Ø-Ø-toj (3), tik-i-ti / tuk-wi-ti (1S) ‘to die’
t-o-râ (3), o-râ (1S) ‘to bring, to take’	t-õ-ra (3), j-õ-ra (1S) ‘to throw out’	t-ã-ra (3), tok-õ-ra (1S) ‘to come from; to throw’
t-o-ria (3), o-ria (1S) ‘to steal’	t-o-ria (3), j-o-ria (1S) ‘to steal, to rob’	t-o-ṛa (3), tok-o-ṛa (1S) ‘to steal, to rob’
Ø-Ø-tota (3), a-i-tota (1S)	Ø	Ø

‘to be blackened’ ¹⁶⁸		
Ø-Ø-yozo (3), a-i-yozo (1S) ‘to need’	Ø-Ø-ɲusi (3), ɲ-u-ɲusi (1S) ‘to be sad, to miss someone/something’	Ø
Ø-Ø-yuare (3), a-i-yuare (1S) ‘to cry’	Ø-Ø-juare (3), j-u- juare (1S) ‘to wail, to grieve with mournful crises, to lament’	Ø-Ø-jeɾ (3), tɪk-i-jeɾ (1S) ‘to cry’
zoru (3), a-horu (1S), ‘to close’	Ø-Ø-su(ru) / tɛ-u-hu(ru) (3), j-u-hu(ru) (1S) ‘to close (in), to shut in’	Ø

§6.11 Verb suffixation in Old Zamuco and in the other Zamucoan languages

This section deals with verb suffixation in the Zamucoan languages. When no substitution occurs, the series of suffixes is *-/go/* and *-/o/* in Old Zamuco and *-/go/* and *-/jo/* in Ayoreo. When there is substitution of the final syllable or consonant by the plural suffix, in Ayoreo the standard series is *-/ko/*, *-/tɛo/* but also *-/ho/* (1P) or *-/so/* (2P) can be used. In Old Zamuco the suffix is *-co* (*-/ko/*) or *-ho* for the 1P-person, while in the 2P-person *-cho* (*-/tɛo/*), *-yo* (*-/jo/*), *-ño* (*-/ɲo/*) or *-zo* (*-/so/*) can be used (depending on the context). The mobile syllables in Old Zamuco generally correspond to the AY ones. The inventory of the mobile syllables in Old

¹⁶⁸ On this verb, see Kelm (1964: 774, note 179).

Zamuco seems to be less numerous than in Ayoreo, but this could depend on scarcity of data.

I will first discuss the functional need for a suffix in the verb structure of the Zamucoan languages. In Old Zamuco only the first two persons are distinguished by prefixation. In (21) The suffixes *-co* (*-/ko/*) and *-ño* (*-/no/*) are added to obtain the plural of the 1- and the 2-person, respectively. The same suffix is used for both realis and irrealis. As in Ayoreo, there is no 3-person suffix, so that there is no morphological difference between the 3-person singular and plural. In both Old Zamuco (21) and Ayoreo (22) 1-person, the prefix is the same for the singular and the plural, so that the 1P-suffix is necessary to distinguish the 1P-person from the 1S-person. The same is true of the 2-person in Old Zamuco. By contrast, the Ayoreo 2P-suffix is often unnecessary, because the 2-person singular and plural have two different prefixes, but one has to consider that the 2-prefixes fall in the AY irrealis. For this reason, in the irrealis the 2P-suffix helps to distinguish the 2P-person from the 2S-person.¹⁶⁹ The Chamacoco 2P-person is obtained by adding the suffix *-/lo/* to the 2S-person: e.g. *chish* /tɕiɕ/ (3) ‘to meet’, *esh* /eɕ/ (2S) → *eshlo* /eɕlo/ (2P). *-/lo/* is also used to obtain the greater plural of the 1PI-person: *yish* /jiɕ/ (1PI) → *yishlo* /jiɕlo/ (1PI.GP). The latter form has no counterpart in the other Zamucoan languages, because they do not display the clusivity split, which is a CH innovation. The possible origins of CH *-/lo/* are discussed in §14.3.6. As will be shown in (§7.9), Chamacoco shows some traces of the Proto-Zamucoan 1P-suffix **-/ko/*, which has disappeared in this language, but is to be found in Ayoreo and Old Zamuco.

¹⁶⁹ See Kelm (1964: 775-776).

(21) Old Zamuco: ch-i-mecêre (3.RLS) ‘to love’

Realis: a-i-mecêre (1S.RLS) → a-i-mecê-co (1P.RLS)
 d-a-mecêre (2S.RLS) → d-a-mecê-ño (2S.RLS)
 ch-i-mecêre (3.RLS)

Irrealis: ch-i-mecêre (1S.IRLS) → ch-i-mecê-co (1S.IRLS)
 a-mecêre (2S.IRLS) → a-mecê-ño (2S.IRLS)
 d-i-mecêre (3.IRLS)

(22) Ayoreo: tɛ-i-mesêre (3) ‘to want, to prefer’

(n)-i-mesêre (1S) → (n)-i-mesê-ko (1P)
 (m)-a-mesêre (2S) → (wak)-a-mesê-tɛo (2P)

As in Ayoreo, O.Z verb suffixation depends on the interaction between the final element (the last syllable or consonant of the root) and the suffix. One has to distinguish the suffixes which are added to the verb without any substitution from the suffixes which substitute one or more final elements (see the “mobile syllables” described in §4.8). In the following paragraphs the suffixation of Old Zamuco will be discussed and compared with AY suffixation.

In Old Zamuco, when no final element is replaced by the plural suffix, the suffixes *-go/* and *-o/* are added in the 1P-person and the 2P-person respectively. The suffix *-go/* is the same as in Ayoreo, while *-o/* corresponds to the AY suffix *-jo/* (23).

(23) a. O.Z. a-i-tota (1S) → a-i-tota-go (1P), d-a-tota-o (2P)

‘to be blackened’

b. O.Z. a-i-yague (1S) → a-i-yague-go (1P), d-a-yague-o (2P)

‘to stand’

c. Ay. j-i-jage (1S) → j-i-jage-go (1P), j-i-jage-jo (2P) ‘to stand up’

Verbs ending in a mobile syllable take the suffixes *-ko/* (1P) and *-tɛo/* (2P) in Ayoreo, which correspond to *-co* (*-ko/*) (1P), *-yo* (*-jo/*) (2P), *-ño* (*-ɲo/*) (2P) or *-cho* (*-tɛo/*) (2P) in Old Zamuco. The suffix *-cho* (*-tɛo/*) has a limited use in Old Zamuco, while in Ayoreo it is the standard suffix used when the substitution of the final syllable or consonant occurs. O.Z. *-yo* (*-jo/*) or *-ño* (*-ɲo/*) corresponds to the Ayoreo 2P-suffix used when no final element is substituted.

When the last syllable is *-re/* or *-ru/*, a substitution occurs in O.Z. verbs. In this case, the suffixes *-co* (*-ko/*) and *-yo* (*-jo/*) are used for the 1P-person and 2P-person, respectively. *-yo* (*-jo/*) possibly nasalizes into *-ño* (*-ɲo/*).

A substitution can also occur in AY verbs ending in *-re/* or *-ru/*.¹⁷⁰ In this case, the 1P-suffix and the 2P-suffix are *-co* (*-ko/*) and *-cho* (*-tɛo/*), respectively. The latter suffix does not correspond to the Old Zamuco 2P-suffix *-yo* (*-jo/*) or *-ño* (*-ɲo/*). In Ayoreo the verb *suru* or *chujuru* /tɛuhuru/ (24h) is an exception. Its final syllable *-ru/* is replaced by the plural suffix. The 1P-person is regular, whereas *-tɛo/* and *-jo/* alternate in the 2P-plural. Both *-tɛo/* and *-jo/* replace the last syllable *-ru/*. The comparison with Old Zamuco shows that the 2-person suffix *-jo/* in (24h) is a relic. In this context, the original 2P-suffix was probably *-jo/*, which has been replaced by *-tɛo/* (see also §14.3.14).

- (24) a. O.Z. *arocore* (1S) → *aroco-co* (1P), *daroco-ño* (2P)
 ‘to do something slowly’¹⁷¹

¹⁷⁰ In Ayoreo the substitution is also observed for the syllables *-ra/*, *-ri/* and *-ro/*.

¹⁷¹ The presence of *-ño* (*-ɲo/*) in *darocoño* /darokoɲo/ is not clear. Chomé probably omits nasalization on *arocore*.

- b. O.Z. annire (1S) → anni-co (1P), dani-ño (2P) ‘to scuttle, to bore’
- c. Ay. janire (1S) → jani-ko (1P), jani-teo (2P) ‘to bawl out, to scold’
- d. O.Z. aucêrê (1S) → aucê-co (1P), dacê-ño (2P) ‘to point’
- e. Ay. jusêre (1S) → jusê-ko (1P), wakasê-teo (2P) ‘to point’
- f. O.Z. aiyotare (1S) → aiyotâ-co (1S), dayota-ño (2P) ‘to be warm’
- g. O.Z. ahoru (1S) → aho-co (1P), daho-yo (2P) ‘to close’
- h. Ay. juhu(ru) (1S) → juhu-ko (1P), wakahu-teo/-jo (2P) ‘to cover, to close’

In O.Z verbs, final *-z* (*-/s/*), *-zi* (*-/si/*) or *-zu* (*-/su/*) are replaced by the suffix *-co* (*-/ko/*) in the 1P-person. In the 2P-person, *-yo* (*-/jo/*) is added and */j/* is absorbed by *-z* (*/s/*), thus yielding *-zo* (*-/so/*). In Ayoreo also the syllables *-/sa/* and *-/so/* can be substituted.

- (25) O.Z. aoz (1S) → ao-co (1P), dao-z-o (2P) ‘to cast out’¹⁷²
 Ay. jihose (1S) → jiho-ko (1P), wakaho-so (2P) ‘to push the enemy back; to squeeze’
 O.Z. aize (1S) → aico (1P), daizo (2P) ‘to reach’
 Ay. jise (1S) → ji-ko (1P), wake-so (2P) ‘to find, to meet, to reach’
 O.Z. ainuzi (1S) → ainucoi (1P), danuzoi (2P) ‘to remember’
 Ay. j-u-ṇusi (1S) → j-u-ṇusi-ṇo/ j-u-ṇu-ko-j (1P), wak-a-ṇusi-ṇo / wak-a-ṇu-so-j (2P) ‘to be sad, to miss someone/something’
 O.Z. aipiazu (1S) → aipiaco (1P), dapiazo (2P) ‘to do’
 Ay. j-i-pesu (1S) → j-i-pe-ko / j-i-pe-ho (1P), wak-a-pe-so (2P) ‘to make, to do’

In O.Z verbs ending in */k/*, the final consonant is replaced by the suffixes *-ho/* (1P) and *-cho* (*-/teo/*) (2P), corresponding to AY *-/ho/*

¹⁷² On this verb, see Kelm (1964: 776).

and *-tɕo/*. O.Z. *-ho/* is an allomorph of *-co* (*-ko/*), like its AY counterpart. The difference is that AY *-ho/* is not restricted to verbs ending in *-k/*, but may also be used when the consonant of the final syllable *-CV* is a velar stop, as in (26).

(26) O.Z. *aipo-c* (1S) → *aipo-ho* (1P), *dapo-cho* (2P) ‘to be ashamed’

Ay. *jipo-gu* (1S) → *jipo-ho* (1P), *wakapo-tɕo* (2P) ‘to hide,
to conceal’

In conclusion, the Old Zamuco 1P-suffixes are *-co* (*-ko/*) and *-go/*, which correspond to the AY suffixes *-ko/* and *-go/*. In both Ayoreo and Old Zamuco, the suffixes *-ko/* has the allomorph */ho/*. The Old Zamuco 2P-suffixes are *-o/*, *-yo* (*-jo/*), *-cho* (*-tɕ/*) and *-zo* (*-so/*), while the AY suffixes are *-jo/*, *-tɕo/* and *-so/*. The Old Zamuco 2P-suffix *-o/* has no corresponding AY suffix, where *-jo/* is to be found when no substitution occurs. Note that O.Z. *-yo* (*-jo/*) is only used when the verb ends in a mobile syllable. As will be shown in (§14.3.14), the suffixes *-tɕo/* and *-so/* derive from *-jo/*: when *-jo/* was added to a root in */k/* this consonant palatalized into */tɕ/*, thus originating *-tɕo/*. When *-jo/* was added to a root in *-s/*, */s/* absorbed */j/*, thus originating *-so/*. This mechanism has also been extended to other roots with the same consonants in pre-final position (such as verbs ending in *-si/* and *-su/*) and *-tɕo/* and *-so/* have become two independent suffixes. This suggests that Ayoreo has probably lost the suffix *-o/* and consequently it only used the suffix *-jo/* for the 2P-person. Then, the 2P-person *-jo/* has been preserved when no substitution occurred, while it has turned into *-tɕo/* and *-so/* if used after a mobile syllable. On the 2P-suffixes, see also (§14.3.14).

§6.12 Conclusions

In this chapter O.Z verb morphology has been discussed. Old Zamuco has the same verb groups found in Ayoreo and Chamacoco: prefixal verbs (/tɛ/-verbs and /t/-verbs), thematic verbs and radical verbs. The vocalic pattern is usually regular. O.Z verb inflection shows a realis vs. irrealis opposition in the whole paradigm. Old Zamuco is very conservative in this respect, because the realis vs. irrealis opposition has partly been lost in Ayoreo and Chamacoco. The verb prefixation of Old Zamuco will be compared with Ayoreo and Chamacoco in the next chapter. O.Z plural suffixes correspond to AY plural suffixes, but not to the CH suffix -/lo/. O.Z and AY plural suffixes will be compared in §14.3.14.

§7 Verb inflection in the Zamucoan languages

The present chapter compares the verb inflection of Old Zamuco, Ayoreo and Chamacoco. A detailed comparison between O.Z and AY verb morphology can be found in Kelm (1964: 770-802, 803-804), although part of the terminology and the categories employed in his study have to be revisited. For this reason, I will mainly focus on the comparison of Old Zamuco and Ayoreo with Chamacoco. Personal pronouns have been compared in (§3.2).

Verbal suffixation has been discussed in (§6.11). All Zamucoan languages have a prefix, a thematic vowel, a root and a plural suffix. One can note many similarities in the person prefixes (§7.1) and in the thematic vowel (§7.2). A given verb tends to belong to the same inflectional class in all Zamucoan languages, but in some cases regular correspondences between different groups of verbs are to be found. O.Z and AY /tɛ/-verbs correspond to CH /tɛ/- and /ts/-verbs. Some examples are shown in §7.2, where the thematic vowel in the Zamucoan languages are compared. Section §7.3 deals with CH /ɛ/-verbs and AY /tɛ/-verbs (§7.3). In Chamacoco there is a big class of /t/-verbs, corresponding to AY and O.Z /t/-verbs (§7.4), but also to other AY verb classes (§7.5). CH /d/-verbs correspond to AY prefixal or radical verbs (§7.6). Thematic verbs are present in Old Zamuco and Chamacoco, but generally correspond to AY radical verbs (§7.7). Radical verbs are discussed in §7.8. One can find an explanation for many features of irregular verbs (§7.9). Some correspondences between Zamucoan languages can also be found in defective verbs (§7.10). Two possible derivational mechanisms, which are no longer productive, are compared in §7.11 and §7.12.

§7.1 Person prefixes

This section focuses on personal prefixation: verb suffixation has been discussed in (§6.11). The verb system of the Zamucoan languages is exemplified in (Table 7.1-7.3). The personal pronouns have been compared in (§3.2).

Table 7.1. Old Zamuco verb inflection

Old Zamuco: chimecêre ‘to love’	
<u>Realis</u>	<u>Irrealis</u>
a-+V+ROOT / a-i-mecêre (1S)	ch-/z-/y-+V+ROOT / ch-i-mecêre (1S)
d-+V+ROOT / d-a-mecêre (2S)	Ø+V+ROOT / Ø-a-mecêre (2S)
ch-/t-/z-/Ø+(V)+ROOT / ch-i-mecêre (3)	d-/n-/Ø+(V)+ROOT / d-i-mecêre (3)
a-+V+ROOT+SUFF / a-i-mecê-co (1P)	ch-/z-/y-+V+ROOT+SUFF / ch-i-mecê-co (1P)
d-+V+ROOT+SUFF / d-a-mecê-ño (2P)	Ø+V+ROOT+SUFF / Ø-a-mecê-ño (2P)
ore ch-/t-/z-/Ø+(V)+ROOT / ore ch-i-mecêre (3P)	ore d-/n-/Ø+(V)+ROOT / ore d-i-mecêre (3P)

Table 7.2. Ayoreo verb inflection

Ayoreo: chimesẽre /tɛimesere/ ‘to want, to prefer, to receive, to accept’	
<u>Realis</u>	<u>Irrealis</u>
[Ø-V+ROOT / i-mesẽre (1S)] ¹⁷³	j-/ɲ-+V+ROOT / ɲ-i-mesẽre (1S)
b-/m-+V+ROOT (2S) / m-a-mesẽre	Ø-V+ROOT / a-mesẽre (2S)
tɛ-/t-/Ø+(V)+ROOT / tɛ-i-mesẽre (3)	Ø
[Ø-V+ROOT+SUFFIX / i-mesẽ-ko (1P)]	j-/ɲ-+V+ROOT+SUFFIX / ɲ-i-mesẽ-ko (1P)
wak-+V+ROOT+SUFFIX / wak-a-mesẽ-tɛo (2P)	Ø-V+ROOT+SUFFIX / a-mesẽ-tɛo (2P)
ore tɛ-/t-/Ø+(V)+ROOT / ore tɛ-i-mesẽre (3P)	Ø

¹⁷³ In currently spoken Ayoreo, realis and irrealis tend to merge, in particular in the 1-person (see §4.2). For this reason, the 1-real is indicated in square brackets.

Table 7.3. Chamacoco verb inflection

Chamacoco: sahmur /tsamur/ ‘to want, to like, to love’	
<u>Realis</u>	<u>Irrealis</u>
t-/tVk-/V+ROOT / t-a-mur (1S)	Ø
Ø+V+ROOT / a-mur (2S)	Ø
tc-/ts-/t-/d-/n-/l-/j-/Ø+(V)+ROOT / ts-a-mur (3)	d-/t-/Ø+(V)+ROOT / n-a-mur (3)
j-/V+ROOT / j-a-mur (1PI)	Ø
j-/V+ROOT+-lo / j-a-mur-lo (1PI.GP)	Ø
o-/j-/V+ROOT / o-j-a-mur (1PE)	Ø
Ø+V+ROOT+lo / a-mur-lo (2P)	Ø
o-/tc-/ts-/t-/d-/n-/l-/j-/Ø+(V)+ROOT / o-ts-a-mur (3P)	o-/d-/t-/Ø+(V)+ROOT / o-n-a-mur (3P)

The 1S-prefix /tVk/- or /t/- of Chamacoco and the 1-realis prefix /a/- of Old Zamuco are not related to any other person prefix. The 1-prefix /j/- of Ayoreo corresponds to the Chamacoco 1PI-person /j/- (this element, preceded by /o/-, is also present in the 1PE-person) and to the Old Zamuco 1-irrealis prefix *y-* (/j/-). Also AY /j/- tends to be used in irrealis contexts, but *y-* (/j/-) is not frequently used in Old Zamuco, where the predominant 1-irrealis prefix is *ch-* (/tc/). However, the 1-prefix /j/-, found in all Zamucoan languages, was the original 1-prefix, probably used in irrealis contexts.¹⁷⁴ Although /tc/- is the most frequent prefix for the

¹⁷⁴ See also Bertinetto (2011a: 6).

1-irrealis, it only occurred with /tɕ/-verbs. This suggests that /tɕ/- is probably an O.Z innovation.¹⁷⁵

However, there is also another hypothesis. As noted in §6.2, according to Bertinetto (2011a: 5), *ch-* could correspond to [ɕ], allophone of /j/, in the 1-person. The fact that one only finds the 1-prefix /j/- in /t/-verbs, radical verbs and irregular verbs, which are far less frequent than /tɕ/-verbs, may suggest the following intriguing hypothesis: Chomé might have asked his informants to confirm the pronunciation of these less representative paradigms and this might have induced a hyperarticulation behaviour that preserved the prototypical form of the morpheme /j/-.¹⁷⁶

The prefix /j/- is very similar to the 1-pronouns: O.Z (u)yu (/uju/) (1S), (u)yoc (/ (u)jok/) (1P); AY (u)yu / (u)ju/ (1S), (u)yoc / (u)jok/ (1P); CH yok /jok/ (1S), eyok /ejok/ (1PI), òryok /òrjok/ (1PE). The 1-prefix /j/- can nasalize into [ɲ] in both Ayoreo and Chamacoco.¹⁷⁷

The Chamacoco 2-person has no prefix, like the Old Zamuco 2-irrealis and the Ayoreo 2-irrealis (where the prefix tends to fall), so that Chamacoco corresponds to the O.Z and AY irrealis in the 1- and 2-person. The 2-prefix /d/- of Old Zamuco is not observed in the other Zamucoan languages. The Ayoreo 2S-prefix /b/- or /m/- is usually not used in the other Zamucoan languages, but /b/- and /m/-

¹⁷⁵ This is confirmed by data on the possessive inflection of Old Zamuco, see (§11.1).

¹⁷⁶ I am grateful to Pier Marco Bertinetto for this suggestion.

¹⁷⁷ [ɲ] and [j] are allophones in Chamacoco, while they correspond to two phonemes in Ayoreo. The AY prefixes /j/- and /ɲ/- are allomorphs. One can compare the Zamucoan prefix /j/- with the 1S-person prefix *y-* (/j/-) reported in Chiquitano verb morphology (cf. Galeote Tormo 1993: 146ff.). On Chiquitano, see also Sans (2013).

are actually to be found as 2-prefixes in some exceptions, such as CH *iim* /i:-m/ ‘to leave’.¹⁷⁸ See also (§7.9) for more examples.

- (1) Ay. *j-i-hi(n)o-me* (1S), *b-a-hi(n)o-me* (2S), *Ø-Ø-nono-me* (3),
j-i-hi(n)o-ŋo-me (1P), *wak-a-hi(n)o-ŋo-me* (2P) ‘to leave’
 Ch. *tok-oj-m* (1S), *m-oj-m* (2S), *i:-m* (3), *j-u-kwim* (1PI),
o-j-u-kwim (1PE), *m-oj-m-lo* (2P), *oj-m* (3P), *n-oj-m* (3.IRLS)
 ‘to leave’

In Ayoreo, prefixation shows a distinction between the 2S-person and the 2P-person, which is not to be found in the other Zamucoan languages. The 2P-prefix /wak/- (which drops in irrealis contexts) is probably an AY innovation and derives from the corresponding free pronoun *uwac* /uwak/ or *uac* /wak/ (2P): cf. O.Z *(u)guac* (/ (u)wak/) (2P), CH *olak* (2P). Note that in this case the Ayoreo 2P-person suffix (-/təo/ or -/jo/) is not strictly necessary (at least in realis contexts), because the prefix alone is enough to distinguish the 2S-person from the 2P-person.

In all Zamucoan languages the 3-person is the basis of the paradigm and the verb class depends on the morphology of the 3-person. In all Zamucoan languages the largest group of verbs takes the prefix /tə/- in the 3-person. AY and O.Z /tə/-verbs correspond to both CH /tə/- and /ts/-verbs. Old Zamuco probably had verbs taking the prefix *z-* (/s/-) in the 3-person, but given the lack of data it is not possible to decide whether they are related to CH /ts/-verbs. CH /tə/- and /ts/-verbs and O.Z /tə/-verbs show the realis vs. irrealis distinction in the 3-person, which has been lost in

¹⁷⁸ According to Greenberg (1987: 49), /m/ is a very widespread 2-person marker in the American languages. See Comrie *et al.* (2010: 106) for the presence of /m/ as 2-person marker in other Chaco languages.

Ayoreo. In Chamacoco and Old Zamuco, the 3-irrealis prefix is /d/-, which turns into /n/- in nasal-harmony contexts.

All Zamucoan languages have prefixal verbs beginning with /t/- and radical verbs. These groups of verbs have similar morphological properties in all Zamucoan languages. CH and O.Z /t/- verbs and radical verbs show no realis vs. irrealis distinction in the 3-person. Thematic verbs are observed in Chamacoco and Old Zamuco, but have almost completely disappeared in Ayoreo, where they form a very tiny class. CH and O.Z thematic verbs show the realis vs. irrealis distinction in the 3-person. The verb classes will be discussed in more detail in the following examples.

In the 1- and 2-person there is a general correspondence between personal pronouns and verb prefixes, which is not to be found in the 3(S)-person. As noted in (§3), only Chamacoco has a 3S-pronoun, while Ayoreo and Old Zamuco use a demonstrative for the 3S-person. One may surmise that Proto-Zamucoan lacked a 3S-pronoun and all verbs had a thematic or a radical 3-person. Given the lack of a 3S-pronoun, the 3-prefix(es) originated in different ways and this explains the morphological variability of the 3-person, which is less stable than the 1- and the 2- person.

The clusivity split is present in Chamacoco, but this is not to be observed in the other Zamucoan languages.

Ayoreo and Old Zamuco have no specific form for the 3P-person. The 3-person is used for both the singular and the plural. In Table 7.1 and 7.2 the 3-person is preceded by the 3P-person *ore*, which can be used when the 3-person subject is not otherwise phonologically expressed. The Chamacoco 3-person can be used for the plural, but there is also a specific form for the 3P-person, which consists of the 3-person preceded by the pre-prefix /o/- . Comparing the Chamacoco 3P-person with the other Zamucoan

languages, one may surmise that /o/- corresponds to AY and O.Z *ore*, which corresponds to the Chamacoco 3P-pronoun *õr*.¹⁷⁹

In the following sections, verbs sharing similar morphological features will be compared.

§7.2 The thematic vowel

In the Zamucoan family one can observe general correspondences between the thematic vowels of each language. In the following sections the morphological behaviour of the thematic vowels and their correspondences between the Zamucoan languages will be discussed. Sections §7.2.1-§7.2.8 will deal with prefixal verbs, which generally show a regular vocalic pattern, with some exceptions which will be discussed in detail.

§7.2.1 Thematic /a/

As anticipated, /tɛ/-verbs are the most representative verbs in Ayoreo and Old Zamuco. These correspond to CH verbs with the 3-person prefix /tɛ/- or /ts/-. The following examples present AY and CH verbs characterized by thematic /a/ in the 3-person (2-11). This thematic vowel is preserved in the whole paradigm in all Zamucoan languages. CH /a/ corresponds in many cases to AY /a/. In examples (2-11) the AY prefix /tɛ/- corresponds to CH /ts/-.¹⁸⁰

¹⁷⁹ When the CH pre-prefix /o/- is added to a prefixal 3-person, /o/- precedes the person prefix, so that the paradigm “exhibits a striking violation of a robust generalization concerning affix order, dictating that person markers should precede number markers, irrespective of their position in relation to the root” Bertinetto (2011b: 215). This is clearly due to the fact that /o/- is an innovation.

¹⁸⁰ A variant form in /tɛ/- has been observed for some of these CH verbs.

Owing to scarcity of data for Old Zamuco, it is difficult to show examples from this language. However, *chacose* /tɛakose/ and *sakis* /tsakis/ (2) correspond to O.Z. *chuagoz* (/tɛuagos/). The thematic vowel of this verb is /u/-, which has ostensibly been lost in Ayoreo and Chamacoco.

- (2) Ay. j-a-kose (1S), b-a-kose (2S), tɛ-a-kose (3), j-a-ko-ko (1P),
wak-a-ko-so (2P) ‘to hide, to conceal’
Ch. t-a-kis (1S), a-kis (2S), ts-a-kis (3), j-a-kis (1PI), o-j-akis (1PE),
a-kis-lo (2P), o-ts-a-kis (3P), l-a-kis (3.IRLS) ‘to hide, to conceal’
O.Z. a-gu-agoz (1S), d-a-goz (2S), ch-u-agoz (3) ‘to hide, to conceal’
- (3) Ay. j-a-kate (1S), b-a-kate (2S), tɛ-a-kate (3), j-a-ka-ko (1P),
wak-a-ka-tɛo (2P) ‘to teach, to instruct’
Ch. t-a-kit (1S), a-kit (2S), ts-a-kit (3), j-a-kit (1PI), o-j-akit (1PE),
a-kit-lo (2P), o-ts-akit (3P), l-a-kit (3.IRLS) ‘to suggest, to counsel’
- (4) Ay. j-a-kare (1S), b-a-kare (2S), tɛ-a-kare (3), j-a-ka-go (1P),
wak-a-ka-jo (2P) ‘to stay, to sit, to stop’
Ch. t-i-jakir (1S), a-kir (2S), ts-a-kir (3), o-j-i-jakir / o-j-i-ja:r (1PE),
j-i-jakir / j-i-ja:r (1PI), a-kir-lo / a-kirihi-lo / a-kiri-lo (2P),
o-ts-a-kir (3P), l-a-kihir (3.IRLS) ‘to sit down, to rest’
cf. also Ch. ts-a-kaha (3) ‘to sit’ and Ay. tɛ-a-kari-hi (3) ‘to sit down,
to stay in/at’
- (5) Ay. j-a-ɲa (1S), m-a-ɲa (2S), tɛ-a-ɲa (3), j-a-ɲa-go / j-a-ɲa-ɲo (1P),
wak-a-ɲa-ɲo (2P) ‘to follow, to pursue’
Ch. t-a-ɲa (1S), a-ɲa (2S), ts-a-ɲa (3), j-a-ɲa (1PI), o-j-a-ɲa (1PE),
a-ɲi-lo (2P), o-ts-a-ɲa (3P), n-a-ɲa (3.IRLS) ‘to follow (quickly),
to pursue’
- (6) Ay. j-a-ɲera-me (1S), m-a-ɲera-me (2S), tɛ-a-ɲera-me (3),
j-a-ɲera-ɲo-me (1P), wak-a-ɲera-ɲo-me (2P) ‘to add to, to enlarge’
Ch. t-a-nimirāha (1S), a-nimirāha (2S), ts-a-nimirāha (3),

j-a-nimirãha (1PI), o-j-a-nimirãha (1PE), a-nimirãha-lo (2P),
o-ts-a-nimirãha (3P), n-a-nimirãha (3.IRLS) ‘to add to, to enlarge;
to inherit; to translate; to preach’

(7) Ay. j-a-rẽ-ri (1S), m-a-rẽ-ri (2S), tẽ-a-rẽ-ri (3), j-a-rẽ-ŋo-ri (1P),
wak-a-rẽ-ŋo-ri (2P) ‘to cook’

Ch. t-ã-r (1S), ã-r (2S), ts-ã-r (3), j-ã-r (1PI), o-j-ã-r (1PE), ã-r-lo (2P),
o-ts-ã-r (3P), n-ã-r (3.IRLS) ‘to cook’

(8) Ay. j-a-rake (1S), m-a-rake (2S), tẽ-ã-rake (3), j-a-ra-ko /
j-a-ra-ho (1S), wak-ã-ra-tẽo (2P) ‘to hold back, to keep for oneself’

Ch. t-a-řāk (1S), a-řāk (2S), ts-a-řāk (3), j-a-řāk (1PI), o-j-a-řāk (1PE),
a-řāk-lo (2P), o-ts-a-řāk (3P), n-a-řāk (3.IRLS) ‘to skimp on;
to be stingy with’

(9) Ay. j-a-rigeta (1S), b-a-rigeta (2S), tẽ-a-rigeta (3), j-a-rigeta-go (1PI),
wak-a-rigeta-jo (2P) ‘to sweep, to comb’

Ch. t-a-rꞑ (1S), a-rꞑ (2S), ts-a-rꞑ (3), j-a-rꞑ (1PI), o-j-a-rꞑ (1PE),
a-rꞑ-lo (2P), o-ts-a-rꞑ (3P), d-a-rꞑ (3.IRLS) ‘to sweep, to comb’

(10) Ay. j-a-ta (1S), b-a-ta (2S), tẽ-a-ta (3), j-a-ta-go (1P), wak-a-ta-ŋo (2P)
‘to sharpen’

Ch. t-a-ta (1S), a-ta (2S), ts-a-ta (3), j-a-ta (1PI), o-j-a-ta (1PE),
a-ti-lo (2P), o-ts-a-ta (3P), d-a-ta (3.IRLS) ‘to sharpen,
to make sharp’

(11) Ay. j-a-tire (1S), b-a-tire (2S), tẽ-a-tire (3), j-a-tire-go (1P),
wak-a-tire-jo (2P) ‘to give back, to return something’

Ch. t-a-tir (1S), a-tir (2S), ts-a-tir (3), j-a-tir (1PI), o-j-a-tir (1PE),
a-tir-lo (2P), o-ts-atir (3P), l-a-tir (3.IRLS) ‘to return, to give back’
(also: tsatihir)

§7.2.2 Thematic /a/ in Ayoreo vs. /e/ in Chamacoco

AY /a/ can correspond to CH /a/ (see §7.2.1) or /e/, as shown in (12-17). This double correspondence of AY /a/ in Chamacoco is not restricted to the vocalic pattern, but it is pervasive. In the following examples, the AY prefix /tɛ-/ may correspond to CH /ts/- or /tɛ/-.

- (12) Ay. j-a-huke (1S), b-a-huke (2S), tɛ-a-huke (3), j-a-hu-ho (1P),
wak-a-hu-tɛo (2P) ‘to split, to chop’
Ch. t-e-hek (1S), e-hek (2S), ts-e-hek (3), j-e-hek (1PI),
o-j-e-hek (1PE), e-hek-lo (2P), o-ts-e-hek (3P), d-e-hek (3.IRLS)
‘to divide, to split’
- (13) Ay. n-a-kukãre (1S), m-a-kukãre (2S), tɛ-a-kukãre (3),
n-a-kukã-ko (1P), wak-a-kukã-tɛo (2P) ‘to breastfeed, to nurse’
Ch. t-e-kwêr (1S), e-kwêr (2S), ts-e-kwêr (3), j-e-kwêr (1PI),
o-j-e-kwêr (1PE), e-kwêr-lo (2P), o-ts-e-kwêr (3P),
d-e-kwêr (3.IRLS) ‘to breastfeed’
- (14) Ay. n-a-ŋi (1S), m-a-ŋi (2S), tɛ-a-ŋi (3), n-a-ŋi-ŋo (1P),
wak-a-ŋi-ŋo (2P) ‘to put out as a fire to quench, to extinguish’
Ch. t-ê-hi (1S), ê-hi (2S), ts-ê-hi (3), j-ê-hi (1PI), o-j-ê-hi (1PE),
e-hĩ-lo (2P), o-ts-êhi (3P), nehĩ (3.IRLS) ‘to wipe out, to put out,
to extinguish’ (also: tsê:jhi)
- (15) Ay. j-a-kesu (1S), b-a-kesu (2S), tɛ-a-kesu (3), j-a-kesu-go (1P),
wak-a-kesu-jo (2P) ‘to cut, to go across’
Ch. t-e-kêhe (1S), e-kêhe (2S), tɛ-e-kêhe (3), j-e-kêhe (1PI),
o-j-ekêhe (1PE), e-kêhe-lo (2P), o-tɛ-e-kêhe (3P),
l-e-kêhe (3.IRLS) ‘to cut, to cut into pieces’
- (16) Ay. n-a-rã (1S), m-a-rã (2S), tɛ-a-rã (3), n-a-rã-ŋo (1P),
wak-a-rã-ŋo (2P) ‘to deceive, to cheat’

Ch. t-e-ŋjer (1S), e-ŋjer (2S), ts-e-ŋjer (3), j-e-ŋjer (1PI),
o-j-e-ŋjer (1PE), e-ŋjër-lo (2P), o-ts-e-ŋjer (3P), n-e-ŋjer (3.IRLS)
‘to deceive, to cheat’

(17) Ay. ɲ-ã-ru (1S), m-ã-ru (2S), ɬ-ã-ru (3), ɲ-ã-ko (1P), wak-ã-ɬeo (2P)
‘to burn, tu burn up’¹⁸¹

Ch. t-ẽ-ru (1S), ẽ-ru (2S), ts-ẽ-ru (3), j-ẽ-ru (1PI), o-j-ẽru (1PE),
e-rũ-lo / ẽ-r-lo (2P), o-ts-ẽ-ru (3P), n-e-ru (3P) ‘to burn, to burn up’

§7.2.3 Mid thematic vowels in Ayoreo

In (18-19) two AY /tɛ/-verbs with thematic /e/ are compared with their CH (18) and O.Z (19) cognates. In the latter example the O.Z verb has thematic /a/ and the first root-vowel /e/. Apparently, the O.Z vocalic cluster has simplified in Ayoreo, so that the first root-vowel (/e/) of Old Zamuco has turned into the AY thematic vowel. The same applies to the O.Z verb *ch-u-agoz* (/tɛ-u-agos/) ‘to hide, to conceal’ (see ex. 2), which corresponds to AY *ch-a-cose* /tɛ-a-kose/ and CH *s-a-kis* /ts-a-kis/. The lack of the 1-prefix /a/- in Chamacoco and Ayoreo can be explained in the same way: the Ayoreo 1-prefix tends to fall in realis contexts, while in Old Zamuco there was a prefix for both the 1-realis and irrealis. One can suppose that the vocalic cluster /aV/ has simplified in Ayoreo and the first element (in this case the realis prefix /a/-) has been lost.

(18) Ay. ɲ-e-ŋa-me (1S), m-a-ŋa-me (2S), ɬ-e-ŋa-me (3),
ɲ-e-ŋa-ŋo-me (1P), wak-e-ŋa-ŋo-me (2P) ‘to lift up, to raise up’
Ch. t-e:-m (1S), e:-m (2S), ts-e:-m (3), j-e:-m (1PI), o-j-e:-m (1PE),
e:-m-lo (2P), o-ts-e:-m (3P), n-e:-m (3.IRLS) ‘to lift, to pick up’

¹⁸¹ This verb can also be followed by *gai* /gaj/.

- (19) Ay. j-e-kāre (1S), b-e-kāre (2S), ʈe-e-kāre (3), j-e-kā-ko (1P),
wak-e-kā-ʈeo (2P) ‘to change, to replace’
O.Z. a-ecāre (1S), d-a-ecāre (2S), ch-a-ecāre (3) ‘to change’

In (20-22) both Ayoreo and Chamacoco show thematic /o/ (20-22), preserved in the whole paradigm. The O.Z verb in (21) has the thematic vowel /i/, but its first root-vowel is /o/, as in Ayoreo.

- (20) Ay. j-o-hare (1S), b-o-hare (2S), ʈe-o-hare (3), j-o-ha-ko (1P),
wak-o-ha-ʈeo (2P) ‘to smell’
Ch. t-o-wihir (1S), o-wihir (2S), ʈe-o-wihir (3), j-o-wihir (1PI),
o-j-o-wihir (1PE), o-wihir-lo (2P), o-ʈe-o-wihir (3P),
d-o-wihir (3.IRLS) ‘to sniff, to smell’ (also: tsowihir)
- (21) Ay. ɲ-o-sõre, m-o-sõre (2S), ʈe-o-sõre (3), ɲ-o-sõ-ko (1P),
wak-a-sõ-ʈeo (2P) ‘to provide comfort by helping,
to pity by helping’
Ch. tok-o-sir (1S), o-sir (2S), ts-o-sir (3), j-o-sir (1PI), o-j-o-sir (1PE),
o-sir-lo (2P), o-ts-osir (3P), d-o-sir (3.IRLS) ‘to help, to favour’
(also: tsosir)
O.Z. a-i-yazore (1S), d-a-zore (2S), ch-i-azore (3) ‘to help,
to favour’¹⁸²
- (22) Ay. j-o-tigase (1S), b-o-tigase (2S), ʈe-o-tigase (3), j-o-tiga-ko (1P),
wak-a-tiga-so (2P) ‘to doubt, to deny, to distrust’
Ch. tok-o-ti:s (1S), o-ti:s (2S), ts-o-ti:s (3), j-o-ti:s (1PI),
o-j-o-ti:s (1PE), o-ti:s-lo (2P), o-ts-o-ti:s (3P), l-o-ti:s (3.IRLS)
‘to doubt, to distrust’

¹⁸² On this verb, see Kelm (1964: 772, note 174).

§7.2.4 High thematic vowels

If the 3-thematic-vowel is a high vowel, it is preserved in the 1-person, but it changes in the 2-person in all Zamucoan languages. In most cases an Ayoreo high thematic vowel corresponds to a Chamacoco high thematic vowel. In all Zamucoan languages, high thematic vowels are replaced by the 2-vowel, which is usually /a/ in Ayoreo and Old Zamuco and corresponds to CH /a/ or /e/.¹⁸³

§7.2.5 Thematic /i/

In (23-27) CH thematic /i/ corresponds to AY /i/. Thematic /i/ turns into /a/ in the Ayoreo and Old Zamuco 2-person,¹⁸⁴ while in the Chamacoco 2-person /i/ it turns into /a/ (23, 27) or /e/ (or /ej/)¹⁸⁵ (26). In some CH verbs both /a/ and /e/ alternate in the 2-person (24-25). When the Chamacoco 2-vowel is /a/, the verb may show root allomorphy in the 2-person (23, 25, 27). This never occurs in either Ayoreo or Old Zamuco. In (27) the same verb is reported in Old Zamuco.

- (23) Ay. j-i-teagu (1S), b-a-teagu (2S), tɛ-i-teagu (3), j-i-tea-ho (1P),
 wak-a-tea-tɛo (2P) ‘to pierce; to stab; to give an injection’
 Ch. t-i-tɛew (1S), a-tsew (2S), tɛ-i-tɛew (3), j-i-tɛew (1P),
 o-j-i-tɛew (1PE), a-tsew-lo (2P), o-tɛ-i-tɛew (3P), d-i-tɛew (3.IRLS)
 ‘to pierce; to dig; to write’

¹⁸³ Note that the 2S-prefix /a/- is found in Chiquitano verbs. On Chiquitano verb morphology, see Galeote Tormo (1993: 146ff).

¹⁸⁴ On the pattern /i/-, /a/-, /i/- in the South American languages, see Greenberg (1987: 44-48).

¹⁸⁵ /ej/ in the 2-person is not to be observed in the following examples.

- (24) Ay. j-i-hotēa (1S), b-a-hotēa (2S), tē-i-hotēa (3), j-i-hotēa-go (1P),
wak-a-hotēa-jo (2P) ‘to dig, to carve’
Ch. t-i-hĩtsa (1S), a-hātsa / e-hĩtsa (2S), tē-i-hĩtsa (3), j-i-hĩtsa (1PI),
o-j-i-hĩtsa (1PE), a-hatsã-lo / a-hāts-lo / a-hatsĩ-lo / e-hĩtsi-lo (2P),
o-tē-i-hĩtsa (3P), n-i-hitsã (3.IRLS) ‘to dig, to excavate’
- (25) Ay. j-/j-i-ṇotēa-me (1S), b-/m-a-ṇotēa-me (2S), tē-i-ṇotēa-me (3),
j-/j-i-ṇotēa-ṇo-me / j-/j-i-ṇotēa-go-me (1P), wak-a-ṇotēa-ṇo-me /
wak-a-ṇotēa-jo-me (2P) ‘to bury’ (also: tēihotēame)
Ch. t-i-hitsim (1S), a-hatsim / e-hitsim (2S), tē-i-hitsim (3),
j-i-hitsim (1PI), o-j-i-hitsim (1PE), a-hatsim-lo / e-hitsim-lo (2P),
o-tē-i-hitsim (3P), d-i-hitsim (3.IRLS) ‘to bury’¹⁸⁶
- (26) Ay. j-i-ṇokāre (1S), m-a-ṇokāre (2S), tē-i-ṇokāre (3),
j-i-ṇokā-ko (1P), wak-a-ṇokā-tēo (2P) ‘to frighten’
Ch. t-i-jok (1S), a-hok / e-jok (2S), tē-i-jok (3), j-i-jok (1PI),
o-j-i-jok (1PE), a-hok(i)-lo / e-jok-lo (2P), o-tē-i-jok (3P),
d-i-jok (3.IRLS) ‘to frighten’ (also: ejok)
- (27) Ay. j-i-sa (1S), b-a-sa (2S), tē-i-sa (3), j-i-sa-go (1P), wak-a-sa-jo (2P)
‘to touch, to pick up, to grab, to accept’
Ch. t-i-ċew (1S), a-sew (2S), tē-i-ċew (3), j-i-ċew (1PI),
o-j-i-ċew (1PE), a-sew-lo / a-si-lo (2P), o-tē-i-ċew (3P),
d-i-ċew (3.IRLS) ‘to hold, to take, to grab’
O.Z. a-i-zau (1S), d-a-zau (2S), ch-i-zau (3) ‘to take’¹⁸⁷

¹⁸⁶ This pair of verbs derives from the verbs in (24). The derivational mechanism is the same: in Ayoreo the verb takes the lexical suffix *-(o)me/* (§4.8.6), which corresponds to CH *-im/*. The latter is rare in Chamacoco (§5.13). Note that AY *-(o)me/* follows the plural suffix, while CH *-im/* precedes *-lo/*.

¹⁸⁷ On this verb, see Kelm (1964: 772).

§7.2.6 Thematic /u/

In (28-32) CH thematic /u/ corresponds to AY /u/. The 2-vowel is /a/ in Ayoreo and Old Zamuco, and /a/ or /e/ in Chamacoco, although only the latter vowel is shown in the following examples. In (33) an AY and an O.Z verb are compared.

(28) Ay. j-u-ku (1S), b-a-ku (2S), tɛ-u-ku (3), j-u-ku-go (1P),
wak-a-ku-tɛo (2P) ‘to nurse, to suck’

Ch. t-u-kuʔ (1S), e-kuʔ (2S), tɛ-u-kuʔ (3), j-u-kuʔ (1PI), o-j-u-kuʔ (1PE),
e-ku-lo (2P), o-tɛ-u-kuʔ (3P), d-u-kuʔ (3.IRLS) ‘to nurse, to suck’¹⁸⁸

(29) Ay. j-u-kurase (1S), b-a-kurase (2S), tɛ-u-kurase (3),
j-u-kura-ko (1P), wak-a-kura-so (2P) ‘to push’

Ch. t-u-kus (1S), e-kus (2S), tɛ-u-kus (3), j-u-kus (1PI),
o-j-ukus (1PE), e-kusi-lo (2P), o-tɛ-ukus (3P), d-u-kus (3.IRLS)
‘to push’

(30) Ay. j-u-kue (1S), b-a-kue (2S), tɛ-u-kue (3), j-u-kue-go-j (1P),
wak-a-kue-jo-j (2P) ‘to look for, to search for’

Ch. t-u-kwi (1S), e-kwi (2S), tɛ-u-kwi (3), j-u-kwi (1PI),
o-j-u-kwi (1PE), e-kwi-lo (2P), o-tɛ-ukwi (3P), d-u-kwi (3.IRLS)
‘to look for, to search for’ (also: tɛuku)¹⁸⁹

(31) Ay. j-u-ru (1S), b-a-ru (2S), tɛ-u-ru (3), j-u-ru-go (1P),
wak-a-ru-jo (2P) ‘to wash’

Ch. t-u-rũ (1S), e-rũ (2S), tɛ-u-rũ (3), j-u-rũ (1PI), o-j-u-rũ (1PE),
e-rũ-lo (2P), o-tɛ-u-rũ (3P), n-u-rũ (3.IRLS) ‘to wash’

¹⁸⁸ The CH verb *chuku* /tɛukuʔ/ (3) ‘to nurse’ should not be confused with *chuku* /tɛuku/ (3) ‘to look for’ (see ex. 30).

¹⁸⁹ Cf. Wichí [tʰukʷe] ‘to look for’ (Viñas Urquiza 1974: II, 92).

(32) Ay. j-u-rugus (1S), b-a-rugus (2S), *te*-u-rugus (3), j-u-rugu-ko (1P),
wak-a-rugu-so (2P) ‘to pull, to drag, to push’

Ch. t-u-r_z (1S), e-r_z (2S), *te*-u-r_z (3), j-u-r_z (1PI), o-j-u-r_z (1PE),
e-r_z-lo (2P), o-*te*-u-r_z (3P), d-u-r_z (3.IRLS) ‘to drag’

(33) Ay. j-u-ga (1S), b-a-ga (2S), *te*-u-ga (3), j-u-ga-go (1P),
wak-a-ga-jo (2P) ‘to sew, to mend’

O.Z. a-u-gau (1S), d-a-gau (2S), ch-u-gau (3) ‘to thread’

AY /i/ may correspond to CH /u/ (34-35) or vice versa (36-37), so that a generic correspondence between high vowels remains. In (37) the Chamacoco 2-vowel is /a/, associated with root allomorphy in the 2-person. This phenomenon is not observed in Ayoreo.

(34) Ay. j-i-keta (1S), b-a-keta (2S), *te*-i-keta (3), j-i-keta-go (1P),
wak-a-keta-jo (2P) ‘to heal, to save; to kindle a fire’

Ch. t-u-kuta (1S), e-kuta (2S), *te*-u-kuta (3), j-u-kuta (1PI),
o-j-u-kuta (1PE), e-kuti-lo (2P), o-*te*-u-kuta (3P), d-u-kuta (3.IRLS)
‘to heal; to catch fire’

(35) Ay. j-i-haro (1S), b-a-haro (2S), *te*-i-haro (3), j-i-haro-go (1P),
wak-a-haro-jo (2P) ‘to grind, to pound, to mill, to crush’

Ch. t-u-kwer̃ (1S), e-kwer̃ (2S), *te*-u-kwer̃ (3), j-u-kwer̃ (1PI),
o-j-u-kwer̃ (1PE), e-kwer̃-lo (2P), o-*te*-u-kwer̃ (3P),
l-u-kwer̃ (3.IRLS) ‘to twist, to grind, to rub’

(36) Ay. n-u-*ṇ*uke (1S), m-a-*ṇ*uke (2S), *te*-u-*ṇ*uke (3), n-u-*ṇ*u-ko /
n-u-*ṇ*u-ho (1P), wak-a-*ṇ*u-*te*o (2P) ‘to peel as fruits, vegetables,
trees; to skin an animal’ (generally followed by *gaj*)

Ch. t-i-hĩk (1S), e-hĩk (2S), *te*-i-hĩk (3), j-ĩ-hik (1PI), o-j-ĩ-hik (1PE),
e-hĩki-lo (2P), o-*te*-i-hĩk (3P), n-i-hĩk (3.IRLS) ‘to peel’

(37) Ay. j-u-sake (1S), b-a-sake (2S), *te*-u-sake (3), j-u-sa-ho (1P),
wak-a-sa-*te*o (2P) ‘to crack open, to split open’ (with this

meaning it is followed by *gaʝ*)

Ch. tik-i-ɛak / t-i-ɛak (1S), a-sak (2S), ʈɛ-i-ɛak (3), j-i-ɛak (1PI),
o-j-i-ɛak (1PE), e-ɛak-lo / e-ɛaki-lo (2P), o-ʈɛ-i-ɛak (3P),
d-i-ɛak (3.IRLS) ‘to break’

The vocalic inventory of Chamacoco is richer than the AY or O.Z one, because it also includes the central high vowel. CH /i/ can correspond to different vowels in Ayoreo: /i/ (38-42) or /u/ (43-44). In these cases both CH /a/ and /e/ can occur as 2-vowel, although only /e/ is to be observed in the following examples. In (39) the thematic vowel is /i/ in Ayoreo, /i/ in Chamacoco and /u/ in Old Zamuco: even when the vowel is different, it is a high vowel in all three languages.

(38) Ay. j-i-kadi-gi (1S), b-a-kadi-gi (2S), ʈɛ-i-kadi-gi (3),
j-i-kadi-jo-j (1P), wak-a-kadi-ʈɛo-j (2P) ‘to forget’

Ch. t-i-kej (1S), e-kej (2S), ʈɛ-i-kej (3), j-i-kej (1PI), o-j-i-kej (1PE),
e-kej-lo (2P), o-ʈɛ-i-kej (3P), d-i-kej (3.IRLS) ‘to forget’

(39) Ay. ɲ-i-mate (1S), b-a-mate (2S), ʈɛ-i-mate (3), ɲ-i-ma-ko (1P),
wak-a-ma-ʈɛo (2P) ‘to finish, to complete’

Ch. t-i-mit (1S), e-mit (2S), ʈɛ-i-mit (3), j-i-mit (1PI), o-j-i-mit (1PE),
e-mit-lo (2P), o-ʈɛ-i-mit (3P), n-i-mit (3.IRLS) ‘to finish,
to complete’

O.Z. a-u-mate (1S), ch-u-mate (3) ‘to finish’

(40) Ay. j-i-raha (1S), b-a-raha (2S), ʈɛ-i-raha (3), j-i-raha-go (3),
wak-a-raha-jo (2P) ‘to know, to understand’

Ch. tik-i-raha (1S), e-raha (2S), ʈɛ-i-raha (3), j-i-raha (1PI),
o-j-i-raha (1PE), e-raha-lo / e-ra:-lo (2P), o-ʈɛ-i-raha (3P),
d-i-raha (3.IRLS) ‘to know’ (also: ʈɛirehe)

(41) Ay. ɲ-i-riɲare (1P), m-a-riɲare (2P), ʈɛ-i-riɲare (3), ɲ-i-riɲa-ko (1P),
wak-a-riɲa-ʈɛo (2P) ‘to rouse someone from sleep, to awaken

another'

Ch. t-i-nijer (1S), e-nijer (2S), t*ɛ*-i-nijer (3), j-i-nijer (1PI),
o-j-i-nijer (1PE), e-nijer-lo (2P), o-t*ɛ*-i-nijer (3P), n-i-nijer (3.IRLS)
'to wake someone up'

(42) Ay. j-i-site (1S), b-a-site (3), t*ɛ*-i-site (3), j-i-si-ko (1P),
wak-a-si-t*ɛ*o (2P) 'to sift (as flour), to winnow grain'

Ch. t-i-*ɛ*it (1S), e-*ɛ*it (2S), t*ɛ*-i-*ɛ*it (3), j-i-*ɛ*it (1PI), o-j-i-*ɛ*it (1PE),
e-*ɛ*iti-lo / e-*ɛ*it-lo (2P), o-t*ɛ*-i-*ɛ*it (3P), d-i-*ɛ*it (3.IRLS) 'to strain,
to winnow, to sift'

(43) Ay. j-u-ta (1S), b-a-ta (2S), t*ɛ*-u-ta (3), j-u-ta-go (1P),
wak-a-ta-jo (2P) 'to sprinkle, to wet down'

Ch. t-i-ta (1S), e-ta (2S), ts-i-ta (3), j-i-ta (1PI), o-j-i-ta (1PE),
e-ti-lo (2P), o-ts-i-ta (3P), d-i-ta (3.IRLS) 'to water, to irrigate'

(44) Ay. j-ũ-ra (1S), m-ã-ra (2S), t*ɛ*-ũ-ra (3), j-ũ-ra-ŋo (1P),
wak-ã-ra-po (2P) 'to offer food/drink, to feed, to give food to'
(also: t*ɛ*ũraha)

Ch. t-i-rã (1S), e-rã (2S), t*ɛ*-i-rã (3), j-i-rã (1PI), o-j-i-rã (1PE),
e-rã-lo (2P), o-t*ɛ*-i-rã (3P), n-i-ra (3.IRLS) 'to feed, to give
something to eat; to row'

This correspondence between high vowels is not always to be observed. CH /i/ is often the result of vowel reduction and can correspond to other AY vowels, such as /a/ (45) and /e/ (46-48). In (46-48) the 2-vowel is /e/ in both Ayoreo and Chamacoco.

(45) Ay. j-a-murase (1S), m-a-murase (2S), t*ɛ*-a-murase (3),
j-a-mura-ko (1P), wak-a-mura-so (2P) 'to put down,
to take down, to lower, to bring down'

Ch. t-i-rmas (1S), e-rmas (2S), t*ɛ*-i-rmas (3), j-i-rmas (1PI),
o-j-i-rmas (1PE), e-rmas-lo (2P), o-t*ɛ*-i-rmas (3P),
n-i-rmas (3.IRLS) 'to go down, to come down; to topple'

- (46) Ay. j-e-take (1S), b-e-take (2S), t̥e-e-take (2S), j-e-ta-ho (1P),
wak-a-ta-t̥eo (2P) ‘to dislike, to hate, to reject, to be against’
(also: t̥etak)
Ch. tik-i-tak (1S), e-tak (2S), ts-i-tak (3), j-i-tak (1PI),
o-j-i-tak (1PE), e-taki-lo (2P), o-ts-i-tak (3P), d-i-tak (3.IRLS)
‘not to want, to hate’

- (47) Ay. n-e-ŋa (1S), m-e-ŋa (2S), t̥e-e-ŋa (3), n-e-ŋa-ŋo (1P),
wak-a-ŋa-ŋo (2P) ‘to finish, to finish off to consume,
to destroy, to kill’
Ch. t-i-ŋa (1S), e-ŋa (2S), ts-i-ŋa / t̥e-i-ŋa (3), j-i-ŋa (1PI),
o-j-i-ŋa (1PE), e-ŋi-lo (2P), o-ts-i-ŋa / o-t̥e-i-ŋa (3P),
n-i-ŋa (3.IRLS) ‘to finish, to end; to destroy, to kill’

- (48) Ay. n-e-tiŋare (1S), m-e-tiŋare (2S), t̥e-e-tiŋare (3), n-e-tiŋa-ko (1P),
wak-a-tiŋa-t̥eo (2P) ‘to try, to prove, to test, to put to the test’
Ch. t-i-tit̥era (1S), e-tit̥era (2S), ts-i-tit̥era (3), j-i-tit̥era (1PI),
o-j-i-tit̥era (1PE), e-tit̥er-lo (2P), o-ts-it̥it̥era (3P), d-i-tit̥era (3.IRLS)
‘to measure; to try, to test’

The verbs in (49-50) are cognate, although there is no regular correspondence in the thematic vowel.

- (49) Ay. j-i-rota (1S), b-a-rota (2S), t̥e-i-rota (3), j-i-rota-go (1P),
wak-a-rota-jo (2P) ‘to defend, to avenge, to shield, to guard’
Ch. t-o-ɬa (1S), o-ɬa (2S), ts-o-ɬa (3), j-o-ɬa (1PI), o-j-o-ɬa (1PE),
o-ɬi-lo (2P), o-ts-o-ɬa (3P), d-o-ɬa (3.IRLS) ‘to defend, to protect’
- (50) Ay. n-i-ŋak (1S), m-a-ŋak (2S), t̥e-i-ŋak (3), n-i-ŋa-ho (1P),
wak-a-ŋa-t̥eo (2P) ‘to lead, to guide’
O.Z. a-e-yac (1S), d-e-yac (2S), ch-e-yac (3) ‘to guide’

The CH verb *chees* /tɕe:s/ is characterized by an irregular vocalic pattern (49), because, as noted in (§5.4.4), the verb has undergone a change in the 3-person and its original thematic vowel was /i/, still to be found in the 1-person and in the irrealis. This is confirmed by its AY cognate *chigas* /tɕigas/ (51), which is regular and has the thematic /i/.

- (51) Ay. j-i-gas (1S), b-a-gas (2S), tɕ-i-gas (3), j-i-ga-ko (1P),
 wak-a-ga-so (2P) ‘to bite, to sting’ (also: tɕ-i-gase)
 Ch. t-i:-s (1S), a:-s (2S), tɕ-e:-s (3), j-i:-s (1PI), o-j-i:-s (1PE),
 a:-s-lo (2P), o-tɕ-e:-s (3P), d-i:-s / l-i:-s (3.IRLS) ‘to bite, to sting,
 to criticize’ (also: tɕes and tɕe:s)¹⁹⁰

§7.2.7 Ayoreo irregular vowels

The AY /tɕ/-verbs in the following examples show some peculiarities in the vocalic pattern. For the AY verb in (52) two alternating thematic vowels, /a/ and /i/, are attested. *Chimáta* /tɕimata/ or *chamáta* /tɕamata/ corresponds to CH *samíta* /tsamíta/ and O.Z *chamata* (/tɕamata/). This suggests that *chimáta* /tɕimata/ is an AY innovation. The comparison with the other Zamucoan languages shows that CH /i/ in the root of *samíta* /tsamíta/ is perhaps the result of reduction of /a/.

- (52) Ay. j-a-mata / j-i-mata (1S) , b-/m-a-mata (2S), tɕ-a-mata /
 tɕ-i-mata (3), j-a-mata-go / j-i-mata-go (1P), wak-a-mata-jo (2P)
 ‘to collect’¹⁹¹
 Ch. tamíta (1S), amíta (2S), ts-a-míta (3), j-a-míta (1PI),

¹⁹⁰ According to the informants, the 3-person form preferred by old speakers is *chees* /tɕe:s/, while young speakers prefer the form *tsees* /tɕe:s/.

¹⁹¹ According to Kelm (1964: 772) this verb also means ‘to choose’.

o-j-a-mita (1PE), a-miti-lo (2P), o-ts-a-mita (3P),
 n-a-mita (3.IRLS) ‘to put together, to collect’
 O.Z. a-mata (1S), d-a-mata (2S), ch-a-mata (3) ‘to choose’

In Ayoreo there are few exceptions with the 3-thematic-vowel /i/, and the 2-vowel /e/, rather than /a/ (53-54). Such an exception corresponds to a regularity in Chamacoco, where /e/ most often occurs as 2-vowel (53-54). The two AY verbs in (53) correspond to one verb with both meanings in Chamacoco. The O.Z verb *chize* (/tɛise/) (53), corresponding to *chise* /tɛise/ (AY) and *chish* /tɛiɛ/ (CH), does not have /e/ in the 2-person, but it shows nevertheless an irregularity, because the 3-thematic-vowel /i/ is preserved in the 2-person after /a/. This confirms that the 2-vowel /a/ was originally a prefix which has replaced the high thematic vowel. In the word *chize*, this process did not take place.

(53) Ay. j-i-se (1S), b-e-se (2S), tɛ-i-se (3), j-i-ko (1P), wak-e-so (2P)
 ‘to find, to meet, to reach’

Ch. t-i-ɛ (1S), e-ɛ (2S), tɛ-i-ɛ (3), j-i-ɛ (1PI), o-j-i-ɛ (1PE), e-ɛ-lo /
 e-ɛ-i-lo (2P), o-tɛ-i-ɛ (3P), d-i-ɛ (3.IRLS) ‘to meet, to reach’

O.Z. a-i-ze (1S), da-i-ze (2S), ch-i-ze (3), a-i-co (1P), da-i-zo (2P)
 ‘to reach’

(54) Ay. ɲ-i-kāra (1S), m-e-kāra (2S), tɛ-i-kāra (3), ɲ-i-kā-ko (1P),
 wak-e-kā-tɛo (2P) ‘to dream’

Ay. ɲ-i-kāre (1S), m-e-kāre (2S), tɛ-i-kāre (3), ɲ-i-kā-ko (1P),
 wak-e-kā-tɛo (2P) ‘to mention’ (followed by *aha* ‘to give a
 name’)

Ch. t-i-kēra (1S), e-kēra (2S), tɛ-i-kēra (3), j-i-kēra (1PI),
 o-j-i-kēra (1PE), e-kēr-lo (2P), o-tɛ-i-kēra (3P), d-i-kēra (3.IRLS)

‘to dream; to name, to call’¹⁹²

In conclusion, the vocalic pattern /i/-/e/-/i/, while common in Chamacoco, is observed in few exceptions in Ayoreo and never in Old Zamuco. It is remarkable that the AY verb *chise* /tɛise/, which has an irregular vocalic pattern, corresponds to an exception in Old Zamuco.

§7.2.8 On the correspondence between Chamacoco and Ayoreo thematic vowels

The following table summarizes the correspondences between CH and AY thematic vowels in prefixal verbs.¹⁹³ There is a general correspondence between AY and CH thematic vowels. AY /e/ can correspond to CH /a/ or /e/, while CH /i/, absent in Ayoreo, usually corresponds to a high vowel in Ayoreo, but it can also correspond to AY /a/ or /e/.

¹⁹² It is also possible to posit a relationship between *chícãre* /tɛikãre/ ‘to mention’ and the CH verb *chukwêra* /tɛukwêra/ ‘to name, to call’:

(i) t-u-kwêra (1S), e-kwêra (2S), tɛ-u-kwêra (3), j-u-kwêra (1PI),
o-j-u-kwêra (1PE), j-u-kwêr-lo (1PI.GP), e-kwêr-lo / e-kwêra-lo /
e-kwêri-lo (2P), o-tɛ-u-kwêra (3P), d-u-kwêra (3.IRLS).

The CH verbs *chikêra* /tɛikêra/ and *chukwêra* probably have the same origin, but *chukwêra* only means ‘to name, to call’.

¹⁹³ However, the thematic vowels of exceptions, such as (52-54), are not reported.

Table 7.4. Chamacoco and Ayoreo thematic vowels in prefixal verbs

Chamacoco thematic vowel	Ayoreo thematic vowel	Examples
/a/	/a/	(2-11)
/e/	/a/	(12-17)
/e/	/e/	(18)
/o/	/o/	(20-22)
/i/	/i/	(23-27, 53-55)
/u/	/u/	(28-33, 57)
/u/	/i/	(34-37)
/i/	/i/	(38-42)
/i/	/u/	(43-44)
/i/	/a/	(45)
/i/	/e/	(46-48)

**§7.3 On the correspondence between Chamacoco /ɛ/-
and Ayoreo /tɛ/-verbs**

The CH prefix /ɛ/- is an allomorph of /ts/- and corresponds to AY /tɛ/- (55-56).

- (55) Ay. j-i-garu (1S), b-a-garu (2), tɛ-i-garu (3), j-i-garu-ko (1P),
wak-a-garu-tɛo (2P) ‘to tie, to fasten’
Ch. t-i-jeru (1S), a-heru (2S), ɛ-i-jeru (3), j-i-jeru (1PI),
o-j-i-jeru (1PE), a-heru-lo (2P), o-ɛ-i-jeru (3P), d-i-jeru (3.IRLS)
‘to close, to tie’

- (56) Ay. j-o-ra (1S), b-o-ra (2S), tɛ-o-ra (3), j-o-ra-go (1P),
wak-o-ra-jo (2P) ‘to build’
Ch. t-i-jokōr (1S), a-hakōr (2S), ɛ-i-jokōr / ɛ-i-jōr (3), j-i-jokōr (1PI),
o-j-i-jokōr (1PE), a-hakōrlo (2P), o-ɛ-i-jokōr (3P), n-i-jokōr /
n-i-jokōr (3.IRLS), o-ŋ-i-jōr (3P.IRLS) ‘to build, to make, to do’
- (57) Ay. j-u-he (1S), b-a-he (2S), tɛ-u-he (3), j-u-he-go (1P),
wak-a-he-jo (2P) ‘to kill, to hit’
Ch. t-u: (1S), tuk (2S), ɛ-u: (3), j-u-hu (1PI), o-j-u-hu (1PE),
tuk-lo (2P), o-ɛ-u: (3P), d-u-hu (3.IRLS) ‘to kill, to hit, to beat’
- (58) Ch. t-u: (1S), u-hu (2S), ɛ-u: (3), j-u-hu (1PI), o-j-u-hu (1PE),
u-hu-lo (2P), o-ɛ-u: (3P), d-u-hu (3.IRLS) ‘to make’
(used in causative constructions)

AY *chujé* /tɛuhe/ (57) is a regular verb, while CH *shuu* /ɛu:/ (57-58) is irregular in the 2-person. This verb is mainly used in causative constructions (60). The causative verb *shuu* /ɛu:/ (58) corresponds to *chihi* (/tɛihi/) (59), a causative verb in Old Zamuco (61).

In Old Zamuco the prefix /ɛ-/ did not exist and the 3-prefix *z-* (/s/-) was rare, so that, as in Ayoreo, the CH prefix /ɛ/- corresponds to the O.Z prefix *ch-* (/tɛ/-). In the thematic vowel one finds two different high vowels, i.e. /i/ in Old Zamuco and /u/ in Chamacoco. Such a correspondence has been already noted in examples (34-44). The more remarkable similarity between the two verbs, is that both *chihi* /tɛihi/ and *shuu* /ɛu:/ show the same exception in the 2-vowel. The 3-thematic-vowel (/i/ in Old Zamuco and /u/ in Chamacoco) is preserved in the 2-person, while in all the other cases the high thematic vowels turn into /a/ or /e/ (depending on the language). This is also a very rare kind of exception, never found in other CH

and O.Z verbs. It is never found in Ayoreo too. The only similar case is found in CH nominal prefixation (see §10.9).

In conclusion, the same verb for the causative construction is used in both Old Zamuco (59) and Chamacoco (60). The verb *shuu* /ɕu:/ and *chihi* (/tɕihi/) agree with the causer and the following verb agrees with the causee (59-60). In Ayoreo no specific verb used for causative constructions is to be observed. Thus, the use of the same causative construction is yet another characteristic (like the realis vs. irrealis opposition in the 3-person) shared by Old Zamuco and Chamacoco, but not found in Ayoreo, in spite of the close relationship between Old Zamuco and Ayoreo and despite the lower lexical similarity between Chamacoco and the other Zamucoan languages.

(59) O.Z. ah-i-hi (1S), d-i-hi (2S), ch-i-hi (3), d-i-hi (3.IRLS) ‘to make’
(causative verb) (Chomé 1958: 155)

(60) Chamacoco

- a. Uje uu y-insūr-c ch-eeshipo=ni, sh-uu
/Uxe u: j-insūr-te te-e:ɕipo=ni, te-u:/
SUB DET.MS 3-boss-MS.FF 3-come_back=PST 3-make
s-eyhi=po.
/ts-ejhi=po/
3-go_home=also
‘When the boss came back, he made him go home too.’
(Ciucci, field notes)
- b. Sh-uu hnakirb-o o-ts-arz uu ormi-t dich.
/te-u: ŋakirb-o o-ts-arz u: ormi-t dite/
3-make man-MP P-3-clear DET.MP woods-MS.FF big.MS.FF
‘He makes the men clear the dense woods.’ (Ciucci, field notes)

(61) Old Zamuco

ahihi tanârâ ‘I make him tremble’

ahihi datanârâ ‘I make you tremble’

dihi aitanârâ ‘You make me tremble’

(Chomé 1958: 155)

In (62) there is another irregular O.Z. verb. It would be a case of difficult classification, if its AY counterpart did not show that the syllable /ru/ dropped in the 3-person.

(62) Ay. ɲ-u-suruɲu (1S), m-a-suruɲu (2S), tɛ-u-suruɲu / Ø-Ø-suruɲu (3),
ɲ-u-suruɲu-ɲo (1P), wak-a-suruɲu-ɲo (2P) ‘to pout at, to act
disgusted’

Ay. ɲ-u-ruɲu (1S), m-a-ruɲu (2S), tɛ-u-ruɲu / tɛ-u-gu (3),

ɲ-u-ruɲu-ɲo (1P), wak-a-ruɲu-ɲo (2P) ‘to pout at, to act disgusted’

O.Z. a-i-rugu (1S), ch-i-gu (3) ‘to get angry’

§7.4 /t/-verbs

In Ayoreo and Old Zamuco there is a small group of /t/-verbs. By contrast, /t/-verbs are one of the largest verb groups in Chamacoco. In Chamacoco and Old Zamuco the 3-realis and irrealis of /t/-verbs coincide. Examples from O.Z. /t/-verbs are reported in (63), (64), (65), (71) and (75). The vocalic pattern follows the same rules as in /tɛ/-verbs. The following table summarizes the correspondences between the thematic vowel of AY and CH /t/-verbs.

Table 7.5. Ayoreo and Chamacoco thematic vowels in /t/-verbs

Ayoreo thematic vowel	Chamacoco thematic vowel	Examples
/a/	/a/	(63-64)
/a/	/e/	(65-66)
/e/	/e/	(68)
/e/	/i/	(67-69)
/o/	/o/	(73-75)
/i/	/i/	(70-72)

AY and O.Z /a/ may correspond to CH /a/ (63-64) or to /e/ (65-66). The thematic vowel of Ch. *tew* is /a/, while the presence of /e/ in the 3-person is an innovation to distinguish the 1S-person from the 3-person (see §5.4.4). This is confirmed by the comparison with Ayoreo and Old Zamuco, which show /a/ in the whole paradigm. The intransitive counterpart of *tew*, *taak* /ta:k/, preserves thematic /a/ in the whole paradigm, because the 1S-person and the 3-person have a different prefix. AY /e/ may correspond to CH /e/ (68) or to /i/ (67-69). AY and O.Z /i/ corresponds to CH /i/ (70-72) and AY /o/ corresponds to CH /o/ (74-75) or /a/ (73). In this last example, the CH verb *tãra* corresponds to two verbs in Ayoreo and shows the vowel /a/ in the 2- and 3-person. In the 1-person *tokõra*, the inflectional vowel is /o/. The comparison with Ayoreo suggests that /o/ in the 1-person was the original CH thematic vowel.

- (63) Ay. j-a-k (1S), b-a-k (2S), t-a-k (3), j-a-ho (1P), wak-a-t̥eo (2P)
 ‘to eat’ (also: take)
 Ch. tak-a:-k (1S), a:-k (2S), t-a:-k (3), j-a:-k (1PI), o-j-a:-k (1PE),
 a:-ki-lo (2P), o-t-:a-k (3P), t-a:-k (3.IRLS) ‘to eat’
 O.Z. y-a-que (1S.IRLS), t-a-c (3), t-a-c (3.IRLS) ‘to eat’
- (64) Ay. j-a-gu (1S), b-a-gu (2S), t-a-gu (3), j-a-ho (1P), wak-a-t̥eo (2P)
 ‘to eat, to bite’
 Ch. t-a-w (1S), e-w (2S), t-e-w (3), j-a-hu (1PI), o-j-ahu (1PE),
 e-w-lo / e-li-lo (2P), o-t-e-w (3P), t-e-w (3.IRLS) ‘to eat’
 O.Z. a-gu (1S), t-a-gu (3), t-a-gu (3.IRLS) ‘to eat’
- (65) Ay. ɲ-/j-aɲari (1S), m-/b-aɲari (2S), t-a-ɲari (3), ɲ-/j-a-ɲa-ko-j (1P),
 wak-a-ɲa-t̥eo-j (2P) ‘to listen to, to pay attention to, to obey to’
 Ch. t̥āk-ĩ-r (1S), ẽ-r (2S), t-ẽ-r (3), j-ẽ-r (1PI), o-j-ẽ-r (1PE),
 ẽ-r-lo (2P), o-t-ẽ-r (3P), t-ẽ-r (3.IRLS) ‘to listen to’
 O.Z. a-gari (1S), t-a-gari (3), t-a-gari (3.IRLS) ‘to believe’
- (66) Ay. j-a-kiri (1S), b-a-kiri (2S), t-a-kiri (3), j-a-ki-ko-j (1P),
 wak-a-ki-t̥eo-j (2P) ‘to visit, to go to see someone’
 Ch. t-e-kir (1S), e-kir (2S), t-e-kir (3), j-e-kir (1PI), o-j-ekir (1PE),
 e-kir-lo (2P), o-t-e-kir (3P) ‘to go for a walk’
 Ay. j-a-kiri-hi (1S), b-a-kiri-hi (2S), t-a-kiri-hi (3), j-a-ki-ko-hi (1P),
 wak-a-ki-t̥eo-hi (2P) ‘to visit at’
 Ch. t-e-kirihi (1S), e-kirihi (2S), t-e-kirihi (3), j-e-kirihi (1PI),
 o-j-ekirihi (1PE), e-kirihi-lo (2P), o-t-e-kirihi (3P),
 t-e-kirihi (3.IRLS) ‘to visit’
- (67) Ay. j-e-re (1S), b-e-re (2S), t-e-re (3), j-e-ko (1P), wak-e-t̥eo /
 wak-a-re-t̥eo (2P) ‘to urinate’
 Ch. tik-i-ɾ (1S), e-ɾ (2S), t-i-ɾ (3), j-i-ɾ (1PI), o-j-i-ɾ (1PE), e-ɾ-lo (2P),
 o-t-i-ɾ (3P), t-i-ɾ (3.IRLS) ‘to urinate’

- (68) Ay. *ŋ-e-rateu* (1S), *m-e-rateu* (2S), *t-ẽ-rateu* / *te-ẽ-rateu* (3),
ŋ-e-rateu-go (1P), *wak-ẽ-rateu-jo* (2P) ‘to sing with gourd rattle’
 Ch. *tik-ẽ:j-tea* / *tak-ã:-tea* / *tik-ẽ:j-tei* (1S), *ẽ:j-tea* (2S), *t-ẽ:j-tea* (3),
j-ẽ:j-tea (1PI), *o-j-ẽ:j-tea* (1PE), *ẽ:j-tei-lo* (2P), *o-t-ẽ:j-tea* (3P),
t-ẽ:j-tea (3.IRLS) (also: *tějtea* / *tejtea*) ‘to shake, to swing’
 (also ‘to shake a rattle’)
- (69) Ay. *j-e-raha* (1), *b-e-raha* (2S), *t-e-raha* (3), *j-e-ko-ha* (1P),
wak-e-teo-ha (3) ‘to urinate upon, to wet upon’
 Ch. *tik-i-rāha* (1S), *e-rāha* (2S), *t-i-rāha* (3), *j-i-rāha* (1PI),
o-j-i-rāha (1PE), *e-rāha-lo* (2P), *o-t-i-rāha* (3P), *t-i-rāha* (3.IRLS)
 ‘to urinate all over’
- (70) Ay. *j-i-bi-te* (1S), *b-a-bi-te* (2S), *t-i-bi-te* (3), *j-i-bi-ko* (1P),
wak-a-bi-teo (2P) ‘to yell, to shout’ (also: *tibit*)
 Ch. *tik-i-bite* (1S), *e-bite* (2S), *t-i-bite* (3), *j-i-bite* (1PI),
o-j-i-bite (1PE), *e-bite-lo* (2P), *o-t-i-bite* (3P), *t-i-bite* (3.IRLS)
 ‘to shout, to yell’
- (71) Ay. *j-i-bidi* (1S), *b-a-bidi* (2S), *t-i-bidi* (3), *j-i-bi-ko-j* (1P),
wak-a-bi-teo-j (2P) ‘to call, to summon’
 Ch. *tik-i-bi:* (1S), *e-bi:* (2S), *t-i-bi:* (3), *j-i-bi:* (1PI), *o-j-i-bi:* (1PE),
e-bi:-lo (2P), *o-t-i-bi:* (3P), *t-i-bi:* (3.IRLS) ‘to call, to summon’
 O.Z. *a-i-bidi* (1S), *t-i-bidi* (3), *t-i-bidi* (3.IRLS) ‘to call’
- (72) Ay. *j-i-miniņa* (1P), *b-a-miniņa* (2P), *t-i-miniņa* (3),
j-i-miniņa-ko (1P), *wak-a-miniņa-teo* (2P) ‘to pay attention to,
 to take note to’
 Ch. *tik-i-bej* (1S), *a-bej* (2S), *t-i-bej* (3), *j-i-bej* (1PI), *o-j-i-bej* (1PE),
a-bej-lo (2P), *o-t-i-bej* (3P), *t-i-bej* (3.IRLS) ‘to look after,
 to take care of’

- (73) Ay. *ɲ-õ-ra* (1S), *m-õ-ra* (2S), *t-õ-ra* (3), *ɲ-õ-ra-ɲo* (1P),
wak-õ-ra-ɲo (2P) ‘to throw out’
 Ay. *j-õ-ra-(h)i* (1S), *b-õ-ra-(h)i* (2S), *t-õ-ra-(h)i* (3), *j-õ-ra-ɲo-(h)i*
 (1P), *wak-õ-ra-ɲo-(h)i* (2P) ‘to come from, to leave from’
 Ch. *tok-õ-ra* (1S), *ã-ra* (2S), *t-ã-ra* (3), *j-ã-ra* (1PI), *o-j-ã-ra* (1PE),
ã-r-lo (2P), *o-t-ã-ra* (3P), *t-ã-ra* (3.IRLS) ‘to come from; to throw’
 O.Z. *o-râ* (1S), *t-o-râ* (3) ‘to bring, to take’¹⁹⁴
- (74) Ay. *j-o-ri* (1S), *b-o-ri* (2S), *t-o-ri* (3), *j-o-ri-go* (1P), *wak-o-ri-jo* (2P)
 ‘to steal, to rob’
 Ch. *tok-o-hir* (1S), *o-hir* (2S), *t-o-hir* (3), *j-o-hir* (1PI), *o-j-o-hir* (1PE),
o-hir-lo (2P), *o-t-o-hir* (3P), *t-o-hir* (3.IRLS) ‘to steal, to rob’
- (75) Ay. *j-o-ria* (1S), *b-o-ria* (2S), *t-o-ria* (3), *j-o-ria-go* / *j-o-ri-ko* (1P),
wak-o-ria-jo / *wak-o-ri-teo* (2P) ‘to steal, to rob’
 Ch. *tok-o-ɾa* (1S), *o-ɾa* (2S), *t-o-ɾa* (3), *j-o-ɾa* (1PI), *o-j-o-ɾa* (1PE),
o-hir-lo (2P), *o-t-o-ɾa* (3P), *t-o-ɾa* (3) ‘to steal, to rob’
 O.Z. *o-ria* (1S), *d-o-ria* (2S), *t-o-ria* (3), *oria* (2S.IRLS) ‘to steal’

The above examples show a few pairs of AY and CH verbs related both semantically and phonologically, such as *tac* /tak/ (63) and *tagu* (64), *taquiri* /takiri/ and *taquiríji* /takirihi/ (66), *tere* (67) and *teraja* /teraha/ (69), *tibite* (70) and *tibidi* (71), *tori* (74) and *toria* (75). These pairs are the result of a derivational process, which is often opaque. The derivation process is only transparent in *taquiríji* /takirihi/ (66) and *teraja* /teraha/ (69) and involves devices still found in the currently spoken Zamucoan languages. *Taquiríji* /takirihi/ (66) and *teraja* /teraha/ (69) are obtained by adding the lexical suffixes *-ihi/* and *-aha/* to *taquiri* /takiri/ and *tere*. These lexical suffixes correspond to the CH preposition *=/ihi/* (or *=/aha/*),

¹⁹⁴ On this verb, see Kelm (1964: 480, note 52).

where the same process is to be found: *tirh* /tṛ/ ‘to urinate’ (67) + =/āha/ → *tirāha* ‘to urinate everywhere’ (69); *tekir* ‘to walk, to travel’ (66) + =/ihi/ → *tekirihī* ‘to visit’ (66). In (69), apart from the unexpected nasalization of the preposition =/āha/ (far more frequent in its non-nasalized variant =/aha/), the main difference between the two forms is the meaning of the verb, rather than the valency. In the case of *tirh* /tṛ/ (67), the regular form with the preposition is *tirihī* (which conveys the same meaning and an increased valency) rather than *tirāha*, which is semantically different (cf. (67) with (69)). Thus, in *tekirihī* and *tirāha* the preposition has been included in the verb, producing a semantic change.

Leaving aside the specific meaning of each verb and the single derivational process, it is remarkable that five pairs of /t/-verbs show a derivational process common to both Ayoreo and Chamacoco. There is lack of data for Old Zamuco, but the few data available confirm that these phenomena can be traced back to a very old stage of the Zamucoan languages.

§7.5 Chamacoco /t/-verbs corresponding to other verb classes in Ayoreo

As already said, /t/-verbs form a large group in Chamacoco, but correspond to two small groups in Ayoreo and Old Zamuco. The obvious implication is that AY /t/-verbs usually correspond to CH /t/-verbs, but not all CH /t/-verbs correspond to AY /t/-verbs. The CH /t/-verbs in (76-79) are /tṛ/-verbs in Ayoreo. However, in (76-78) the CH prefix /t/- corresponds to AY /tṛ/-, while in (79) the Chamacoco 3-person *t-ata* corresponds to the O.Z radical 3-person *tata* and to the AY root of *ch-a-tata* /tṛ-a-tata/. Here, the prefix /tṛ/- has been added in Ayoreo and the CH root *tata* has been

reinterpreted as a /t/-verb. Something similar has occurred in the CH /t/-verb *tibuhu*, whose 3-person corresponds to the root of the AY verb *tibója* /tiboɦa/, a radical verb (80).

(76) Ay. j-u-tɛi (1S), b-a-tɛi (2S), tɛ-u-tɛi (3), j-u-tɛi-go (1P), wak-a-tɛi-jo (2P) ‘to defecate’

Ch. tik-i-tɛi (1S), e-tɛi (2S), t-i-tɛi (3), j-i-tɛi (1PI), o-j-i-tɛi (1PE), e-tɛi-lo (2P), o-t-i-tɛi (3P), t-i-tɛi (3.IRLS) ‘to defecate’

(77) Ay. ɲ-i-sekãru, m-a-sekãru (2S), tɛ-i-sekãru (3), ɲ-i-sekã-ko (1P), wak-a-sekã-tɛo (2P) ‘to count, to number’

Ch. tik-i-skir (1S), e-skir (2S), t-i-skir (3), j-i-skir (1PI), o-j-i-skir (1PE), e-skir-lo (2P), o-t-i-skir (3P), t-i-skir (3.IRLS) ‘to count, to number’ (also: tisikĩr / tiskĩr)

(78) Ay. j-u-tĩra-ha (1S), b-a-tĩra-ha (2S), tɛ-u-tĩra-ha (3), j-u-tĩ-ko-ha (1P), wak-a-tĩ-tɛo-ha (2P) ‘to spit at/in/on’

Ch. tik-i-tirãha (1S), e-tirãha (2S), t-i-tirãha (3), j-i-tirãha (1PI), o-j-i-tirãha (1PE), e-tirãha-lo (2P), o-t-i-tirãha (3P), t-i-tirãha (3.IRLS) ‘to spit’

(79) Ay. j-a-tata (1S), b-a-tata (2S), tɛ-a-tata (3), j-a-tata-go (1P), wak-a-tata-jo (2P) ‘to advise; to tell; to inform; to relate; to preach’

Ch. t-i:-ta (1S), a-ta (2S), t-a-ta (3), j-i:-ta (1PI), o-j-i:-ta (1PE), a-ta-lo / a-ti-lo (2P), o-tata (3P), t-a-ta (3.IRLS) ‘to say, to report’

O.Z. Ø-Ø-tata (3), a-i-tata-go-a (1P), a-tata (2S.IRLS), y-i-tata (1S.IRLS), Ø-Ø-tata (3.IRLS) ‘to say, to tell’

- (80) Ay. j-i-tiboha (1S), b-a-tiboha (2S), Ø-Ø-tiboha (3),
 j-i-tiboha-go (1P), wak-a-tiboha-jo (2P) ‘to yawn’
 Ch. tik-i-buhu / tuk-i-buhu (1S), e-buhu (2S), t-i-buhu (3),
 j-i-buhu (1PI), o-j-i-buhu (1PE), e-buhu-lo (2P), o-t-i-buhu (3P),
 t-i-buhu (3.IRLS) ‘to yawn; to lick’ (also: tubuhu)

§7.6 Chamacoco /d/-verbs

CH /d/-verbs show 3-prefixes not found in the other Zamucoan languages, such as /j/- and /l/-. (81) and (83) should be considered prefixal verbs in Chamacoco, but the comparison shows that they were originally radical verbs whose root-initial consonant underwent fortition in the 3-person. For this reason, the 3-person initial consonant has been reinterpreted as a prefix. CH *y-a-na* /j-a-na/ corresponds to the AY radical verb *cana* /kana/. In this case, the syllable /ŋa/ has deleted word-internally in Chamacoco,¹⁹⁵ while it has been preserved word-initially in the 3-person, where AY /ŋ/ undergoes fortition. Here AY /ŋ/ corresponds to CH /j/. /j/ and the following vowel /a/ have been reinterpreted as the prefix and the 3-vowel respectively. This also explains why the 3-vowel is different from the 1-person /i/, the original thematic vowel. *Yana* /jana/ has been included in the subclass of /d/- verbs owing to its morphological behaviour, but diachronically it is a radical verb which was reinterpreted as a prefixal verb owing to the fact that /j/ is a 3-person prefix in CH nominal morphology. As will be shown in §10.5, only the 3-prefixes of /d/-verbs can be found in the 3-person of CH possessive inflection.

¹⁹⁵ The AY phoneme /g/ and its nasalized counterpart /ŋ/ have often deleted in Chamacoco.

In (82) the Chamacoco 3-prefix /d/- corresponds to the AY prefix /tɛ/-. In *dohir* the irrealis form has probably replaced the original 3-person. In (83) all verbs have root-initial /r/, which undergoes fortition to /d/ word-initially in Ayoreo and Old Zamuco. The AY and O.Z verbs in (83) are radical, while CH *dirk* is a /d/-verb. It is possible that the verb was radical in Proto-Zamucoan, but the CH 3-person does not exactly coincide with the AY/O.Z root. Two hypotheses are possible: (1) CH *dirk* was originally a radical verb. The 3-prefix /d/ derives from the fortition of root-initial /r/ and is followed by the root vowel /i/, reinterpreted as a thematic vowel in the 3-person and deleted in the rest of the paradigm, where the original inflectional vowel (also corresponding to AY / O.Z /i/) was maintained.¹⁹⁶ The radical 3-person has assimilated to the rest of the paradigm, so that /r/ insertion after the original root vowel occurred. (2) *dirk*, originally radical, has first turned into a regular prefixal verb in Chamacoco and then its irrealis form has replaced the 3-person.

- (81) Ay. j-/ɲ-i-ɲana (1S), b-/m-a-ɲana (2S), Ø-Ø-kana (3),
 j-/ɲ-i-ɲana-ɲo (1P), wak-a-ɲana-ɲo (2P) ‘to laugh’
 Ch. tik-i-na (1S), a-na (2S), j-a-na (3), j-i-na (1PI), o-j-i-na (1PE),
 a-ni-lo (2P), o-j-a-na (3P), j-a-na (3.IRLS) ‘to laugh’

- (82) Ay. j-o-ru (1S), b-o-ru (2S), tɛ-o-ru (3), j-o-ko (1P), wak-o-tɛo (2P)
 ‘to climb, to mount, to ride’
 Ch. tok-o-hir (1S), o-hir (2S), d-o-hir (3), j-o-hir (1PI), o-j-o-hir
 (1PE), o-hir-lo (2P), o-d-o-hir (3P), d-o-hir (3.IRLS) ‘to go up’

- (83) Ay. j-i-ri-ke (1S), b-a-ri-ke (2S), Ø-Ø-dike (3), j-i-ri-ho (1P),

¹⁹⁶ As noted above, the first root-vowel of CH radical verbs is preserved in the 3-person, but it reduces or deletes in the rest of the paradigm (see §5.6).

wak-a-ri-*teo* (2P) ‘to walk’

Ch. tik-i-rk (1S), e-rk (2S), d-i-rk (3), j-i-rk (1Pl), o-j-i-rk (1PE),

e-rki-lo (2P), o-d-i-rk (3P), d-i-rk (3.IRLS) ‘to walk’

O.Z. y-i-raque (1S.IRLS), Ø-Ø-dac (3), Ø-Ø-dac (3.IRLS) ‘to come’¹⁹⁷

In conclusion, /d/-verbs are a CH innovation. Their 3-person was originally a radical 3-person (81) or an irrealis form (82-83).

§7.7 Thematic verbs

In Ayoreo, Old Zamuco and Chamacoco there exists a small class of thematic verbs. However, Ayoreo has a very tiny class of thematic verbs, so that the O.Z and the CH thematic verbs reported here do not correspond to AY thematic verbs. A verb to be found in all Zamucoan languages is reported in (84). AY *chague* /tɛage/ and O.Z *iyague* (/ijage/) are phonologically very similar. Thematic verbs in Old Zamuco have the opposition between realis and irrealis in the 3-person: cf. *iyague* (/ijage/) (3.realis) vs. *chague* (/tɛage/) (3.irrealis). The Old Zamuco 3-irrealis coincides with the Ayoreo 3-real. Since in Ayoreo only this form has been preserved, this proves that the 3-irrealis has replaced the 3-real. This has occurred systematically, so that an O.Z or CH thematic verb corresponds to a radical verb in Ayoreo, as one can see in the following examples (84-88). In O.Z *iyague* (/ijage/), on the other hand, the 3-irrealis consists of the root *-yague* (-/jage/). Root-initial *y-* (/j/-) possibly turned into /tɛ/ in word-initial position. If this is so, the O.Z irrealis has a ‘radical’ 3-person. This might explain why there are few thematic verbs in Ayoreo: in most cases, the original thematic 3-real has been replaced by a radical (originally irrealis)

¹⁹⁷ AY and O.Z final /e/ in this example is a euphonic vocoid.

3-person. The AY radical verbs show root-initial /j/ which turns into /tɕ/ in the 3-person. One can suppose that the radical 3-person in /tɕ/- has replaced the thematic one owing to an analogy with /tɕ/-verbs. This confirms that these Ayoreo verbs should be considered radical verbs, rather than prefixal verbs in which an internal syllable has dropped. Another characteristic of the O.Z thematic verbs is the 1-irrealis prefix *y-* (/j/-), the standard Ayoreo 1-prefix (preferred in irrealis contexts). The 3-realis of Old Zamuco is still preserved in Chamacoco. By comparing the Chamacoco 3-realis *iyehet* /ijehet/ with *iyague* (/ijage/), one has to bear in mind that AY and O.Z /a/ very often corresponds to CH /e/ and that /g/ does not exist in Chamacoco, where it weakens (and in this case corresponds to /h/) or disappears. The 3-irrealis of *iyehet* /ijehet/, *sehet* /tsehet/, corresponds to O.Z and AY *chague* /tɕage/, since AY and O.Z /tɕ/- very often corresponds to CH /ts/-. *Sehet* /tsehet/ is irregular in Chamacoco, but such an irregularity can be easily explained if compared with *chague* /tɕage/. *Sehet* /tsehet/ and *chague* /tɕage/ clearly have the same origin. The CH irrealis person consists of the pure root, in which a consonantal change (probably /j/ > /tɕ/ > /ts/)¹⁹⁸ occurred. In the 2-person of *iyehet* /ijehet/ there is root allomorphy, associated with the 2-vowel /a/. Root allomorphy is not to be found in the other languages. As final point, the vocalic pattern in this verb is the same in the three languages.

¹⁹⁸ This is true if one considers /ts/ a CH innovation, otherwise, more simply: /j/ > /ts/.

- (84) Ay. j-i-jage (1S), b-a-jage (2S), Ø-Ø-tɛage (3), j-i-jage-go (1P),
 wak-a-jage-jo (2P) ‘to stand up’
 Ch. t-i-jehet / tik-i-jehet / tik-i-jehet (1S), a-lehet (2S), i-jehet (3),
 j-i-jehet (1PI), o-j-i-jehet (1PE), a-leheti-lo / a-lehet-lo (2P),
 o-jehet (3P), tsehet (3.IRLS) ‘to stand, to stand up’
 O.Z. a-i-yague (1S), d-a-yague (2S), i-yague (3), a-i-yague-go (1P),
 d-a-yague-o (2P), y-i-yague (1S.IRLS), chague (3.IRLS),
 y-i-yague-go (1P.IRLS), a-yague-o (2P.IRLS) ‘to stand up’

In (85) AY *cho* /tɛo/ ‘to jump, to leap, to fly’ is compared with the CH verb *iyó* /ijo/ ‘to jump’. The AY verb *cho* /tɛo/ is another radical verb, characterized by the consonantal change /j/ > /tɛ/ in the 3-person, which is supposed to correspond to an O.Z thematic verb.¹⁹⁹ As it emerges in the previous example (84), the Ayoreo 3-person *cho* /tɛo/ corresponds to the Chamacoco 3-irrealis *so* /tso/. The relationship between the two verbs is not immediately found if one compares AY *cho* /tɛo/ with CH *iyó* /ijo/, but it is to be found if *iyó* /ijo/ is compared with the theme *-iyó* /-ijo/ which appears in the rest of the AY paradigm. The 1- and the 2-vowel are the same in all three languages. The root allomorphy in the Chamacoco 2-person is not to be found in Ayoreo (85-86, 90).

- (85) Ay. j-i-jo (1S), b-a-jo (2S), Ø-Ø-tɛo (3), j-i-jo-go (1P),
 wak-a-jo-jo (2P) ‘to jump, to leap, to fly’
 Ch. tik-i-jo (1S), a-lo (2S), i-jo (3), j-i-jo (1PI), o-j-i-jo (1PE), a-li-lo /
 a-lo-lo (2P), o-jo (3P), tso (3.IRLS) ‘to jump; to fly’
 O.Z. a-i-yo (1S) ‘to fly’

If the CH verb *chague* /tɛage/ and the AY verb *iyehet* /ijehet/ are cognate, one can suppose that also the AY verb *cha* /tɛa/ ‘to stop, to

¹⁹⁹ Unfortunately in Chomé’s grammar only the 1S-person is reported.

quit’ and the CH verb *iyehē* /ijehe/ ‘to stop’ are cognates. Both *cha* /tɕa/ and *iyehē* /ijehe/ are phonologically and semantically related to *chague* /tɕage/ and *iyehet* /ijehet/, respectively, and in both cases they lack the final element (-/ge/ or -/t/). Also in (86) the root vowel /a/ corresponds to CH /e/. The CH irrealis form *sehe* /tsehe/ has to be put in relation with the Ayoreo 3-person *cha* /tɕa/. In both languages the 1-thematic-vowel is /i/ and the 2-vowel is /a/.

- (86) Ay. j-i-ja (1S), b-a-ja (2S), Ø-Ø-tɕa (3), j-i-ja-go (1P),
 wak-a-ja-jo (2P) ‘to stop, to quit’
 Ch. t-i-jehe / tik-i-jehe (1S), a-lehe (2S), i-jehe (3), j-i-jehe (1PI),
 o-j-i-jehe (1PE), a-lehe-lo (2P), o-j-ehe (3P), tsehe (3.IRLS)
 ‘to stop’
 O.Z. a-i-yau (1S), i-yau (3) ‘to stop, to quit’²⁰⁰

The verb *ina* is considered an exception in Old Zamuco (see §6.8). It shows some similarities with thematic verbs, especially in the 3-realis. As noted by Kelm (1964: 803-804), *ina* corresponds to the AY verb *nóna* which has two forms in the 3-person. The radical form *nóna* corresponds to Old Zamuco 3-irrealis *nona*: as in thematic verbs, the Old Zamuco 3-irrealis corresponds to the Ayoreo 3-person. Note that AY *nóna* is irregular if compared with the rest of the paradigm, whose root -/ɲina/ corresponds to the root /hina/ of the Old Zamuco 1S-irrealis. The ‘regular’ 3-person *chij(n)ína* /tɕiɲina/ is probably an AY innovation, resulting from analogical levelling. The final syllable -/na/ does not behave as a lexical suffix in Ayoreo. The vocalic pattern of Ayoreo is different from that of Old Zamuco and it is the same used for radical verbs. The verb *ina* corresponds to the CH thematic verb *ĩya* /ĩja/. In this

²⁰⁰ On this verb, see Kelm (1964: 499).

case, CH /j/ (realized as [ɲ] or [j]) corresponds to /n/ in the root of the verb *ina*. The correspondence between the Chamacoco and Old Zamuco 3-realis is evident, as the correspondence between the Old Zamuco 3-irrealis *nona* and CH *noya* /noja/. As in the case of O.Z thematic verbs, the Chamacoco 3-irrealis *noya* /noja/ corresponds to the Ayoreo 3-person *nóna*, corresponding to the Old Zamuco 3-irrealis, although in this case the O.Z irrealis does not coincide with the root (as in thematic verbs), but takes the 3-prefix /n-/. The CH vocalic pattern is irregular. The Chamacoco 1S-vowel /o/ is the same as that of Old Zamuco. Thematic /o/ also emerges in the greater plural of the 1PI-person, while in the other 1P-persons /u/ is to be found, probably related to /o/. The Ayoreo 2S-person takes the prefix /b-/, which can nasalize into /m-/. This prefix is unusual in Old Zamuco and Chamacoco. The O.Z verb *ina* is an exception where the prefix /m-/ is observed in the 2-irrealis. The prefix /m-/ for the 2-person is also used in the CH verb *ĩya* /ĩja/. This is a very rare exception in Chamacoco. Another of the few verbs taking /m/- or /b/- in the 2-person is *iim* /i:m/ ‘to leave’ (88), which has the 2-person *moym* /mojm/. As already seen (see §5.5.4), this verb shares other rare morphological characteristic with *ĩya* /ĩja/, but no cognate verb for *iim* /i:m/ is reported in Old Zamuco. The Chamacoco 2-person does not usually take any person prefix and corresponds to the irrealis person in Old Zamuco. *Meya* /meja/, the 2-person of *ĩya* /ĩja/, corresponds to O.Z *mona*, the 2-irrealis of *ina*. The fact that the Chamacoco 2-person corresponds to the Old Zamuco 2-irrealis even when it is prefixed, suggests that the Chamacoco 2-person was originally a 2-irrealis. One should observe that the O.Z verb does not exactly convey the same meaning of *ĩya* /ĩja/ and *nóna*. It is not easy to interpret the sense of the gloss by Chomé (‘rodar’), because there are no examples of sentences in which this verb is used. In the last pages of Chomé’s

grammar (1958: 176) the 3-person *ina* is translated with ‘together’.²⁰¹

(87) Ay. j-i-ṇina (1S), b-a-ṇina (2S), Ø-Ø-nona / tɛ-i-ṇina (3),
j-i-ṇina-ṇo (1P), wak-a-ṇina-ṇo (2P) ‘to accompany, to go with’
(also: tɛihina)

Ch. tok-ō-ja (1S), m-e-ja (2S), i-ja (3), j-u-kwīja / j-ū-ja (1PI),
o-j-u-kwīja / o-j-ū-ja (1PE), j-ō-j-lo [nojlo] (1PI.GP),
m-e-j-lo (2P), ō-ja (3P), n-o-ja (3.IRLS) ‘to accompany’

O.Z. o-na (1S), d-o-na (2S), i-na (3), o-co-na (1P), d-o-yo-na (2P),
y-a-hi-na (1S.IRLS), m-o-na (2S.IRLS), n-o-na (3.IRLS),
i-co-na (1P.IRLS), m-o-ño-na (2P.IRLS) ‘to roll/to go round’

(88) Ay. j-i-hi(n)o-me (1P), b-a-hi(n)o-me (2P), Ø-Ø-nopo-me (3),
j-i-hi(n)o-ṇo-me (1P), wak-a-hi(n)o-ṇo-me (2P) ‘to leave’

Ch. tok-oj-m (1S), m-oj-m (2S), i:-m (3), j-u-kwim (1PI),
o-j-u-kwim (1PE), m-oj-m-lo (2P), oj-m (3P), n-oj-m (3.IRLS)
‘to leave’

Both CH verbs in (89-90) correspond to a regular AY prefixal verb. The CH thematic vowel is synchronically /o/, but the 3-vowel is /i/, which corresponds to the AY thematic vowel /i/. The interesting fact is that the O.Z verb *izi* /isi/ (89), like its CH counterpart, shows an irregular vocalic pattern where /o/ and /i/ alternate. Thus, examples (87) and (89) suggest that such irregular /o/ ~ /i/ alternation can be traced back to Proto-Zamucoan.²⁰²

²⁰¹ Kelm (1964: 803-804) translates the verb with ‘umherreisen’, that is ‘to travel around’.

²⁰² As one can see in §7.2.8 and §7.4 AY, thematic /i/ always corresponds to a high thematic vowel, mostly /i/, in Chamacoco.

The AY and CH verbs in (90) derive from the verbs in (89), with the addition of *-ome/* and *-im/* respectively. Both elements introduce an indirect object. AY *-ome/* is a lexical suffix separated from the rest of the verb by the plural suffixes (such as *-go/* and *-jo/*), while CH *-im/* has been included in the verb (see §5.13). The CH verb *ishi* /*iei*/ has probably undergone a little semantic change, because it also means ‘to pay’, ‘to contaminate’ and ‘to deliver’ (see §5.13).

- (89) Ay. j-i-si (1S), b-a-si (2S), *te*-i-si (3), j-i-si-go / j-i-si-*ŋo* (1P),
 wak-a-si-jo / wak-a-si-*ŋo* (2P) ‘to give’
 Ch. tok-o-*ei* (1S), e-*ei* (2S), i-*ei* (3), j-o-*ei* (1PI), o-j-o-*ei* (1PE),
 e-*ei*-lo (2P), o-*ei* (3), d-o-*ei* (3.IRLS) ‘to pay; to give;
 to contaminate; to deliver’
 O.Z. o-zi (1S), i-zi (3), y-i-zi (1S.IRLS), a-zi (2S.IRLS) ‘to give’
- (90) Ay. j-/*ŋ*-i-si-ome (1S), b-/m-a-si-ome (2S), *te*-i-si-ome (3),
 j-isi-go-me / j-i-si-*ŋo*-me (1P), wak-a-si-jo-me /
 wak-a-si-*ŋo*-me (2P) ‘to give to’
 Ch. tok-o-sim (1S), a-sim (2S), i-*eim* (3), j-o-sim (1PI),
 o-j-o-sim (1PE), a-sim-lo (2P), o-*eim* (3P), d-o-sim (3.IRLS)
 ‘to give’

Consider the CH thematic verb *ishi* (91). It corresponds to an AY /*te*-verb, whose thematic vowel is /o/. Since there are no data for Old Zamuco, it is not possible to say whether the CH verb still maintains an old /o/ ~ /i/ alternation and one can hypothesize that /o/ was the original CH thematic vowel too,²⁰³ but it was substituted by /i/ in the 2- and 3-person. The AY final vowel is /i/,

²⁰³ As one can see in §7.2.8 and §7.4, AY thematic /o/ always corresponds to CH /o/.

which corresponds to final /i/ in the Chamacoco 3-person root, so that /i/ was the original CH final vowel too, but has assimilated to thematic /o/ or to the 2-vowel /e/ in the rest of the paradigm. In the 3-person *ihi*, however, final /i/ is preserved. The need to differentiate the 3-person from the 3P-person *oho* may have contributed to yield the form *ihi*, in which original thematic /o/ has assimilated to final /i/.

- (91) Ay. j-o-hi (1S), b-o-hi (2S), tɛ-o-hi (3), j-o-hi-go (1P),
 wak-o-hi-jo (2P) ‘to drink’
 Ch. tok-o-ho (1S), e-he (2S), i-hi (3), j-o-ho (1PI), o-j-o-ho (1PE),
 e-he-lo (2P), o-ho (3P), d-o-ho (3.IRLS) ‘to drink’

In (92) there is another CH thematic verb which corresponds to an AY prefixal verb. Also here no data for Old Zamuco are available, but, unlikely (91), the comparison with Ayoreo seems to indicate that the original CH thematic vowel was /i/, only preserved in the 3-person. In (§5.5.4) it has been said that in *icho* /iteo/, root-initial /tɛ/ has turned into /ts/ in the 2-person after the 2-vowel /a/. The other persons have assimilated to the 2-root, so that root-initial /tɛ/ has turned into /ts/ in the whole paradigm, with the only exception of the 3-person, where /tɛ/ has been preserved. This seems to be confirmed by the comparison with AY *chicho* /teiteo/, which has root-initial /tɛ/ in the whole paradigm.²⁰⁴

- (92) Ay. j-i-tɛo (1S), b-a-tɛo (2S), tɛ-i-tɛo (3), j-i-tɛo-go (1P),
 wak-a-tɛo-jo (2P) ‘to shoot’
 Ch. tok-o-tso (1S), a-tso (2S), i-tɛo (3), j-o-tso (1PI), o-j-otso (1PE),

²⁰⁴ The preservation of the original root-initial consonant in the 3-person is also to be found in other verbs discussed in §5.5.4, for which no O.Z or AY cognate is reported.

a-tsi-lo (2P), o-tɛo (3P), l-o-tso (3.IRLS) ‘to throw, to shoot’

To sum up, excluding (87) and (88), which are highly irregular, one can note a correlation between the CH irrealis form and the current AY class of original thematic verbs (as shown by the comparison with Old Zamuco). The CH verbs in (89-92) have 3-irrealis prefix /d/- and inflectional vowel /o/. They correspond to AY prefixal verbs. By contrast the CH verbs in (84-86) have radical irrealis form and their AY counterpart is radical. Here the original AY 3-irrealis has replaced the 3-realis. In (89-92) the possible presence of a 3-irrealis prefix /d/- also in the proto-language could have exerted some influence on the kind of class shift occurred in Ayoreo. Finally, it is also possible that the 3-irrealis prefix /d/- was present in all thematic verbs of Proto-Zamucoan. If this is so, the word-initial fortition described for the verbs in (84-86), whose original inflectional vowel is /i/ followed by /j/, could depend on the affrication of the sequence */dij/, yielding /tɛ/ in Old Zamuco and /ts/ in Chamacoco.

§7.8 Radical verbs in the Zamucoan languages

In all Zamucoan languages there is a class of radical verbs. Radical verbs show neither prefix nor thematic vowel in the 3-person. Their vocalic pattern is /i/-/a/-Ø or /u/-/a/-Ø in Ayoreo, while in Old Zamuco only /i/-/a/-Ø is to be observed. The thematic vowel can harmonize to the first root-vowel. Chamacoco exhibits more variability with regard to the vocalic pattern, because three high thematic vowels /i u i/ are to be found and two vowels (/a/ and /e/) can occur in the 2-person (depending on the verb). Moreover, other exceptions are discussed in §5.6.

In all Zamucoan languages, radical verbs may show fortition of the root-initial consonant word-initially, that is in the 3-person. In the following paragraphs radical verbs will be sorted according to the initial consonant. In most cases the 3-person root-initial consonant is the same in Ayoreo and Chamacoco. The inventory of the CH consonants which occur in root-initial position of radical verbs is less numerous than in Ayoreo. There are few radical verbs reported in Old Zamuco.

In CH radical verbs, the original first root-vowel is preserved in the 3-person, while it often reduces or deletes in the rest of the paradigm. This is confirmed by the comparison with Ayoreo, because the CH first root-vowel in the 3-person always corresponds to the AY first root-vowel, which remains unchanged in the whole paradigm (see examples (93), (94), (96), (97) and (102)). Consequently, the 3-person of radical verbs can be innovative in the root-initial consonant, but conservative in the first root-vowel.

The radical verb in (93) has root-initial /b/ in both Ayoreo and Chamacoco. The consonant is preserved in the whole paradigm. The CH thematic vowel is /e/, which is very rare in radical verbs, and is probably influenced by the first root-vowel /e/ in the 3-person, which turns into /i/ in the rest of the paradigm, where thematic /e/ is to be found. The Chamacoco 3-person first root-vowel /e/ corresponds to AY /a/.

- (93) Ay. j-i-base (1S), b-a-base (2S), Ø-Ø-base (3), j-i-ba-ko (1P),
 wak-a-ba-so (2P) 'to fall down, to be born, to stop when
 travelling' (also: bas)
 Ch. t-e-bieɪ (1S), e-bieɪ (2S), Ø-Ø-beɪ (3), j-e-bieɪ (1PI), o-j-ebieɪ
 (1PE), e-bieɪ-lo (2P), o-beɪ (3P), Ø-Ø-beɪ (3.IRLS) 'to fall'
 cf. also: Ay. Ø-Ø-basihi (3) 'to fall from, to be born in'
 Ch. Ø-Ø-beɪhi (3) 'to fall from'

In (94) both verbs are radical. Root-initial /k/ is preserved in the whole paradigm. The AY first root-vowel /a/ corresponds to CH /e/, only preserved in the 3-person.

- (94) Ay. j-i-katekãri (1S), m-/b-a-katekãri (2S), Ø-Ø-katekãri (3),
 j-i-katekã-ko-rĩ (1P), wak-a-katekã-ṭeo-rĩ (2P) ‘to speak, to talk’
 Ch. t-i-kĩtkēr / t-i-kĩtkēr (1S), e-kĩtkēr (2S), Ø-Ø-kējtkēr (3),
 j-i-kĩtkēr (1PI), o-j-i-kĩtkēr (1PE), e-kĩtkēr-lo / e-kĩtkēri-lo (2P),
 o-kējtkēr (3P), Ø-Ø-kējtkēr (3.IRLS) ‘to speak, to talk’
 (also: kējtkēr)

The AY radical verb in (95) corresponds to the CH verb *chukutim* /ṭeukutim/. The latter is a regular /ṭe/-verb, but it also has a form coinciding with the root, *kutim*, which is uninflectable and can be used for all persons. This form corresponds to the Ayoreo 3-person *cutame* /kutame/. This suggests that the 3-person *chukutim* /ṭeukutim/ is a CH innovation. In both languages, the vocalic pattern is characterized by /u/, which harmonizes to the first root-vowel /u/. The AY lexical suffix *-ome*/ corresponds to CH *-im*/, but the latter is not a separable element.

- (95) Ay. j-u-kuta-me (1S), b-a-kuta-me (2S), Ø-Ø-kuta-me (3),
 j-u-kuta-go-me (1P), wak-a-kuta-jo-me (2P) ‘fed up with (to be);
 lazy about doing something (to be); tired of (to be)’
 Ch. t-u-kutim (1S), e-kutim (2S), ṭe-u-kutim (3), j-u-kutim (1PI),
 o-j-u-kutim (1PE), e-kutim-lo (2P), o-ṭe-u-kutim (3P),
 d-u-kutim (3.IRLS) ‘to increase fire; to refuse to work’²⁰⁵

²⁰⁵ When the form *kutim* means ‘to refuse to work’, it can be used for all persons.

In examples (96-99) one finds radical verbs with root-initial /t/. This consonant undergoes no change in the rest of the paradigm. In (96) an AY and a CH verb are compared. The AY radical verb *toi* /toj/ (97) has cognates reported in all Zamucoan languages. O.Z and CH radical verbs show no distinction between realis and irrealis in the 3-person, cf. O.Z *toi* (/toj/), CH *toy* /toj/. In both AY and O.Z final /j/ is separated from the verb root by the plural suffix. This does not occur in Chamacoco. In (96) and (97) the AY first root-vowel /o/ corresponds to the Chamacoco 3-person first root-vowel /o/, which reduces to /i/ in the rest of the paradigm. In (98-99) AY verbs are compared with verbs from Old Zamuco.

- (96) Ay. j-i-todo (1S), b-a-todo (2S), Ø-Ø-todo (3), j-i-todo-go (1P),
wak-a-todo-jo (2P) ‘to be afraid of’
Ch. tik-i-ti-la (1S), a-ti-la (2S), Ø-Ø-tola (3), j-i-ti-la (1Pl), o-j-i-ti-la
(1PE), a-ti-li-lo (2P), o-tola (3P), Ø-Ø-tola (3.IRLS)
‘to fear, to be afraid of’
- (97) Ay. j-i-to-j (1S), b-a-to-j (2S), Ø-Ø-to-j (3), j-i-to-go-j (1P),
wak-a-to-jo-j (2P) ‘to die’
Ch. tik-i-ti / tuk-wi-ti (1S), a-ti (2S), Ø-Ø-toj (3), j-i-ti (1Pl),
o-j-i-ti (1PE), a-ti-lo (2P), o-toj (3P), Ø-Ø-toj (3.IRLS) ‘to die’
O.Z. a-i-toi (1S),..., Ø-Ø-toi (3), y-i-toi (1S.IRLS), a-toi (2S.IRLS),
Ø-Ø-toi (3.IRLS), y-i-to-go-i (1P.IRLS) ‘to die, to be dead’
- (98) Ay. j-i-taja (1S), b-a-taja (1S), Ø-Ø-taja (3), j-i-taja-go (1P),
wak-a-taja-jo (2P) ‘to be strong, to be firm’ (used with *ihí*)
O.Z. a-i-taña (1S), d-a-taña (2S), Ø-Ø-taña (3) ‘to be strong’
- (99) Ay. n-i-tārara (1S), m-a-tārara (2S), Ø-Ø-tārara (3), j-i-tārara-ño
(1P), wak-a-tārara-ño (2P) ‘to tremble; to shake involuntarily’

O.Z. a-i-tanârâ (1S), d-a-tanârâ (2S), Ø-Ø-tanârâ (3) ‘to tremble’²⁰⁶

In (100-101) one finds AY and CH radical verbs with /p/ as root-initial consonant. No consonantal change occurs in (100-101). In (102) *pota* is probably a Guaraní loan. The Guaraní root has been reanalyzed as a 3-person form and a default thematic vowel and a prefix have been added to obtain the rest of the paradigm. The AY radical verb has a regular morphological behaviour, while the CH verb shows some subregularities. From a diachronic perspective, in Chamacoco root-initial /p/ is preserved in the 3-person and turns into /b/ in the rest of the paradigm, but this is due to the fact that the Guaraní root *pota* has been reinterpreted as a 3-person form in which root-initial /b/ undergoes fortition.²⁰⁷ The Guaraní first root-vowel /o/ is only preserved in the Chamacoco 3-person, but influences the 1-vowel /o/.²⁰⁸

- (100) Ay. j-i-poga-j (1S), b-a-poga-j (2S), Ø-Ø-poga-j (3),
 j-i-poga-go-j (1P), wak-a-poga-jo-j (2P) ‘to throw up, to vomit’
 Ch. tik-i-pwej (1S), a-pwej (2S), Ø-Ø-pwej (3), j-u-pwej (1PI),
 o-j-u-pwej (1PE), a-pwej-lo (2P), o-pwej (3P),
 Ø-Ø-pwej (3.IRLS) ‘to vomit’

²⁰⁶ In Chamacoco, when ‘to tremble’ is referred to a person, the verb *tāra* preceded by *ikiyo* /ikijo/ is used. In this case, *tāra* occurs in the 3-person, because its subject is *ikiyo* ‘body’, possessed by the person who trembles.

²⁰⁷ In loans the 3-person is salient: when the loan is a Guaraní verb, its root is reinterpreted as a 3-person in Chamacoco (see the verb *pota* and *tonkīya* /tonkīja/, §5.10.1). Spanish verbs used in Chamacoco have a slightly different behaviour: in this case Chamacoco displays a defective paradigm based on the Spanish present indicative 3-person (see §5.10.1).

²⁰⁸ Although here CH *pota* is considered a Guaraní loan, one also has to consider the hypothesis that it could be a case of homonymy rather than a loan.

- (101) Ay. j-i-pogu (1S), b-a-pogu (2S), Ø-Ø-pogu (3), j-i-po-ho (1P),
wak-a-po-*teo* (2P) ‘to hide, to conceal’
Ch. tik-i-po:k (1S), a-po:k (2S), Ø-Ø-po:k (3), j-i-po:k (1PI),
o-j-i-po:k (1PI), a-po:k-lo (2P), o-po:k (3P), Ø-Ø-po:k (3.IRLS)
‘to be ashamed’
O.Z. a-i-poc (1S) ‘to be ashamed’
- (102) Ay. j-i-pota (1S), b-a-pota (2S), Ø-Ø-pota (3), j-i-pota-go (1S),
wak-a-pota-jo (2P) ‘to want to, to desire’
Ch. t-o-bita (1S), a-bita (2S), Ø-Ø-pota (3), j-o-bita (1PI),
o-j-o-bita (1PE), a-bita-lo / a-biti-lo / a-bit-lo (2P), o-pota (3P),
Ø-Ø-pota (3.IRLS) ‘to envy, to lust after’

In (103) one finds AY and CH radical verbs with root-initial /n/, which is preserved in the whole paradigm. In (104-105) there are radical verbs with root-initial /r/ which turns into /n/ word-initially in the 3-person. In (105) Chamacoco has two forms for the 3-person: radical *naha* and prefixal *chirãha* /*teirãha*/, corresponding to AY *nãja* /naha/. *Chirãha* /*teirãha*/ is probably the result of a ‘regularization’ of the 3-person form, based on the model of one of the main verb groups of Chamacoco. In (95) the CH verb *chukutim* /*teukutim*/ or *kutim*, which corresponds to the AY radical verb *cutame* /kutame/, also has a 3-prefixal-form, which seems the result of assimilation to /*te*/-verbs. This could explain why in Chamacoco the group of radical verbs is smaller than in Ayoreo.

- (103) Ay. n-i-nina (1S), m-a-nina (2S), Ø-Ø-nina (3), n-i-nina-*no* (1P),
wak-a-nina-*no* (2P) ‘to rejoice, to welcome’ (followed by the reflexive pronoun: ‘to be happy’)
Ch. tik-i-nina (1S), e-nina (2S), Ø-Ø-nina (3), j-i-nina (1PI),
o-j-i-nina (1PE), e-nini-lo (2P), o-nina (3P), Ø-Ø-nina (3.IRLS)
‘to thank; to hug’

- (104) Ay. *n-i-rihi* (1S), *m-a-rihi* (2S), *Ø-Ø-nihi* (3), *n-i-rihi-ŋo* (1P),
wak-a-rihi-ŋo (2P) ‘to wake up’ (also: *nĩĩ*)
 Ch. *tik-i-rĩhi* (1S), *e-rĩhi* (2S), *Ø-Ø-nihi* (3), *j-i-rĩhi* (1PE), *o-j-i-rĩhi*
(1PI), *e-rĩhi-lo* (2P), *o-nihi* (3P), *Ø-Ø-nihi* (3.IRLS) ‘to get up’
- (105) Ay. *j-i-rā* (1S), *m-a-ra* (2S), *Ø-Ø-na-ha* (3), *j-i-ra-ŋo-ha* (1P),
wak-a-ra-ŋo-ha (2P) ‘to put into’
 Ch. *t-i-rāha* (1S), *e-rāha* (2S), *te-i-rāha* / *Ø-Ø-naha* (3),
j-i-rāha (1PI), *o-j-i-rāha* (1PE), *e-rāha-lo* (2P), *o-te-i-rāha* (3P),
d-i-rāha / *n-i-rāha* / *Ø-Ø-naha* (3.IRLS) ‘to load up’
 (also: *teirēhe*)

According to Kelm (1964: 773), the AY radical verb *jnusi* /*ŋusi*/ corresponds to the radical verb *yozo* (/joso/) in Old Zamuco (106).

- (106) Ay. *n-u-ŋusi* (1S), *m-a-ŋusi* (2S), *Ø-Ø-ŋusi* (3), *n-u-ŋusi-ŋo* /
j-u-ŋu-ko-j (1P), *wak-a-ŋusi-ŋo* / *wak-a-ŋu-so-j* (2P) ‘to be sad,
 to miss someone/something’
 O.Z. *a-i-yozo* (1S), *d-a-yozo* (2S), *Ø-Ø-yozo* (3) ‘to need’²⁰⁹

In (108) the same radical verb is reported in all Zamucoan languages. Both Chamacoco and Old Zamuco have no realis vs. irrealis opposition in the 3-person.

- (108) Ay. *j-u-juare* (1S), *b-a-juare* (2S), *Ø-Ø-juare* (3), *j-u-jua-ko* (1P),
wak-a-jua-teo (2P) ‘to wail, to grieve with mournful crises, to
 lament’
 Ch. *tik-i-jeṛ* (1S), *e-jeṛ* (2S), *Ø-Ø-jeṛ* (3), *j-i-jeṛ* (1PI), *o-j-i-jeṛ* (1PE),
e-jeṛ-lo (2P), *o-jeṛ* (3P), *Ø-Ø-jeṛ* (3.IRLS) ‘to cry’
 O.Z. *a-i-yuare* (1S), *Ø-Ø-yuare* (3), *Ø-Ø-yuare* (3.IRLS) ‘to cry’

²⁰⁹ On this verb, see Kelm (1964: 773).

The AY verb *suru* or *chujuru* /tɕuhuru/ has both a prefixal and a radical 3-person. This verb should be compared with *zoru* (/soru/) in Old Zamuco, originally a radical verb which has acquired some characteristics of the prefixal verbs. In both languages root-initial /h/ turns into /s/ in the 3-person. This fortition, which only occurs in radical verbs, confirms that O.Z. *zoru* (/soru/) was originally a radical verb. The presence of a radical 3-person in both Ayoreo and Old Zamuco, suggests that *chujuru* /tɕuhuru/, the prefixal 3-person of AY *suru*, is the result of assimilation to the prefixal verbs. A similar process can explain some of the irregularities of O.Z. *zoru* (/soru/), such as the reinterpretation of /s/ as 3-prefix, the 3-irrealis *noru* and the reinterpretation of /s/ as 1-irrealis prefix in *zoru* (/soru/) (1S.IRLS) (see also §6.7).

- (109) Ay. j-u-hu(ru) (1S), b-a-hu(ru) (2S), Ø-Ø-su(ru) / tɕ-u-hu(ru) (3),
 j-u-hu-ko (1P), wak-a-hu-tɕo / wak-a-hu-jo (2P) ‘to close (in),
 to shut in’ (used with *gaj*)
 O.Z. a-horu (1S), zoru (3), a-ho-co (1P), d-a-ho-yo (2P) ‘to close’
 zoru (1S.IRLS), noru (3.IRLS) ‘to close’²¹⁰

In (110) O.Z. root-initial /r/ turns into /d/ in the 3-person. This change also occurs in Ayoreo (see §4.6.3), but not in this particular verb, which has a different consonant.²¹¹

- (110) Ay. j-u-kuta (1S), b-a-kuta (2S), Ø-Ø-kuta (3), j-u-kuta-go (1P),
 wak-a-kuta-jo (2P) ‘to be fed up, to be lazy’
 O.Z. a-i-rugut (1S), Ø-Ø-dugut (3) ‘to be fed up’

²¹⁰ On this verb, see Kelm (1964: 773).

²¹¹ These verbs are probably related to the AY and CH verbs in in (94).

The CH verb *umo* conveys two meanings, ‘to sleep’ and ‘to see’. This CH thematic verb corresponds to two AY verbs: the /tɛ/-verb *chimo* /tɛimo/ ‘to see’ and the radical verb *mo* ‘to sleep’ (111). Two similar CH verbs probably merged into *umo*: these verbs still preserve a different irrealis form, that is *umo* for ‘to sleep’ (identical to the 3-realis) and *nomo* for ‘to see’. Unfortunately, there is not enough information for Old Zamuco; the same forms are reported for the 1-person and one does not know whether they had a different form for the 3-person. If ‘to sleep’ and ‘to see’ are regular in Old Zamuco, the irrealis prefix *y-* (/j/-) suggests that the verbs were radical or thematic verbs. Thematic /i/ in the 1-person is the same in both Old Zamuco and Ayoreo and corresponds to CH /u/.

Independently of the morphology of ‘to sleep’ and ‘to see’ in Old Zamuco, one can try to explain why there are two irrealis forms in Chamacoco, simply comparing Ayoreo and Chamacoco and using what has been observed about the verb morphology of the Zamucoan languages. On the one hand *mo* ‘to sleep’ belongs to AY radical verbs, which generally correspond to O.Z and CH radical verbs. These verbs show no distinction between realis and irrealis in Chamacoco and Old Zamuco, as they probably did not have in Proto-Zamucoan. It is probably not a case that the CH verb ‘to sleep’ corresponds to an AY radical verb and shows no opposition between realis and irrealis in the 3-person. On the other hand *chimo* /tɛimo/, is an AY /tɛ/-verb. These verbs usually correspond to O.Z /tɛ/-verbs or to CH /tɛ/- and /ts/-verbs. These verb groups have the opposition between realis and irrealis in the 3-person, the same opposition which has probably disappeared in Ayoreo, but that was probably present in Proto-Zamucoan. This could explain why the verb ‘to see’ preserves the irrealis form

n-omo, using the prefix /n/- which is reported for the 3-irrealis in Old Zamuco and Chamacoco.

- (111) Ay. *n-i-mo* (1S), *m-a-mo* (2S), *te-i-mo* (3), *n-i-mo-ŋo* (1P),
 wak-a-mo-ŋo (2P) ‘to see’
 Ay. *n-i-mo* (1S), *m-a-mo* (2S), *Ø-Ø-mo* (3), *n-i-mo-ŋo* (1P),
 wak-a-mo-ŋo (2P) ‘to sleep’
 Ch. *tok-o-mo* / *tuk-u-mo* (1S), *a-mo* (2S), *u-mo* (3), *j-u-mo* (1Pl),
 o-j-u-mo (1PE), *a-m-lo* (2P), *o-mo* (3P) ‘to sleep; to see’
 ‘to sleep’ → *u-mo* (3.IRLS), *o-mo* (3P.IRLS)
 ‘to see’ → *n-o-mo* (3.IRLS), *o-n-o-mo* (3P.IRLS)
 O.Z. *a-i-mo* (1S), *y-i-mo* (1S.IRLS) ‘to see’
 O.Z. *a-i-mo* (1S), *y-i-mo* (1S.IRLS), *y-i-mo-go* (1P.IRLS) ‘to sleep’

§7.9 Irregular verbs

In (112) and (113) one finds two verbs which are irregular in all Zamucoan languages. The 3-person *jno* /*ŋo*/ (AY), *hno* /*ŋo*/ (CH), *no* (O.Z) is the same in (112).

(112)	O.Z ‘to go’	Ch ‘to go’	Ay ‘to go, to leave’
1S	a-i-no	tak-a-ha	j-i-hi / ji
2S		bo / bu	b-a-bo
3	no	ŋo	ŋo
1P		j-u-ko	j-i-ko
1PE		o-j-u-ko	
2P		buli-lo / boli-lo bulu-lo bul-lo / bollo	wak-a-bo-jo
3P		o-ŋo	
1S.IRLS			
2S.IRLS	bo		bo
3.IRLS		do	
1P.IRLS	y-i-no-go-i		
2P.IRLS	bo-yo		bo-jo

The Old Zamuco 2-persons *bo* (2S) and *boyo* /*bojo*/ (2P) are used for the imperative (that is in irrealis contexts) according to Chomé. These forms correspond to the Chamacoco 2S-person *bo* / *bu* and to the AY irrealis forms. In all Zamucoan languages the 3-person (*no* or /*ŋo*/) coincides with the original root which has been reinterpreted as /*bo*/ in the Ayoreo and Old Zamuco 2-irrealis and in the Chamacoco 2S-person (where it alternates with *bu*). Such a reinterpretation was probably influenced by the 2-prefix /*b*/- (see below).

The Chamacoco 2P-persons *bulilo*, *bolilo* and *bululo* do not derive from the 2S-persons *bu/bo*.²¹² This is a very rare exception in Chamacoco, where the 2P-person is obtained by adding *-/lo/* to the 2S-person. There are two hypotheses: (1) *-/li/* (or *-/lu/-*) is an insertion; (2) In *bulilo*, *bolilo* and *bululo* the root has been reinterpreted as */li/* or */lu/*. In the second case, */b/* is a prefix and */o/*, or */u/* is the thematic vowel (which harmonizes to the original root-vowel). In Ayoreo the 2S-realis *babo* is obtained by adding the prefix */b/-* and the thematic vowel to the 2-irrealis *bo*. The Ayoreo 2P-realis is *uacaboyo* */wakabojo/*, but the 2P-prefix */wak/-* is an AY innovation. The 2-person prefix */b/* in Ayoreo alternates with */m/* (depending on nasal harmony). The 2-person prefix */m/-* is rare in Chamacoco, but is observed in *iim* */i:m/* (114) and *ĩya* */ĩja/* (115). This suggests that the 2S-person *bu/bo* was originally a 2S-irrealis and *bulilo*, *bolilo* or *bululo* a 2P-realis.

Chamacoco generally has no 1P-person suffix (with the exception of the greater plural inclusive). In (112) the plural suffix *-/ko/* of Ayoreo (and Old Zamuco) has been preserved in the Chamacoco 1P-person, although it has been reinterpreted as a part of the root.

²¹² The CH reduced forms *bullo* and *bollo* have been discussed in (§5.8). The Chamacoco 2S-person form *bu* does not correspond to any verb form in Ayoreo and Old Zamuco, but it corresponds to AY *bu*, an adverb or exclamative particle, according to Higham *et al.* (2000: 128), which means ‘rapidly, quickly, at once’.

(113)	O.Z ‘to go’	Ch ‘to bring, to do, to get’	Ay ‘to bring, to do, to get’
1S	o-i (/o-j/)	tak-a-hi [?]	j-i-hi / ji
2S	do-i (/do-j/)	b-e-j	b-a-be
3	i	i:	d-o-j
1P	o-co-i (/o-ko-j/)	j-u-kw-i [?] / j-u-k-i [?]	j-i-ko-j
1PE		o-j-u-kw-i [?] / o-j-u-k-i [?]	
2P	do-yo-i (/do-jo-j/)	b-e-j-lo / b-e-li-lo	wak-a-be-jo-j
3P		o-j	
1S.IRLS	y-a-hi (/j-a-hi/)		
2S.IRLS	b-e		be
3.IRLS	do-i (/do-j/)	do-j	
1P.IRLS	i-co-i (/i-ko-j/)		
2P.IRLS	be-yo-i (/be-jo-j/)		be-jo-j

In (113) one can observe the same correspondence between the 3-persons of the Zamucoan languages which has been noted for thematic verbs: the Old Zamuco 3-realis corresponds to the Chamacoco 3-realis. The Old Zamuco 3-irrealis corresponds to the Ayoreo 3-person and to the Chamacoco 3-irrealis. The Chamacoco 1S-person *tak-ahi* has the same theme of O.Z *y-ahi* (/j-ahi/). The Old Zamuco 2-irrealis corresponds to the AY form used in irrealis contexts and to the Chamacoco 2-person. Nevertheless, the Chamacoco 2S-person *bey* /bej/ ends in /j/, not to be observed in the Ayoreo and Old Zamuco 2S-irrealis *be*. In the Chamacoco 2-person and Old Zamuco 2-irrealis, /b/- is a prefix. The Ayoreo 2-irrealis *be* has been reinterpreted as a 2-person root. An alternative hypothesis could be to consider /b/ as part of the original root, which underwent unrecoverable phonetic changes.

In both Ayoreo and Old Zamuco, the plural suffixes are followed by -/j/, which behaves as a lexical suffix. In Chamacoco, -/j/ is to be found in the 2S-person, in the 2P-person

and the 3-irrealis. As already seen (§4.8.8) *-j/* is the reduced form of the lexical suffix *-(i)hi/* in Ayoreo, corresponding to the AY preposition */ihi/* and to the CH preposition *=/ihi/*. The lexical suffix form *-hi/* is to be found in the Ayoreo 1S-person *yih/ /jihi/*, in the Chamacoco 1S-person and the Old Zamuco 1S-irrealis. In both Ayoreo and Old Zamuco, only the 2S-person does not show any trace of the lexical suffix. The AY verbs *hno* */no/* and *doj* */doj/* share the 1S-persons *yih/ /jihi/* and *yi* */ji/*, but *yih/ /jihi/* displays the lexical suffix *-hi/* and this suggests that *yih/ /jihi/* was the original 1S-person of *doj* */doj/* and *yi* */ji/* the 1S-person of *hno* */no/*. In the Chamacoco 2P-person, *-j/* precedes the plural suffix and this means that it has been included in the verb in the 2P-person, as already seen in example (97). Final */i/* in the Chamacoco 1PI- and 1PE-person is what remains of the lexical suffix. Here, the last syllable *-ki/* or *-kwi/* corresponds to AY and O.Z *-koj/*, that is to the plural suffix *-ko/* followed by *-j/*. The fact that the trace of a plural suffix is to be found in the 1P-person of *hno* */no/* (112) and *ii* */i:/* (113) suggests that Chamacoco has probably lost the 1P-person suffix.

One further trace of the Chamacoco 1P-person suffix can be found in the verbs *iim* */i:m/* (114) and *ĩya* */ĩja/* (115) (see also §7.7), which have irregular forms for the 1P-person, such as *yukwĩya* */jukwĩja/* (1PI) and *yukwim* */jukwim/* (1PI), respectively. There is no O.Z verb which corresponds to *iim* */i:m/*, but *ĩya* */ĩja/* corresponds to O.Z *ina* and AY $\emptyset$ - $\emptyset$ -*nóna* or *ch-i-j(n)ína* */tɛ-i-ɲina/* (or */tɛ-i-hina/*) (115). The 1P-person is *y-i-j(n)ínango* */j-i-ɲinaŋo/* (or */j-i-hinaŋo/*) in Ayoreo and *ocona* */okona/* in Old Zamuco. The latter form shares some characteristics with *yukwĩya* */jukwĩja/*. Apart from the already discussed similarity in the thematic vowel (see §7.7), */kw/* corresponds to the Old Zamuco 1P-suffix *-co* (*-ko/*). The O.Z plural suffix separates thematic */o/* from the

syllable *-/na/*. The same occurs in Chamacoco, where this element corresponds to the last syllable of *ĩya /ĩja/*, which is also separated from the thematic vowel by *-/kw/-*. While Ayoreo and Old Zamuco need a suffix to differentiate the 1P-person from the 1S-person, because both persons have the same person prefix, the Chamacoco 1S- and 1P-person take different prefixes, so that Chamacoco does not need any plural suffix to differentiate them. One can suppose that the differentiation of the Chamacoco 1S- and 1P-person prefix was the reason for the disappearance of the plural suffix.

The Chamacoco 2S-person of *ii /i:/*, *bey /bej/* can remain unchanged in the 2P-person *beylo /bejlo/*. In its irregular variant *belilo* (2P), the original lexical suffix **-/ihi/* or **-/ihi/*,²¹³ corresponding to the preposition *=/ihi/*, has turned into **-/hi/* and then into *-/li/*, so that in both *beylo /bejlo/* and *belilo* a trace of the original lexical suffix is to be found before the plural suffix.

In the previous examples, one can see the 2-person prefix */b/* in Chamacoco (112-113) and the 2-irrealis prefix */b/* in Old Zamuco (113). It is also possible that the 2-prefix */b/* has exerted an influence in the formation of the 2-person roots beginning with */b/* (112). The 2-prefix */b/* is usually not used in Chamacoco and Old Zamuco, but corresponds to the AY 2-prefix */b/-* or */m/-*. The latter is also rare in Chamacoco and Old Zamuco, but emerges in the Old Zamuco 2-irrealis *m-ona* (115), in the Chamacoco 2-persons *m-oym /m-ojm/* (114) and *m-eya /meja/* (115). In Chamacoco, where there is generally no realis vs. irrealis opposition in the 2-person, the verb *teychim /tejteim/* ‘to look’ has the 2-person forms *hmeychim /mejteim/* or *hmeychimlo /mejteimlo/*, only used as imperative forms. If these forms are compared with the regular

²¹³ Cf. Ayoreo *-/ihi/* and the Chamacoco 1S-person *tak-a-hi?*.

2-person forms *eychim* /ejtɛim/ or *eychimlo* /ejtɛimlo/, it is evident that the imperative forms *hmeychim* /mɛjtɛim/ and *hmeychimlo* /mɛjtɛimlo/ are obtained by means of the prefix /m̥-/, the devoiced counterpart of the CH and O.Z prefix /m-/. Note that O.Z /b/- or /m/- and CH /m̥/- are 2-irrealis prefixes, while AY /b/- or /m/- are 2-realis prefixes, so that in the whole Zamucoan family they are not strictly associated with a mood, but with the 2-person. It would be far-fetched to claim that this sort of prefix shows the original 2-irrealis form. In the case of *teychim* /tejtɛim/ one should observe that this is the only 2-irrealis form in the whole Chamacoco verb system. It is thus possible that O.Z /b/- or /m/- and CH /m̥/- prefix have been re-used in a highly idiosyncratic way, possibly to underline the difference with respect to the normal prefixless 2-forms. As for the 2-irrealis of O.Z. *no* and *i*, one might think of a confounder between the /b/-prefix and the specific root shape (112).

- (114) Ay. j-i-hi(n)o-me (1S), b-a-hi(n)o-me (2S), Ø-Ø-noŋo-me (3),
 j-i-hi(n)o-ŋo-me (1P), wak-a-hi(n)o-ŋo-me (2P) ‘to leave’
 Ch. tok-oj-m (1S), m-oj-m (2S), i:-m (3), j-u-kwim (1PI),
 o-j-u-kwim (1PE), m-oj-m-lo (2P), oj-m (3P), n-oj-m (3.IRLS)
 ‘to leave’
- (115) Ay. j-i-ŋina (1S), b-a-ŋina (2S), Ø-Ø-nona / tɛ-i-ŋina (3),
 j-i-ŋina-ŋo (1P), wak-a-ŋina-ŋo (2P) ‘to accompany, to go with’
 (also: tɛihina)
 Ch. tok-ð-ja (1S), m-e-ja (2S), i-ja (3), j-u-kwĩja / j-ũ-ja (1PI),
 o-j-u-kwĩja / o-j-ũ-ja (1PE), j-ð-j-lo [nojlo] (1PI.GP),
 m-e-j-lo (2P), ð-ja (3P), n-o-ja (3.IRLS) ‘to accompany’
 O.Z. o-na (1S), d-o-na (2S), i-na (3), o-co-na (1P), d-o-yo-na (2P),
 y-a-hi-na (1S.IRLS), m-o-na (2S.IRLS), n-o-na (3.IRLS),
 i-co-na (1P.IRLS), m-o-ño-na (2P.IRLS) ‘to roll/to go round’
- (116) Ch. tik-e-jtɛim / tak-a-tɛim (1S), e-jtɛim (2S), t-e-jtɛim (3),

j-e-jteim (1PI), o-j-e-jteim (1PE), e-jteim-lo (2P), o-t-e-jteim (3P),
t-e-jteim (3P) ‘to look at’ (also: te:jteim)
m̥-e-jteim / m̥ej (2S.IMP) / m̥-e-jteim-lo (2P.IMP)

In conclusion, in these exceptions Chamacoco still shows traces of a 1P-suffix *-/ko/* used in Proto-Zamucoan and of a 2-prefix */b/-* or */m/-*, which is no longer to be found in regular verbs.

§7.10 Uninflectable and defective verbs

In the Zamucoan languages there are some uninflectable and defective verbs. (117a) and (117b) are uninflectable verbs. CH *nihyok* /nijok/ is a defective verb. Its corresponding AY form is properly the 3-person of the verb *íjnoque* /iñoke/ or *quíjnoque* /kinoke/ (§4.7), which has been reinterpreted as a negative existential verb. For a more complete list of AY and O.Z defective verbs, see Kelm (1964: 800).

- (117) a. Ay. beke ‘to rain’, Ch. ibik ‘to rain’, O.Z. bec ‘to rain’
b. Ay. dahate ‘to boil’, Ch. dahat ‘to boil’, O.Z. dahat ‘to boil’
c. Ay. iñoke (3) ‘there is not’, Ch. nijok (3) ‘there is not’ (see §4.7)

The following examples list verbs which are defective or uninflectable in one Zamucoan language, but have person inflection in another. *Pohna* /poŋa/ (118) is a CH defective verb. Its AY counterpart is only used in the 3-person with the meaning ‘to burst, to explode’, but it has complete person inflection when it means ‘to bawl out, to scold’. The verb *tocade* /tokade/ is uninflectable in Ayoreo, but has complete person inflection in the other languages. The AY form *tocade* /tokade/ corresponds to the Old Zamuco and Chamacoco 3-person. Note that in both cases the

forms *pohna* /poŋa/ (Ch.) and *tocade* /tokade/ (Ay.) correspond to the root of a radical verb in the other Zamucoan languages.

- (118) Ay. *n-i-poŋa* (1S), *m-a-poŋa* (2S), *Ø-Ø-poŋa* (3), *n-i-poŋa-ŋo* (1P), *wak-a-poŋa-ŋo* (2P) ‘to bawl out, to scold’.

Also: *poŋa* (3) ‘to burst, to explode’

Ch. *poŋa* (3), *poŋa-lo* (2P/1Pl.GP), *o-poŋa* (3P) ‘to sprout, to flourish; to burst, to explode’

- (119) Ay. *tokade* ‘to come out, to happen’

Ch. *tik-i-tokole* / *tik-i-tokole* (1S), *a-tokole* (2S), *Ø-Ø-tokole* (3), *j-i-tokole* / *j-i-tokole* (1Pl), *o-j-i-tokole* / *o-j-i-tokole* (1Pe), *a-tokoli-lo* / *a-tokol-lo* (2P), *o-tokole* (3P), *Ø-Ø-tokole* (3.IRLS) ‘to exit, to come out, to happen’²¹⁴

O.Z. *a-i-tocade* (1S), *Ø-Ø-tocade* (3), *d-a-tocade-o* (2P), *Ø-Ø-tocade* (3.IRLS) ‘to come out, to happen’

De is a CH existential or locative verb (120). It only has the 3-person form and there is an opposition between the realis *de* and the irrealis *chihi* /*teihi*/.²¹⁵ This verb corresponds to AY *déji* /*dehi*/ or *chugúsi* /*teugusi*/, which has complete person inflection and shows alternation between the two forms in the 3-person, although apparently there is no realis/irrealis difference in the use of these AY forms. *Déji* /*dehi*/ is by far more frequent than *chugúsi* /*teugusi*/ in Ayoreo. It is a suppletive form in the paradigm of *chugúsi* and corresponds to CH *de*. The 3-person form *chugúsi* corresponds to CH *chihi* /*teihi*/, the irrealis form. In thematic verbs too, (see §7.7) the Ayoreo 3-person corresponds to the Chamacoco 3-irrealis. In

²¹⁴ For the reduced forms of this verb, see §5.6.5, ex. (166).

²¹⁵ In this case, the opposition is not very rigid. *De* is occasionally observed in irrealis contexts, while *chihi* is only used in irrealis contexts.

Ayoreo, *déji* or *chugúsi* are a unique case where two forms corresponding to a CH realis vs. irrealis form are still found in the 3-person.

(120) Ay. j-u-gusi (1S), b-a-gusi (2S), dehi / tɛ-u-gusi (3), j-u-gu-ko-j / jugu-ko-hi (1P), wak-a-gu-so-j / wak-a-guso-hi (2P) ‘to be (location)’

Ch. de (3.EXIST) / tɛ-i-hi (3.IRLS.EXIST) ‘to be’ (locative-existential copula)

Cf. Wichí (Mataguayan): [’ihi] (3.EXIST) (Viñas Urquiza 1974, II: 60; see also Ciucci 2014b: 39)

The CH verb *itso* only has the 3-person form, in which an opposition between realis and irrealis is reported. The realis *itso* corresponds to AY and O.Z *cho*, while the irrealis *ilo* corresponds to O.Z *do*. In Ayoreo and Old Zamuco the verb has full inflection. Some data by Chomé are reported in (122). The comparison between Chamacoco and Old Zamuco shows that *-ts/-* and *-l/-*, which synchronically should be considered infixes, were originally prefixes.

(121) Ay. j-o (1S), b-o (2S), tɛ-o (3), j-o-ko (1P), wak-o-jo (2P)
‘to be like, to sound like’

Ch. *itso* (3), *ilo* (3.IRLS) ‘to be like, to look like’

O.Z. o (1S), d-o (2S), ch-o (3), o-co (1P), d-o-yo (2P),
ch-o (1S.IRLS), o (2S.IRLS), d-o (3.IRLS), ch-o-co (1P.IRLS),
o-yo (2P.IRLS)²¹⁶ ‘to look like, to be like’

(122) cf. Old Zamuco; Chomé (1958 [*ante* 1745]: 158)
a. *cho* (3) ‘to look like’

²¹⁶ On this verb, see Kelm (1964: 800-803).

- b. cho gueddoa ‘it looks like a star’
 d. cho yoddi ‘it looks like water’

§7.11 A derivational mechanism in verb morphology

One can identify a pair of CH verbs, whose antonym could be obtained by adding the suffix *-/k/*. Apparently no change in verb valency occurs (123).

- (123) a. *te-i-raha* (3; VA= 2) ‘to know’ vs. *te-i-raha-k* (3; VA=2) ‘not to know’
 b. *ts-a-tso* (3; VA=1) ‘to be satisfied’ vs. *ts-a-tso-k* (3; VA=1) ‘not to be satisfied’

The suffix *-/k/* is not separable from the verb root: as a consequence, the 2P-person forms of *chirahak* /*teirahak*/ and *satsok* are *erahaklo* and *atsoklo*, respectively. This mechanism is no longer productive and is probably very old;²¹⁷ the suffix *-/k/*, which conveys a negative meaning, has to be related to the AY negative particles *que* /*ke*/ and *ca* /*ka*/. In Ayoreo there is only one example of such a negative verb suffix, and moreover for a pair of antonymous verbs undoubtedly related to *chiraha* /*teiraha*/ and *chirahak* /*teirahak*/.²¹⁸

- (124) Ay. *te-i-raha* (3) ‘to know’ vs. *te-i-raha-k* (3) ‘not to know’

²¹⁷ In Chamacoco this could partly be due to the dropping of the last consonant.

²¹⁸ One could wonder whether the negative suffix *-/k/* can also be identified in the negative existentials *nihyok* /*nijok*/ and *ijnoque* /*inoke*/, but it is not possible to answer this question, because no positive counterpart with the same root is to be found.

§7.12 Verb valency and transitivity in the verbs *taak* /ta:k/ and *tew*

The verb ‘to eat’ can be translated by the verb ‘taak’ or ‘tew’; these verbs differ in the verb valency. *Taak* /ta:k/ has valency 1 and only refers to the act of eating (125-126). By contrast, *tew* has valency 2 and is followed by what is eaten (127), although the direct object can also be understood, as in (128).

- (125) Esee ye t-aak=pe. Im: “Deeychole tak-aak-e,
 /ese: je t-a:k=pe im de:jtɔle tak-a:k-e/
 DM NEG 3-eat=NEG 3S.QUOT tomorrow 1S-eat-EPENT
 oy ye tak-aa=pe.”
 /oj je tak-a:=pe/
 today NEG 1S-eat=NEG
 ‘Then he doesn’t eat. He says: “Tomorrow I eat, today I don’t eat”.’ (Ciucci, field notes)

- (126) Yilkaship uje ich sol masaha, ich entreka,
 /jɪlkæɪp uxe itɛ sol masaha itɛ entreka/
 evening SUB CONJ sun 3.set CONJ give
 t-isohoke ich t-aak.
 /t-isohoke itɛ t-a:k/
 3-bathe CONJ 3-eat
 ‘In the evening, when the sun has set, (she) gives (the food), (he) bathes and eats.’ (Ciucci, field notes)

- (127) Hm-eychim-lo uje t-ew wojĩ-ta ijaab-ta.
 /m̩-ɛjtɛim-lo uxe t-ew woxĩ-ta ija:b-ta/
 2.IMP-look-P SUB 3-eat cow-FS.FF little-FS.FF
 ‘Note that (the anaconda) has eaten a little cow.’ (Barboza 1993: 6)

- (128) ;Uje ew hn ðhwa par uje tak-aachim!
 /uxe ew ŋ ðwa par uxe tak-a:teim/
 SUB 2S.eat CONJ 2S.bring SUB SUB 1S-look
 ‘When you eat (the monkey), bring me so that I can see (it).’
 (adapted from: Balbuena 1993: 27)

In (129), the locative phrase (*dehet pehet* lit. ‘half path’) after the verb *taak* /ta:k/ is an adjunct introduced by /=ihi/ (see §5.14). This demonstrates that the valency of *taak* /ta:k/ is 1. The use of the preposition in (130) shows that the semantic configuration of *tew* only allows the subject and the direct object. *Tew* also conveys other secondary meanings: it can mean ‘to burn’ or can be used with a metaphorical sense in expressions indicating that something is wrong; the following expression, for instance, is frequently used among CH speakers: *latik tew owa?* ‘What’s wrong with you?’ (lit. ‘What does eat/burn you?’).

- (129) Ishim ðr o-pos-o toy par o-t-aak-ihi deh-et
 /ieim ðr o-pos-o toj par o-t-a:k-ihi deh-et
 3.give 3P GF-food-MP 3.die SUB P-3-eat-PREP way-MS.FF
 peh-et.
 peh-et/
 middle-MS.FF
 ‘He also gives them food so that they eat along the way.’
 (Ulrich & Ulrich 1992a: 174)

- (130) Shi akaha=chi hn ilpiyo-t t-ĩret t-ew
 /ei akaha=tei ŋ ilpijo-t t-ĩret t-ew/
 DUR 2S.sit=there CONJ jaguar-MS.FF 3-come 3-eat
 owa=ha=chi pðorc.
 /owa=ha=tei pð:rtɛ/
 2S=PREP=there above
 ‘Continue sitting there and the jaguar comes and eats you there

above.’ (Ciucci, field notes)

This pair of verbs has cognates in other languages. In Ayoreo there are *tac* /tak/ or *taque* /take/ (3) ‘to eat’ and *tagu* (3) ‘to eat’. *Tac* /tak/ or *taque* /take/ is intransitive and *tagu* is transitive (Higham *et al.* 2000: 24, 81). Old Zamuco also has the pair of verbs *tac* (/tak/) (3) and *tagu* (3) ‘to eat’. The latter is transitive²¹⁹, while Chomé’s data offer no evidence to state that O.Z *tac* is intransitive, like AY *tac* and CH *taak*.

Surprisingly, the same contrast in verb transitivity is also present in Wichí (Mataguayan), a language which has no genetic relationship with the Zamucoan family. In Wichí, ‘to eat’ is expressed by the intransitive verb [tʰek] and by the transitive verb [tuh^w] (Viñas Urquiza 1974, II: 95). Notably, in all these languages, the intransitive verbs for ‘to eat’ end in /k/, while the transitive verbs end with a labial element (see also Ciucci 2014b: 16, 33-34).

§7.13 Conclusions

The verb inflection of all Zamucoan languages has approximately the same structure. The root is preceded by a thematic vowel. The thematic vowel and the root form the theme. A prefix is added to the theme in order to express person inflection. The Zamucoan languages show remarkable similarities in prefixation. A suffix is used for the 1P- and the 2P-person (see §6.11). Many irregularities in one language can be explained through the comparison. For instance, one can say that Chamacoco still preserves traces of a 1P-suffix *-/ko/* (§7.9) and had a 2P-prefix */b/-* or */m/-*, because these elements are still to be found in some exceptions.

²¹⁹ See the examples in Chomé (1958: 132).

The behaviour of the thematic vowel is very similar: if the 3-thematic-vowel is a high vowel, it is preserved in the 1-person, but is replaced by a prefix vowel in the 2-person. Non-high vowels in the 3-person tend to be preserved in the whole paradigm. In radical verbs, a default vocalic pattern is added in the rest of the paradigm, which corresponds to a vocalic pattern characterized by a high vowel in the 1-person. The vocalic patterns of Chamacoco show more variability than in the other Zamucoan languages. This suggests that Chamacoco is more innovative in the vocalic pattern.

In all Zamucoan languages there is a distinction between realis and irrealis. In Old Zamuco this contrast can be found in all persons. The AY prefixes for the 1S/P-person and 2S/P-person tend to drop in realis and irrealis contexts, respectively. This tendency is not present in the 3-person of AY verbs. In Chamacoco the opposition between realis and irrealis is only found in the 3-person, so that the expression of the irrealis exhibits a sort of complementarity between Ayoreo and Chamacoco and the two languages are not comparable in this respect. The 3-irrealis prefix /d/- or /l/- of Chamacoco, which possibly nasalizes into /n/-, corresponds to the O.Z prefix /d/- (also /n/- is reported). This shows that sometimes Old Zamuco, although closer to Ayoreo than to Chamacoco, shares characteristics with Chamacoco which have been lost in Ayoreo. The data provide useful diachronic evidence to say that, like Old Zamuco, Proto-Zamucoan had the realis vs. irrealis distinction in the whole paradigm (with the exception of some verb groups). Such a contrast has partially been lost in Ayoreo and Chamacoco. Since the /t/- and the radical verbs of Old Zamuco and Chamacoco do not have the realis vs. irrealis distinction in the 3-person, one may surmise that these verb groups also lacked such a distinction in the Proto-Zamucoan 3-person.

In the following table, verb classification in the Zamucoan languages is reported. In Ayoreo, Old Zamuco and Chamacoco, four classes of verbs can be distinguished. All Zamucoan languages have /tɕ/-verbs, /t/-verbs, thematic verbs and radical verbs. In Ayoreo and Old Zamuco each of these groups corresponds to a verb class, but this is not the case in Chamacoco, the language which shows the most complex situation: a class of verbs in Ayoreo and Old Zamuco can correspond to a subclass of verbs in Chamacoco. O.Z and AY /tɕ/-verbs correspond to a CH class of prefixal verbs consisting of two subclasses: /tɕ/-verbs and /ts/-verbs. The second class of Chamacoco consists of /t/-verbs and /d/-verbs. These verbs have similar morphological properties, but the CH subclass of /t/-verbs corresponds to the AY and O.Z class of /t/-verbs, while CH /d/-verbs derive from radical verbs or from a reinterpretation of the 3-irrealis of prefixal verbs. Note that /t/-verbs are a small class in Old Zamuco and Ayoreo, while include many elements in Chamacoco. As noted above (§7.7), most AY verbs which were originally thematic have turned into radical verbs. For this reason, Ayoreo has a very tiny class of thematic verbs.

Inflectional morphology in the Zamucoan languages

	PREFIXAL VERBS				THEMATIC VERBS	RADICAL VERBS
AYOREO	FIRST CLASS		SECOND CLASS		THIRD CLASS	FOURTH CLASS
	/tɛ/-verbs		/t/-verbs		thematic verbs	radical verbs
CHAMACOCO	FIRST MACRO-CLASS				SECOND MACRO-CLASS	
	FIRST CLASS		SECOND CLASS		THIRD CLASS	FOURTH CLASS
	/tɛ/-verbs	/ts/-verbs	/t/-verbs	/d/-verbs	thematic verbs	radical verbs
OLD ZAMUCO	FIRST CLASS		SECOND CLASS		THIRD CLASS	FOURTH CLASS
	/tɛ/-verbs		/t/-verbs		thematic verbs	radical verbs

Table 7.6. Verb classification in the Zamucoan languages

§8 Chamacoco quotatives

In Chamacoco, mood-prominence is related to the presence of a complex system of quotatives. The person inflection and the uses of quotatives are discussed in §8.1. Section §8.2 is concerned with some morphosyntactic observations on quotatives, on the negative existential verb, and on the modal markers *tyenij* /tjenix/ and *sêhe* /tsêhe/. Section 8.3 deals with the quotative *sole* /tsole/. The irrealis form is described in §8.4. In §8.5 the quotative *otsi* /otsi:/ is compared with the AY evidential marker *chi* /tci/.

§8.1 Quotative inflection

The quotative introduces the direct speech and agrees with the person who speaks. The quotative should probably not be considered a verb. The inflection of the quotative is very irregular, although it shares some similarities with verb inflection, such as:

- (i) The presence of /t/- in the 1S-person;
- (ii) The presence of /j/- and /oj/- in the 1PI-person and the 1PE-person, respectively;
- (iii) The presence of -/o/ in the 3P-person.

The quotative differs from a verb in several morphological features. The root of the quotative is different in every form (except for the 1PI-person and the 1PE-person), even in the 3P-person, which is different from the 3S-person. In all CH verbs, the 3P-person depends on the 3-person, but this is not the case here. The 3-person *im* is only used for the singular, while *otsi* /otsi:/ is used for the 3P-person. The 2P-person of the verb is obtained by adding the

suffix *-/lo/*. This also occurs in defective verbs, but not in the quotative: the 2P-person **onlo* is not observed, so that *on* is used for both the 2-person singular and plural.

- (1) a. to: (1S), on (2), im (3S), jōr (1PI), ojōr (1PE), otsi: (3P) (quotative)
 cf.
 b. t-ak-is (1S), a-kis (2S), ts-a-kis (3), j-a-kis (1PI), o-j-a-kis (1PE),
 a-kis-lo (2P), o-ts-a-kis (3P) ‘to hide’

§8.2 Morphosyntactic observations on quotatives, modals and existential verbs

At the syntactic level, the quotative is at the end of the clause and precedes the direct speech. It usually depends on a *verbum dicendi*. The quotative and the *verbum dicendi* agree in person. The most frequently used *verbum dicendi* is *umo* (2), which also means ‘to see’ (3). Sometimes *umo* may be implicitly reconstructed (5, 8). In (4) the *verbum dicendi* is *tatim* ‘to tell’ (4-5). Here there are examples of 1S-person quotative. In (6-7) the speaker is expressed by the 2P-pronoun *olak*, and the 2-person quotative *on* is used, because the quotative has no specific form for the 2P-person quotative. In (8) the 3P-person quotative is used.

- (2) Pablita umo yoo im: –¿ Laura, je ye
 /pablita umo jo: im lawra xe je/
 Pablita 3.tell 1S 3S.QUOT Laura INT NEG
 y-uko y-ukwi pi-yo? –
 /j-uko j-ukwi pi-jo/
 1PI-go 1PI-go_to_take wood-MP
 ‘Pablita told me: –Why don’t we go to take wood?–’
 (Ciucci, field notes)

- (3) Luka umo da-hu-ch.

/luka umo da-hu-tɛ/

Luca 3S.see RFL-home-MS.FF

‘Luca sees his home.’ (Ciucci, field notes)

- (4) T-itim mama too: – Mama, sêhe

/t-itim mama to: mama tsêhe

1S-tell 1S.mother 1S.QUOT 1S.mother VOL

tak-ahi porosu-wo – .

/tak-ahi porosu-wo/

1S.go_to_take poro_fruits-MP

‘I tell my mother: – Mother, I want to go to pick up poro fruits – .’

(Ciucci, field notes)

- (5) Esee=ke hn too: – A-tim yoo, leke –.

/Ese:=ke ŋ to: a-tim yo: leke/

DM=PST CONJ 1S.QUOT 2S-tell 1S 1S.grandfather

‘And then I say: – Tell me, grandfather –.’ (Ciucci, field notes)

- (6) Olak a-m-lo yok on: – Chao! –.

/olak a-m-lo jok on tɛao/

2P 2-tell-P 1S 2.QUOT hallo

‘You tell me: – Hallo! –.’ (Ciucci, field notes)

- (7) A-mi-lo olak l-eku-ta on:

/a-mi-lo olak l-eku-ta on/

2-tell-P 2P 3-grandmother-FS.FF 2.QUOT

– Felis Nabida, kole –.

/felis nabida kole/

merry Christmas 1S.grandmother

‘Tell your grandmother: – Merry Christmas, grandmother –.’ (Ciucci, field notes)

- (8) Esee=ke hn otsii: – Ĕhe! –
 /Ese:=ke ŋ otsi: ĕhe/
 DM= PST CONJ 3P.QUOT yes
 ‘And then they said: – Yes! –’ (Ciucci, field notes)

The 3P-person quotative can also be used to express the name of someone or something. In this case, the word *iich* /i:ɛ/ ‘name’, whose possessive inflection agrees with the entity it refers to, is followed by the 3P-quotative *otsii* /otsi:/ which introduces the name (9). This corresponds to the AY structure in (10): the word *i* ‘name’ is followed by the copula *tu* and the name. Comparing (9) and (10), the CH quotative *otsii* /otsi:/ fills the slot of the copula in Ayoreo. The 3P-person quotative *otsii* /otsi:/ conveys an impersonal meaning, indicating how people call a certain entity (11).

- (9) Ese hnim-ich uje ii-ch otsii Eden.
 /Ese ŋim-ite uxe ii-ɛ otsii eden/
 that.MS land-MS.FF SUB 3.name-MS 3P.QUOT Eden
 ‘This land whose name is Eden.’ (Ulrich & Ulrich 1991: 5)

(10) Ayoreo (Bertinetto 2009)

- I tu Ugobedai.
 /i tu ugobedaj/
 3.name COP Ugobedai
 ‘His name was Ugobedai.’

- (11) Oy-iyaa-chi ese Baya je awr otsii Baya,
 /oj-ija:-chi ese baja xe awr otsi: baja/
 1PE-remain-there that.MS Baya Negra SUB now 3P.QUOT Baya
 ant=kite otsii Pachico.
 /ant=kite otsi: pateiko/
 formerly=PST 3P.QUOT Pachico
 ‘We remain there in this Baya Negra, which now is called Baya

Negra, but it was called Pachico formerly.’ (Ciucci, field notes)

The negative existential *nihyōk* /ni_ɰjok/ has two alternative constructions: it can be preceded by the subject, as in (12-13),²²⁰ or can be followed by it (14). In the latter case, *nihyōk* /ni_ɰjok/ has to be followed by a negative construction, like the one introduced by the negation *ye* /je/ in (14). This syntactic construction is not observed for other verbs. Unlike *de*, when *nihyōk* /ni_ɰjok/ is preceded by the subject, it has to be followed by the preposition /=i_{hi}/, which introduces the phrase expressing the place where the referred entity is missing (=/t_{ei}/ and /=t_{ei}s/ in (12-13)). /=i_{hi}/ can assimilate to the root vowel /o/, so that it turns into /=o_{ho}/ (12-13).

- (12) Esee=ke o-chuku ich nihyōk=o_{ho}=ch_i,
 /Ese:=ke o-t_ɛuku it_ɛ ni_ɰjōk=o_{ho}=t_{ei}/
 DM=PST 3P-look_for CONJ 3.NEG.EXIST=PREP=there
 hno yuhwo.
 /ŋo juw_o/
 3.go escape
 ‘And then they look for (him) and he is not there, he goes, he escapes.’ (Ciucci, field notes)

- (13) P-ishpaab-o o-nihyok=o_{ho}=ch_is.
 /p-i_ɛpa:b-o o-ni_ɰjōk=o_{ho}=t_{ei}s/
 1S-brother-MP 3P-NEG.EXIST=PREP=there
 ‘My brothers are not there.’ (Ulrich 1990d: 31)

- (14) T-eychim poōr-c hn ich nihyōk=ship
 /t-ej_ɛim pō:r-t_ɛ hn it_ɛ ni_ɰjōk=ɛip/
 3-look_to sky-MS.FF and EMPH NEG.EXIST=ELAT

²²⁰ In (12) the subject is understood.

ye ukuh=*ĩr*=sh.

/je ukuh=*ĩr*=*ɛ*/

NEG cloud=FP.IF=EXIST

‘She looks to the sky and there are really no clouds.’

(Ulrich & Ulrich 1995: 22)

Sêhe /tsêhe/ and *tyenij* /tjenix/ are modal elements which precede the verb, but should not be considered verbs. Both *sêhe* /tsêhe/ and *tyenij* /tjenix/ cannot occur alone in a sentence, but have to be followed by a verb. The affixes /o/- and -/lo/ cannot be added and this proves that *sêhe* /tsêhe/ and *tyenij* /tjenix/ are not verbs: the forms **otsehe*, **otyenij* /tjenix/, **tsehelo* and **tyenijlo* /tjenixlo/ are impossible.

Sêhe /tsêhe/ (also *sehe* /tsehe/) indicates that the subject of the following verb has the intention to do something. If the verb is inflected in the 3-person, it takes the irrealis (15-16), because the speaker is not certain whether the action expressed by the verb will actually take place.

Tyenij /tjenix/ (30) indicates that the action expressed by the verb is necessary. It comes from the Spanish modal construction *tener que* ‘to have to’. As in other loans from Spanish verbs, the form which entered Chamacoco is the 3S-person present indicative *tiene que*. The expression of necessity generally requires the realis when the verb occurs in the 3-person (17).

(15) Ir *sêhe* l-uhu a-hakõr ahwos-o.

 /*ĩr* *tsêhe* l-uhu a-hakõr aʷos-o/

3S VOL 3.IRLS-do 2S-teach 2S.word-MP

‘He wants you to teach him your language.’ (Ciucci, field notes)

- (16) Sêhe d-iraha eyok ahwos-o pisho.
 /tsêhe d-iraha ejok aʔos-o piəo/
 VOL 3.IRLS-know 1PI word-MP ELAT.MP
 ‘He wants to know our real language.’ (Ciucci, field notes)

- (17) Otsii ekhneer-o wishi o-ch-uku uu
 /otsi: ekɲe:r-o wiɛi o-tɛ-uku u:/
 3P.QUOT ancient_people-MP dead.MP P-3-look_for DET.MP
 òr toriĩ-t uje tyenij o-sh-uu òr.
 /òr torĩ:-t uxe tyenix o-ɛ-u: òr/
 3P weakness-MS.FF SUB MOD P-3-kill 3P
 ‘They say that the ancient people looked for their weak points when they had [wanted] to kill them.’ (Ciucci, field notes)

§8.3 The quotative *sole* /tsole/

There is also a quotative used when a direct speech is embedded in another direct speech, as in (18). (19) and (20) are expressions occurring very frequently in the translation of the New Testament. The quotative *sole* /tsole/ can also be used when the direct speech is embedded in an indirect speech (20). (21) is an example of indirect speech and in this case the quotative is not used. In (18) the first quotative is *otsii* /otsi:/, which indicates that the speaker is talking about something which he has heard from someone else, although no doubt about the truth of what the speaker says is expressed. *Otsii* /otsi:/ is used in particular while telling a story.

- (18) Otsii deey-ch yet=ni ɲ umo
 /otsi: de:j-tɛ jet=ni ɲ umo/
 3P.QUOT day.MS.FF another.MS=PST CONJ 3.tell
 dihip_kinehe-t lishi sol: -ɛKataa y-uko y-iĩr
 /dihip_kinehe-t liei tsol kata: j-uko j-iĩr/
 foreigner.MS.FF poor.MS 3.QUOT why_not 1PI-go 1PI-go_to

wahacha hmont ehēt?–
 /wahatea m̥ont ehēt/
 there woods 3.inside.MS.FF

‘They say that one day he told the poor foreigner: – Why don’t we go as far as there in the woods?’ (Ciucci, field notes)

- (19) T-ata im: – Porrosh-t sole: “....
 /t-ata im po:ḥoē-t tsole/
 3.say 3S.QUOT God-MS.FF 3S.QUOT
 ‘He says: – God says: “...” (Ulrich & Ulrich 2000a)

- (20) T-ata uje Porrosht sole: –
 /t-ata uxe po:ḥoē-t tsole/
 3.say COMP God.M.SG 3S.QUOT
 ‘He says that God says: “...” (Ulrich & Ulrich 2000a)

- (21) T-itim owa je ye oy-uku=pe
 /t-itim owa xe je oj-uku=pe/
 1S.say you COMP NEG 1PE-come=NEG
 ‘I tell you we are not able to come.’ (Ciucci, field notes)

§8.4 The irrealis quotative

The 3-person quotative *im* (22) has an irrealis counterpart *ilo* (23), used when the speaker denies that something has been said, or expresses a doubt about it. *Ilo* is properly the irrealis form of the verb *itso* (see §5.12), which can be used as a quotative.

- (22) Mama im: – Ye e-tĩr-l wahacha ehe-t –
 /mama im je e-tĩr-l wahatea ehe-t/
 1S.mother 3S.QUOT NEG 2-go_to-P there 3.inside-MS.FF
 ‘My mother says: – Don’t go as far as there, within (the woods) . –’
 (Ciucci, field notes)

- (23) Ese echeẽ-t umo wate asa timchar-rza
 /ese etẽẽ:-t umo wate asa timtẽaɫ-ɫa/
 that.MS snake-MS.FF 3.tell DET.FS that.FS woman-FS.FF
 im: -ẽ Je urũ pishi uje Porrosh-t n-omo
 /im xe urũ pici uxe po:ɫɔẽ-t n-omo/
 3S.QUOT INT true ELAT COMP God.M.SG 3.IRLS-tell
 olak il:²²¹ “ẽ Ye ew-lo nos wir pohir
 /olak il je ew-lo nos wir pohir/
 2P 3S.IRL.QUOT NEG 2.eat-P all DET.P tree.FP
 uje de shakir-rza ehe-t?”–
 /uxe de ẽakiɫ-ɫa ehe-t/
 SUB 3.EXIST garden-FS.FF 3.inside-MS.FF
 ‘The snake told the woman: –Is it true that God has told you: “Don’t
 eat from any tree in the garden?”–’
 (adapted from: Ulrich & Ulrich 1991: 7)

§8.5 Ayoreo *chi* /tɕi/ and Chamacoco *otsii* /otsi:/

Ayoreo and Old Zamuco do not have quotatives, as in Chamacoco. However, in Ayoreo there is an evidential marker, *chi* /tɕi/, «which indicates that the speaker did not directly witness the event (second-hand knowledge), although it does not imply lack of credibility of the reported event» (Bertinetto 2009: 49). This is used for instance, when the speaker tells a story (24).

- (24) Ayoreo (Bertinetto 2009: 49-50)

Ugobedai	u	chi	ayoré	nanique	i	tu
/ugobedaj	u	tɕi	ayoré	nanike	i	tu/
Ugobedai	COP	EVID	person.FS.FF	long_ago	3.name.FS.FF	COP

²²¹ In this example, *ilo* has been transcribed as *il* owing to the reduction of the final vowel, which is occasionally deleted.

Ugobedai nga chi chi Ugobedai uté ore ch-icare
 /ugobedaj ɲa ɬei ɬei ugobedaj ute ore ɬe-ikare/
 Ugobedai CONJ EVID EVID Ugobedai this.MS 3P 3-call
 gujé chi nga chi chi ugobe qué d-a-i.
 /guxe ɬei ɲa ɬei ɬei ugobe ke d-a-j/
 COMP EVID CONJ EVID EVID grizzler EMPH 3-father-MS.FF

‘Once upon a time Ugobedai was, so they say, a person; his name was Ugobedai; and, so they say, they called him Ugobedai, precisely because he was, so they say, the father of a grizzler.’

The Chamacoco 3P-person quotative *otsii* /otsi:/ can have the same function in Chamacoco. In (25) the speaker is telling the story of Boggiani (see §1.8).

(25) Chamacoco (Ciucci, field notes)

O-mo otsii s-ahmuru ishir-rza apibiti-t=ni
 /o-mo otsi: ts-aɲuru ishiɬ-ɬa apibiti-t=ni /
 3P-see EVID 3-love Chamacoco-FS.FF girl-FS.FF=PST
 hn asa ishir-rza apibiti-ta s-ahmur=po.
 /ɲ asa ishiɬ-ɬa apibiti-ta ts-aɲur=po/
 CONJ that.FS Chamacoco-FS.FF girl-FS.FF 3-love=also

‘They say that he loved a Chamacoco girl, and the Chamacoco girl also loved him.’

It is possible that AY *chi* /ɬei/ and CH *otsii* /otsi:/ not only have the same use (although *otsii* is also used in other contexts), but also have the same origin. In (26) one finds some arguments to demonstrate it: (1) *Otsii* has the 3P pre-prefix /o/-, which does not exist in Ayoreo, so that the Chamacoco 3P-person with /o/- corresponds to the Ayoreo 3-person (26a); (2) As already seen in this chapter, the Chamacoco 3-prefix /ts/- can correspond to the AY prefix /ɬe/- (26b); (3) The length of the vowel is different, because in Chamacoco *otsii* shows the long vowel /i:/, while vowel length

has no phonological value in Ayoreo (26c); (4) AY /i/ can correspond to CH /i/, absent in the phonological inventory of Ayoreo (26d).

(26) a. 3P pre-prefix /o/-

Ay. katekãri ‘to talk’ (3) → ore katekãri (3P)

Ch. kějtkěr ‘to talk’ (3) → okějtkěr (3P)

Ay. tɛuru ‘to wash’ (3) → ore tɛuru (3P)

Ch. tɛurũ ‘to wash’ (3) → otɛurũ (3P)

b. Ay. /tɛ/ vs. Ch. /ts/

Ay. tɛakare ‘to sit’ (3)

Ch. tsakir ‘to sit’ (3)

Ay. tɛakose ‘to hide’ (3)

Ch. tsakis ‘to hide’ (3)

c. Ay. /i/ vs. Ch. /i/

Ay. dike ‘to walk’ (3)

Ch. dirk ‘to walk’ (3)

Ay. tɛiraha ‘to know’ (3)

Ch. tɛiraha ‘to know’ (3)

§8.6 Conclusions

In Chamacoco, mood-prominence is related to the presence of a quotative. Although this element expresses the same categories of the verb (person and mood), it should not be considered a verb. The AY evidential marker *chi* /tɛi/ shares some uses of the CH 3P-quotative. Both elements probably have the same origin.

THIRD PART: POSSESSIVE INFLECTION

The third part describes the possessive inflection of the Zamucoan languages. In the Zamucoan languages, one has to distinguish between possessable and non-possessable nouns. Possessable nouns have morphological devices, i.e. prefixation, which express the personal agreement between noun and possessor (or its genitival modifier), while non-possessable nouns do not express the agreement with their possessor. Non-possessable nouns have no prefixation. Such a possibility or impossibility to be possessed refers to the morphological level: at the syntactic level, both possessable and non-possessable nouns can have a possessor. The distinction between the two categories of nouns, possessable and non-possessable, and the use of prefixation for possessable nouns follows the areal pattern identified by Fabre (2007a: 70) for Chaco languages.²²² In the Zamucoan languages, possessable nouns may add to the possessive inflection another form which morphologically indicates no possessor. The generic or non-possessed form (henceforth: GF) is used when there is no possessor, the possessor is unknown or simply not specified.²²³ Chapter §9 deals with the possessive inflection of Ayoreo. The possessive inflection of Chamacoco is addressed in §10. Finally, the possessive inflection of Ayoreo, Chamacoco and Old Zamuco are

²²² Vilela (Lule-Vilela) represents an exception, because it does not use prefixes in order to express the possessor (see Fabre 2007b: 70). Another exception is Lule (Lule-Vilela), which also employed suffixes to mark the possessor, and whose nouns could not be divided into possessable and non-possessable (Raoul Zamponi, personal communication).

²²³ See Bertinetto (2009: 26).

compared and some similarities with verb morphology are illustrated (§11).

§9 Ayoreo possessive inflection²²⁴

The present chapter describes the possessive inflection of Ayoreo. Ayoreo nouns can be divided into possessable and non-possessable. The latter can only be possessed if preceded by a possessive classifier (§9.1). Then, the morphological structure of possessable nouns and their prefixation are discussed (§9.2). One can distinguish three classes of possessable nouns depending on the 3-person: thematic, prefixal and radical nouns. Section §9.3 deals with thematic nouns. Prefixal nouns with the prefix /g/-, /p/- or /k/- are described in §9.4, prefixal nouns with the prefix /n/- or /d/- in §9.5. There are also irregular nouns which look like prefixal nouns, although they cannot be included in this class §9.6. Radical nouns are addressed in §9.7. Finally, possessable nouns can have a form which does not express the possessor: the generic form. Its uses and its morphology are shown in §9.8 and §9.9, respectively.

§9.1 The possessive classifier

In Ayoreo there is no morphological rule to establish whether a given noun is possessable or non-possessable. Only a semantic restriction can be found: nouns denoting animals and plants are generally non-possessable, but non-possessable nouns are not limited to these categories. Non-possessable nouns have no possessive inflection, but can be possessed at the syntactic level. In this case a possessive (or genitive) classifier is used. All Chaco languages have possessive (or genitive) classifiers for non-

²²⁴ The present chapter is based on Ciucci (2010a), which will no longer be mentioned.

possessable nouns. According to Fabre (2007b: 79-80), Ayoreo is the Chaco language with the largest inventory of possessive classifiers. AY possessive classifiers will not be discussed in this work. For more details on AY possessive classifiers, see Fabre (2007b), Bertinetto (2009) and §11.10.

Agreement between a non-possessable noun and its possessor is conveyed by the prefixation of the possessive classifier, which follows the same rules as possessable nouns. There is no morphological difference between possessable nouns and possessive classifiers. For this reason, the morphology of possessive classifiers will be analyzed together with possessable nouns. The difference is a syntactic one: the possessive classifier usually appears in full form and precedes the noun it refers to, inflected in base form.²²⁵ In (1) *tamocoi* /tamokoj/ ‘dog’ agrees with its possessor. *Tamocoi* /tamokoj/ (*tamoco* /tamoko/ in the text) is a name of an animal, which is consequently non-possessable. The agreement with its 3P-person possessor (which is understood) is expressed by the possessive classifier *gachidi* /gateidi/ (*gachidode* /gateidode/ in the text). *Tamocoi* /tamokoj/ is a keyword in the Zamucoan culture, because it has been assumed that the term *Zamuco* derives from it.²²⁶

- (1) – A uñeque jirãque ch-ise yoque jne.– ore ch-ojninga.
 /a upeke hirãke te-ise joke ñe ore te-oñiña/
 MOD someone soon 3-find 1P FUT 3P 3-say

²²⁵ The difference between base form and full form in Ayoreo will be discussed in §12.

²²⁶ On this issue, see Combès (2009: 13-15).

Ore ch-irote ujetiga g-achid-de tamoco
 /ore tɛ-irote uhetiga g-atɛid-ode tamoko/
 3P 3-wait COMP 3-PCL_animal-MP.FF dog.MS.BF
 agoye-die t-orã-ji mu que ore ch-udute
 /agoje-die t-orã-hi mu ke ore tɛ-udute/
 barking-FP.FF 3-come-LOC but NEG.RLS 3P 3-hear
 cucha-rique.
 /kutea-rike/
 thing-MS.IF

‘They say: “someone will find us soon”. They wait for the barking of their dog, but they do not hear anything.’ (QCCB, II: 29)

The classifier has to be semantically compatible with the noun it refers to. *Gachidi* /gɛɛidi/, for instance, is only used with domestic animals and means of transport.

- (2) a. Yoc-achid-i cuco
 /jok-atɛid-i kuko/
 1P-PCL_animal-MS.FF boat.MS.BF
 ‘Our boat’
- b. Uac-achid-i burica
 /wak-atɛid-i burika/
 2P-PCL_animal-MS.FF horse.MS.BF
 ‘Your horse’

§9.2 The person inflection of possessable nouns

The structure of possessive inflection is reported in (3)

- (3)
- | | | | | | |
|--------|---|----------------|-------|------|--|
| | | | THEME | | |
| | | | <hr/> | | |
| PREFIX | + | THEMATIC VOWEL | + | ROOT | |

Like verb inflection, possessable inflection only has the first five persons: the 3-person form is also used for the 3P-person, which will no longer be mentioned.

In the 3-person one has to distinguish between reflexive and non-reflexive 3-person. The former is used when the 3-person possessor is co-referent with the subject of the sentence, as in (4). The words (*d-aruode*) in example (4) are the words of the subject, who shouts and in so doing ‘consumes his words’: for this reason the reflexive 3-person is used. The non-reflexive 3-person is used when there is no co-reference between the subject and the possessor, as in (5), where the subject has refused to help a missionary to translate the ‘words of God’: for this reason the 3-person form *uruode* is used here. The same form is also used immediately after, in order to refer to the missionary’s translation of the Bible (lit. ‘the words of God’, *Dupade uruode*). From now onwards, the reflexive 3-person will be called ‘reflexive person’ (RFL-person) and the non-reflexive person will be called ‘3-person’.

- (4) Enga ch-ejna-pusu d-aru-ode enga t-ibite.
 /ɛŋa ʈɛ-ɛŋa-pusu d-aru-ode ɛŋa t-ibite/
 CONJ 3-consume-ELAT RFL-words-MP.FF CONJ 3-shout
 ‘He raises his voice (lit. ‘he consumes his words’) and shouts.’
 (QCCB, I: 24)

- (5) Enga ch-iraja dirica uje Dupa-de pota jeta
 /ɛŋa ʈɛ-iraha dirika uhe dupa-de pota heta/
 CONJ 3-know yesterday COMP God-MS.FF 3.want COMP
 ch-ataja misionero ujetiga ch-ajnerame Dupa-de
 /ʈɛ-ataha misjonero uhetiga ʈɛ-aŋerame dupa-de/
 3-help missionary COMP 3-translate God-MS.FF

uru-ode	iji	ayore-ode	uru-ode
/uru-ode	ihi	ajore-ode	uru-ode/
3.word-MP.FF	LOC	Ayoreo-MP.FF	3.word-MP.FF

‘He knows that the day before God wanted him to help a missionary to translate the Bible (lit. ‘the words of God’) in Ayoreo (lit. ‘in the words of the Ayoreo’).’ (QCCB, II: 40)

The 1-person is marked by the prefix /j/-, which can nasalize into /ɲ/- if a nasal element is present in the noun root.

- (6)a. j-i-kasitigaj (1S) ‘courage’
- b. ɲ-i-ɲoraj (1S) ‘companion’

As for verb inflection, it has been pointed out that in verb suffixation it is generally possible to predict the nasalization of the suffix (§4.8.1, §4.8.4), which occurs automatically under appropriate conditions. Conversely in verb prefixation, under the same conditions, the speaker is free to nasalize the prefix. For this reason, no systematic rule has been provided for the nasalization of verb prefixes. The same considerations also apply to nominal morphology. Therefore, while the nasalization of nominal suffixes is always predictable, the nasalization of possessive prefixes, although governed by the same rules (Ciucci 2007/08), is not obligatory and the prefix can nasalize.²²⁷

The 2S-person is marked by the prefix /b/-, which can nasalize into /m/- in nasal-harmony contexts.

- (7)a. b-a-kasitigaj (2S) ‘courage’

²²⁷ As for the nasalization of the possessive prefix, the data in the examples will closely follow the respective sources. This means that in many cases the nasalization of a given prefix will not be shown even when it is possible.

b. m-a-ɲoraj (2S) ‘companion’

The 3- and the RFL-person will be discussed later. The 1P-person is marked by the prefix /jok/-, which never nasalizes, because /k/ blocks the expansion of nasalization on the left.²²⁸

(8)a. jok-i-ɲoraj (1P) ‘companion’

b. jok-a-kasitigaj (1P) ‘courage’

c. jok-u-niri (1P) ‘land’

The 2P-person takes the prefix /wak/-.

(9)a. wak-a-kasitigaj (2P) ‘courage’

b. wak-a-ɲoraj (2P) ‘companion’

The behaviour of the thematic vowel in possessive inflection usually follows the same rules as in verb inflection (§4.4). The vocalic pattern of possessive inflection will be discussed in detail later on.

From the above discussion, one can detect some similarity between possessive and verb inflection in Ayoreo, since the 1S-person and 2S/P-person prefixes are common. In the 2P-person, verbs are distinguished from possessable nouns by the verb suffix (e.g. -/ko/ in (10a)).

(10) a. j-i-katekãri (1S), b-a-katekãri (2S), Ø-Ø-katekãri (3),

j-i-katekã-ko-ri (1P), wak-a-katekãri (2P) ‘to talk’

b. j-i-kasitigaj (1S), b-a-kasitigaj (2S), Ø-Ø-kasitigaj (3),

²²⁸ The block of nasalization in Ayoreo has been noted in verb morphology by Ciucci (2007/08a) and in noun morphology by Ciucci (2007/08b). On this phenomenon, see also Bertinetto, Ciucci & Pia (2010).

d-a-kasitigaj (RFL), jok-i-kasitigaj (1P), wak-a-kasitigaj (2P)
‘courage’

The RFL-person is formed with the prefix /d/- which may nasalize into /n/ in nasal-harmony contexts. Its thematic vowel follows the 2S-person’s pattern: this is also confirmed when there is an exception in the 2S-vowel (see ex. 18-19). Since the RFL-person behaves as the 2S-person, whatever will be said of the latter will also extend to the former.

- (11) a. d-a-kasitigaj (RFL) ‘courage’
b. n-a-ṇoraj (RFL) ‘companion’

The 3-person determines the inflectional class. Ayoreo possessable nouns can be ‘radical’ (12), ‘thematic’ (13) or ‘prefixed’ (14) (see §3.1).

- (12) a. j-i-boti (1S), b-a-boti (2S), Ø-Ø-poti (3), d-a-boti (RFL),
jok-i-boti (1P), wak-a-boti (2S) ‘food’
b. j-i-miṇani (1S), m-a-miṇani (2S), Ø-Ø-piṇani (3),
n-a-miṇani (RFL), jok-a-miṇani (1P), wak-a-miṇani (2P) ‘mouth’

- (13) a. j-i-bioj (1S), b-a-bioj (2S), i-bioj (3), d-a-bioj (RFL),
jok-i-bioj (1P), wak-a-bioj (2P) ‘light, lamp’
b. j-u-gutade (1S), b-a-gutade (2S), u-gutade (3), d-a-gutade (RFL),
jok-u-gutade (1P), wak-a-gutade (2P) ‘walking stick’

- (14) a. j-a-mṇini (1S), m-a-mṇini (2S), g-a-mṇini (3), n-a-mṇini (RFL),
jok-a-mṇini (1P), wak-a-mṇini (2P) ‘sign’
b. j-e-rani (1S), b-e-rani (2S), g-e-rani (3), d-e-rani (RFL),
jok-e-rani (1P), wak-e-rani (2P) ‘gift’

As already noted, neither the reflexive nor the non-reflexive 3-person shows any difference between singular and plural possessor. If the plural possessor is not specified, the 3P-pronoun *ore* is generally used.

- (15) Mu cuchabasu-i i-guijna-i idaja iji
 /mu kuteabasu-j i-giṇa-j idaha ihi/
 but airplane-MS.FF 3-house-MS.FF far.MS.BF LOC
 ore i-guijn-ane.
 /ore i-giṇ-ane/
 3P 3-house-MP.FF
 ‘But the hangar (lit. ‘the house of the airplane’) is far away from
 their houses.’ (QCCB, II: 15)

In most AY verbs, the 3-person is marked by the prefix /tə/- (less frequently by prefix /t/-). In this respect one can note a sort of complementarity between noun and verb, because there is a very tiny class of thematic verbs in Ayoreo, while thematic nouns constitute the inflectional class with the largest number of elements.

The possessive inflection of the noun is very regular and has a few exceptions which will be discussed in detail. The possessive inflection has, morphologically speaking, six distinct forms (plus the GF, see §9.8). No correspondence has been found between inflectional classes and possible semantic classes, the only exception being represented by a subclass of prefixal nouns (§9.5). I will begin the analysis of the inflectional classes with thematic nouns, which constitute the most representative inflectional class.

§9.3 Thematic nouns

The morphological behaviour of the thematic vowel in the noun follows the same rules as in verb inflection (see §4.4). Only the 1S-,

the 2S- and the 3-person will be discussed, because the thematic vowel of the 3P-person and the RFL-person is dependent on these three persons. The 1P-person usually has the thematic vowel of the 1S-person, while the 2P-person and the RFL-person always exhibit the same vowel as the 2S-person.

Given the 3-vowel, one can predict the vocalic pattern of the whole paradigm. In this regard, as in verb morphology (§4.4), in noun morphology it is necessary to distinguish between high vowels and non-high vowels. If the 3-vowel is a non-high vowel (/a e o/), it is a thematic vowel preserved in the rest of the paradigm (16).

- (16) a. j-a-honiñaj (1S), b-a-honiñaj (2S), a-honiñaj (3), d-a-honiñaj (RFL),
jok-a-honiñaj (1P), wak-a-honiñaj (2P) ‘money’
b. j-e-rubi (1S), b-e-rubi (2S), e-rubi (3), d-e-rubierubi (RFL),
jok-e-rubi (1P), wak-e-rubi (2P) ‘urine’
c. j-o-hi (1S), b-o-hi (2S), o-hi (3), d-o-hi (RFL), jok-o-hi (1P),
wak-o-hi (2P) ‘bow’

If the thematic vowel is a high vowel, such as /i/ or /u/, it turns into /a/ in the 2-person (17), as in verb morphology. This vowel was originally a part of the prefix which has replaced the high vowel, while it has been replaced by the non-high vowels. There are only a few exceptions which will be discussed below.

- (17) a. j-i-rodipidi (1S), b-a-rodipidi (2S), i-rodipidi (3), d-a-rodipidi
(RFL), jok-i-rodipidi (1P), wak-a-rodipidi (2P) ‘hiding place’
b. j-u-rêhaj (1S), b-a-rêhaj (2S), u-rêhaj (3), jok-u-rêhaj (1P),
wak-a-rêhaj (2P) ‘older brother’

A subregularity may be observed in nominals characterized by thematic /i/: a small group of nouns show the 2-vowel /e/ rather

than /a/. In this case /e/ is also to be found in the 2P-person and in the RFL-person.

- (18) a. j-ĩ-karaj (1S), b-ẽ-karaj (2S), ã-karaj (3), d-ẽ-karaj (RFL),
jok-ĩ-caraj (1P), wak-ẽ-karaj (2P) ‘what/who is mentioned or
named’
b. j-i-daj (1S), b-e-daj (2S), i-daj (3), d-e-daj (RFL), jok-i-daj (1P),
wak-e-edaj (2P) ‘village, town’
c. j-i-hoj (1S), b-e-hoj (2S), i-hoj (3), d-e-hoj (RFL), jok-i-hoj (1P),
wak-e-hoj (2P) ‘place or person which is visited often’
d. j-i (1S), b-ej (2S), i (3), d-ej (RFL) ‘name’

This subregularity is not restricted to thematic nouns, but is also reported in some prefixal nouns (see §9.4). This phenomenon, however, is relatively infrequent in AY possessive inflection.

It is difficult to include *i* ‘name’ in one of the three inflectional classes that have been proposed, owing to the fact that its 3-person only consists of /i/, which in the 2-person is not replaced by /e/. As noted above, the change in the 2-vowel has been caused by a vowel originally belonging to the prefix, which has replaced the original thematic vowel when it was a high vowel. However, this did not take place in *i* (18d), where the original prefix vowel /e/ precedes thematic /i/.²²⁹

In the possessive inflection of *ujoi* /uhoj/ ‘fellow’, the 2-vowel is /o/, rather than /a/, as one would expect.

- (19) j-u-hoj (1S), b-o-hoj (2S), u-hoj (3), d-o-hoj (RFL), jok-u-hoj (1P),
wak-o-hoj (2P) ‘fellow’²³⁰

²²⁹ On this phenomenon, see also §11.5.

²³⁰ About this word, used as a possessive classifier, see §11.10. According to Gabriella Erica Pia (personal communication), some AY varieties show the

One can observe a similar irregularity in the vocalic pattern of *uéchai* /uetɕaj/ ‘beyond, opposite side of’ (20) and its derived nouns, such as *uéchaminóri* /uetɕaminori/ ‘who/what is on the other side’. Here the thematic vowel is /u/ and the 2-vowel is /e/, which merges with the first root-vowel /e/.²³¹

(20) j-u-etɕaj (1S), b-e-ɕaj (2S), u-etɕaj (3), d-e-ɕaj (RFL),
jok-u-etɕaj (1P), wak-e-ɕaj (2P) ‘beyond, opposite side of’²³²

In *ujoi* /uhoj/ (19) and *uéchai* /uetɕaj/ (20), the same phenomenon observed in (18) is shown: the 3-vowel is a high vowel, but a mid vowel is present in the 2-person, while /a/ would be expected.

§9.4 Prefixal nouns: the prefixes /g/-, /p/- and /k/-

Prefixal nouns form the 3-person through a consonantal prefix. The most common 3-prefixes are /g/- (21a-b) and /d/- (21c). /d/ can nasalize into /n/ (21d).

Theoretically, every vowel could have the role of thematic vowel depending, of course, on the noun. Nevertheless, for the time being no prefixal noun with /o/ as thematic vowel is to be found. In the behaviour of the thematic vowel there are limitations and subregularities which will be discussed hereafter.

tendency to regularize the 2-vowel /o/ into /a/.

²³¹ Note that *uéchai* /uetɕaj/ comes from *uréchai* /ureɕaj/ owing to the fall of intervocalic /r/. On this phenomenon, see Bertinetto (2009).

²³² In the AY variety spoken in Colonia Peralta, the 2P-person *uaqu-e-chai* /wak-e-ɕaj/ can alternate with the irregular 2P-form *uac-u-echai* /wak-u-etɕaj/.

- (21) a. j-ě-rapaidi (1S), b-ě-rapaidi (2S), g-ě-rapaidi (3), d-ě-rapaidi (RFL),
jok-ě-rapaidi (1P), wak-ě-rapaidi (2P) ‘sacrifice, gift’
b. j-a-těidi (1S), b-a-těidi (2S), g-a-těidi (3), d-a-těidi (RFL)
‘domesticated animal, vehicle’²³³
c. j-a-kide (1S), b-a-kide (2S), d-a-kide (3), d-a-kide (RFL),
jok-a-kide (1P), wak-a-kide (2P) ‘grandfather’ (also: daki)
d. j-a-terã (1S), m-a-terã (2S), n-a-terã (3), n-a-terã (RFL),
jok-a-terã (1P), wak-a-terã (2P) ‘aunt’

All nouns with the prefix /g/- and thematic /i/ in the 3-person also have /e/ as 2-vowel. The same subregularity in the pattern of the thematic vowel is also to be found in (18).

- (22) a. j-i-doboj (1S), b-e-doboj (2S), g-i-doboj (3), d-e-doboj (RFL),
jok-i-doboj (1P), wak-e-doboj (2P) ‘back (of human or animals)’
b. j-i-pej (1S), b-e-pej (2S), g-i-pej (3), d-e-pej (RFL) ‘man’s
rectangular bag’
c. j-i-jaj (1S), b-e-jaj (2S), g-i-jaj / i-jaj (3), d-e-jaj (RFL),
jok-i-jaj (1P), wak-e-jaj (2P) ‘who/what is found’
d. j-i-jasõri (1S), b-e-jasõri (2S), g-i-jasõri / i-jasõri (3),
d-e-jasõri (RFL), jok-i-jasõri (1P), wak-e-jasõri (2S) ‘one who
finds something’

The noun *guiyasõri* /gijasõri/ ‘one who finds something’ (22d) is derived from *guiyai* (22c) ‘who/what is found’. Derived nouns usually take the same possessive inflection of the name they derive from. In both *guiyai* /gijaj/ and *guiyasõri* /gijasõri/, two forms alternate in the 3-person: *guiyasõri* /gijasõri/, *iyasõri* /ijasõri/ and *guiyai* /gijaj/, *iyai* /ijaj/. This shows that some nouns can belong to two inflectional classes. However, this possibility is lexically

²³³ As already noted in §9.1, *gachidi* /gateidi/ is used as a possessive classifier.

idiosyncratic and only applies to a limited number of nouns, such as *gu-e-tesõri* (3) /g-e-tesõri/, *e-tesõri* /e-tesõri/ (3) ‘enemy’ (another /g/-noun). This can be explained by the fact that, besides the prefix /g/- in the 3-person, /g/-nouns do not exhibit any other morphological property which can distinguish them from thematic nouns²³⁴ and tend to converge towards thematic nouns, which represent the largest inflectional class and the only one which is still productive. The tendency towards regularization and the possible presence of /e/ as 2-vowel (shared with thematic nouns) indicates that /g/-nouns are a recessive group.

The so-called /d/-nouns, which will be discussed in the next section, exhibit some properties which distinguish them from thematic nouns. In this case no noun belonging to two inflectional classes is to be observed. There are a few nouns in which other consonants may function as 3-prefix: /k/- (23a) and /p/- (23b).²³⁵

- (23) a. j-a-kadi (1S), b-a-kadi (2S), k-a-kadi (3), d-a-kadi (RFL),
 jok-a-kadi (1P), wak-a-kadi (2P) ‘entrance’
 b. j-i-biṇaj (1S), b-a-biṇaj (2S), p-i-biṇaj (3), d-a-biṇaj (RFL),
 jok-i-biṇaj (1P), wak-a-biṇaj (2P) ‘call, shout’

§9.5 Prefixal nouns: the prefixes /d/- and /n/-

The group of nouns with the prefixes /d/- and /n/- will be referred to as /d/-nouns, because the distinction between /d/- and /n/- only depends on the nasalization of the prefix, which is only possible in nasal-harmony contexts and is not obligatory. /d/-nouns are of

²³⁴ The above mentioned subregularity in the 2-vowel (18) is shared with some thematic nouns.

²³⁵ These nouns probably were GFs which have been reanalyzed (see §9.9).

some interest, primarily for a semantic reason: They are all kinship terms.²³⁶ Another property of this group of nouns consists in the fact that they all²³⁷ show the 3-vowel /a/ or /e/. Since the prefix /d/- is used in both 3- and RFL-person, and /a/ and /e/ are the same in both 3- and RFL-person, the obvious consequence is the indistinction of 3- and RFL-person, which coincide.

- (24) a. j-a-haj (1S), b-a-haj (2S), d-a-haj (3), d-a-haj (RFL) ‘brother’
 (also: *dahaté*)
 b. j-a-kěra (1S), m-a-kěra (2S), n-a-kěra (3), n-a-kěra (RFL) ‘uncle,
 father’s brother’
 c. j-e-saj (1S), b-e-saj (2S), d-e-saj (3), d-e-saj (RFL)
 ‘younger brother’

Among /d/-nouns, the only exception to what has been said above is represented by *ducari* /dukari/ ‘thread’. This is the only noun of this group which is not a kinship term and whose 3-vowel is not /a/ or /e/, but /u/. Therefore *ducari* is the only /d/-noun which shows a distinction between the 3- and the RFL-person. The fact that, with the exception of *ducari*, all /d/-nouns are kinship terms, doesn’t imply that all kinship terms are /d/-nouns: for instance, *ejo* /eho/ ‘mother-in-law’ is a thematic noun which expresses a kinship relationship.

- (25) a. j-u-kari (1S), b-a-kari (2S), d-u-kari (3), d-a-kari (RFL) ‘thread’
 b. j-e-ho (1S), b-e-ho (2S), e-ho (3), d-e-ho (RFL) ‘mother-in-law’

A characteristic of some /d/-nouns is the presence of subregularities or exceptions in the 1S-person. Some nouns show a

²³⁶ There is only one exception (see below).

²³⁷ There is only one exception (see below).

thematic-vowel alternation between 1- and 3-person, because the 1-thematic-vowel is /i/, while /a/ or /e/ would be expected (26). This is due to the fact that the RFL-person form has replaced the 3-person, while the 1-person has preserved the (original) thematic vowel. Consequently, when the 1-person and the 3-vowel are different, the 1-vowel is the original thematic vowel.

- (26) a. *n-i-sarãj* (1S), *m-a-sarãj* (2S), *n-a-sarãj* (3), *n-a-sarãj* (RFL),
 jok-i-sarãj (1P), *wak-a-sarãj* (2P) ‘son-in-law’
 b. *j-i-karia* (1S), *b-a-karia* (2S), *d-a-karia* (3), *d-a-karia* (RFL),
 jok-i-karia (1P), *wak-a-karia* (2P) ‘daughter-in-law’
 c. *j-i-ñoṇamia* (1S), *b-a-ñoṇamia* (2S), *d-a-ñoṇamia* (3), *d-a-ñoṇamia*
 (RFL), *jok-i-ñoṇamia* (1P), *wak-a-ñoṇamia* (2P) ‘aunt, father’s
 sister’
 d. *j-i-ñoṇate* (1S), *b-a-ñoṇate* (2S), *d-a-ñoṇate* (3), *d-a-ñoṇate* (RFL),
 jok-i-ñoṇate (1P), *wak-a-ñoṇate* (2P) ‘aunt, father’s sister’

Some irregularities can be noted in the 1-person of other nouns. *Date* ‘mother’ (27a) has the regular 1S-person form *yaté* /jate/, whose thematic vowel is preserved in the 1P-person, as expected. *Yaté* /jate/ alternates with the irregular form *ité* which lacks the prefix and whose vowel is /i/. There are reasons to say that *ité* is an archaic form.²³⁸ It is not possible to add the prefix /j-/, because, as pointed out by Higham *et al.* (2000), otherwise the 1-person of mother would coincide with *yité* /jite/, the 1S-person of *gité* /gite/ (‘scrotum’) (27b). In *dacode* /dakode/ ‘grandmother’ (27c) and *nena* ‘sister’ (27f), the 1-thematic-vowel is /i/ (rather than /a/ or /e/). In *dacode* /dakode/ ‘grandmother’, *yicode* /jikode/ alternates with

²³⁸ The form *ité* corresponds to other irregular 1-person forms for ‘mother’ which are to be found in Chamacoco and Old Zamuco (Chomé 1958: 142). For more details, see §11.7.

the radical form *codé* /kode/. Its masculine counterpart, *daquide* /dakide/ or *daqui* /daki/ ‘grandfather’ has completely regular inflection (27d). The 1S-person of *nena* ‘sister’ has the original thematic vowel, but lacks the prefix /j/- (27f). The forms for ‘father’ are shown in (27g). The 1S-form *yapade* /japade/, from Spanish *padre*, has clearly been adapted in the paradigm.

- (27) a. j-a-te / i-te (1S), b-a-te (2S), d-a-te (3), d-a-te (RFL), jok-a-te (1P), wak-a-te (2S) ‘mother’
 b. j-i-te (1S), b-e-te (2S), g-i-te (3), jok-i-te (1P), wak-e-te (2P) ‘scrotum’
 c. j-i-kode / Ø-Ø-kode (1S), b-a-kode (2S), d-a-kode (3), d-a-kode (RFL), jok-i-kode (1P), wak-a-kode (2P) ‘grandmother’
 d. j-a-kide (1S), b-a-kide (2S), d-a-kide (3), d-a-kide (RFL), jok-a-kide (1P), wak-a-kide (2P) ‘grandfather’ (also: daki)
 e. i-tigate / j-i-tigate (1S), b-a-tigate (2S), d-a-tigate (3), d-a-tigate (RFL), jok-i-tigate (1P), wak-a-tigate (2P) ‘older brother’
 f. i-na (1S), b-e-na (2S), n-e-na (3), n-e-na (RFL), jok-ě-ro (1S), wak-ě-ro (2S) ‘sister’²³⁹
 g. j-a-pade / j-a-j (1S), b-a-j / b-a-je (2S) d-a-j / d-a-je (3/RFL), jok-a-j (1P), wak-a-j (2P) ‘father’

Although most consonantal prefixes used for the 3-person only appear in a few nouns, */tɛ/- and */t/- are not included in the inventory of 3-prefixes. /tɛ/- and /t/- are used for the 3-person of the verb. This means that in the 3-person, that is in the basis of possessive and verb inflection, there is a sort of complementarity

²³⁹ According to Higham *et al.* (2000) this word is only used in the singular; in the plural the forms of *nero* ‘sister’ are used: *yoquero* /jokero/ (1P), *uaquero* /wakero/ (2P).

between prefixes, which is functional to distinguish the grammatical category.

§9.6 Other irregularities

In this section, some irregular cases are discussed, i.e. seemingly prefixal nouns. Examples (28b-c) show some nouns derived from *yui* /juj/ (28a). This noun conveys three meanings: (1) It can be a nominal element used as a locative postposition (‘in the direction of, toward’); (2) It can refer to the presence of someone; (3) It can mean that someone or something has been killed, trapped or simply won. *Yui* /juj/ (28a) is an irregular word which cannot be included in any of the above mentioned inflectional classes, like *i* ‘name’ (18d). The 2-person of *yui* /juj/ (28a) and *i* (18d) are phonologically identical. The nouns derived from *yui* /juj/ (28b-e) are like prefixal nouns with /j/- as 3-prefix and an irregular vocalic pattern: -/i/ (1), - /e/ (2), -/u/ (3).

- (28) a. *ji* (1S), *bej* (2S), *juj* (3), *dej* (RFL), *joki* (1P), *wakej* (2P) ‘in the direction of; one’s presence; victim’
 b. *j-i-minori* (1S), *b-e-minori* (2S), *j-u-minori* (3), *d-e-minori* (RFL), *jok-i-minori* (1P), *wak-e-minori* (2P) ‘who/what is in the direction of’
 c. *j-i-pidi* (1S), *b-e-pidi* (2S), *j-u-pidi* (3), *d-e-pidi* (RFL), *jok-i-pidi* (1P), *wak-e-pidi* (2P) ‘blow, bruise’
 d. *j-i-sōri* (1S), *b-e-sōri* (2S), *j-u-sōri* (3), *d-e-sōri* (RFL), *jok-i-sōri* (1P), *wak-e-sōri* (2P) ‘killer’
 e. *j-i-ηori* (1S), *b-e-ηori* (2S), *j-u-ηori* (3), *d-e-ηori* (RFL), *jok-i-ηori* (1P), *wak-e-ηori* (2P) ‘killer’

§9.7 Radical nouns

The 3-person of radical nouns consists of the pure noun root. Since the 3-person lacks the thematic vowel, the thematic vowel to be found in the rest of the paradigm is either a default vowel or the original thematic vowel. With the exception of the 3-person, the vocalic pattern is generally the same as that of nouns with /i/ as thematic vowel.

- (29) j-i-betigaj (1S), b-a-betigaj (2S), Ø-Ø-betigaj (3), d-a-betigaj (RFL),
jok-i-betigaj (1P), wak-a-betigaj (2P) ‘multitude’

Should the thematic vowel /u/ (30) be a default vowel, this would probably show harmonic assimilation to the first root-vowel /u/. This phenomenon should be considered one of the frequent, but not systematic traces indicating the presence of vocalic harmony in Ayoreo.

- (30) j-u-hurugaipidi (1S), b-a-hurugaipidi (2S), Ø-Ø-hurugaipidi (3),
d-a-hurugaipidi (RFL), jok-u-hurugaipidi (1P),
wak-a-hurugaipidi (2P) ‘prison’

There is no limitation to the inventory of consonants which can be found at the beginning of the root. Despite their small number, radical nouns may begin with any consonant: /b/ (31a), /k/ (31b), /tɛ/ (31c), /g/ (31d), /d/ (31e), /h/ (31f), /m/ (31g) /m̥/ (31h), /n/ (31i), /ŋ/ (31j), /p/ (31k), /t/ (31l), /w/ (31m).

- (31) a. j-i-baj (1S), b-a-baj (2S), Ø-Ø-baj (3) ‘offense; violation of a rule;
cause for suffering’
b. j-i-kasitigaj (1S), b-a-kasitigaj (2S), Ø-Ø-kasitigaj (3) ‘courage’
c. j-i-tɛimeno (1S), b-a-tɛimeno (2S), Ø-Ø-tɛimeno (3) ‘fish trap’
d. j-i-gaidi (1S), b-a-gaidi (2S), Ø-Ø-gaidi (3) ‘purpose; intention’

- e. j-i-rosadi (1S), b-a-rosadi (2S), Ø-Ø-dosadi (3) ‘side; wall’
- f. j-i-hogasuj (1S), b-a-hogasuj (2S), Ø-Ø-hogasuj (3) ‘family’
- g. j-i-moteadi (1S), b-a-moteadi (2S), Ø-Ø-moteadi (3) ‘bed’
- h. j-i-ṃanaj (1S), m-a-ṃanaj (2S), Ø-Ø-ṃanaj (3) ‘hand’
- i. j-i-rarane (1S), b-a-rarane (2S), Ø-Ø-narane (3) ‘shoulder blade’
- j. j-i-ṇoraj (1S), m-a-ṇoraj (2S), Ø-Ø-ṇoraj (3) ‘companion’
- k. j-i-petike (1S), b-a-petike (2S), Ø-Ø-petike (3) ‘body part’
- l. j-i-taroj (1S), b-a-taroj (2S), Ø-Ø-taroj (3) ‘brain; top of head’
- m. j-u-weratigaj (1S), b-a-weratigaj (2S), Ø-Ø-weratigaj (3) ‘beauty’

In this inflectional class the first consonant of the root can undergo fortition or another change in word-initial position, that is in the 3-person, which is the most dynamic element of the system. Although these phenomena can be systematized, they are unpredictable, involving a limited number of nouns. One can note some similarities with the morphology of radical verbs. With the exception of root-initial /r/ and /ŋ/, which always undergo fortition in the 3-person (32e, 34-35), in all other cases there are always nouns where no change occurs (31). Nouns in which the consonantal change does not occur, will not be discussed.

If the root-initial consonant is /b/ or /g/, it can devoice, so that /b/ turns into /p/ (32a) and /g/ turns into /k/ (32b-c). Root-initial /m/ can lose the nasality and devoice word-initially, as in *pātarai* /pātaraj/ (32d), while /ŋ/ always undergoes fortition into /k/, as in and *cārai* /kāraj/ (32e), because it cannot occur word-initially.

- (32) a. j-i-boti (1S), b-a-boti (2S), Ø-Ø-poti (3) ‘food’
- b. j-i-gateodi (1S), b-a-gateodi (2S), Ø-Ø-kateodi (3) ‘death place’
- c. j-u-guteabuṇaj (1S), b-a-guteabuṇaj (2S), Ø-Ø-kuteabuṇaj (3)
 ‘great amount of things’
- d. j-i-mataraj (1S), m-a-mataraj (2S), Ø-Ø-pātaraj (3) ‘tooth’
- e. j-i-ṇaraj (1S), b-a-ṇaraj (2S), Ø-Ø-kāraj (3) ‘who/what is kept’

apart’

Similar changes also occur with radical verbs, in which /b/ may turn into /p/ (33a). In the same way, there are verbs where /ŋ/ turns into /g/ and then into /k/ in word-initial position (33b). However, initial /k/ (33c) or /p/ (33d) in the 3-person is not always the result of fortition.

- (33) a. j-i-bo (1S), b-a-bo (2S), Ø-Ø-po (3), j-i-bo-go (1P),
 wak-a-bo-jo (2P) ‘to cry, to sob’
 b. j-i-ŋana (1S), b-a-ŋana (2S), Ø-Ø-kana (3), j-i-ŋana-ŋo (1P),
 wak-a-ŋana-jo (2P) ‘to laugh’
 c. j-i-kōra (1S), m-a-kōra (2S), Ø-Ø-kōra (3), j-i-kōra-ŋo (1P),
 wak-a-kōra-jo (2S) ‘to fall down’
 d. j-i-poŋa (1S), m-a-poŋa (2S), Ø-Ø-poŋa (3), j-i-poŋa-ŋo (1P),
 wak-a-poŋa-jo (2P) ‘to get angry, to scold’

When the 3-person begins with /d/- or /n/-, a change in the root-initial consonant has occurred (34, 35). As with root-initial /ŋ/, in this case too, the occurrence of fortition is predictable. When the root-initial consonant is /r/, a derhotacization owing to fortition of the initial consonant always occurs in the 3-person. There are a few nouns in which root-initial /r/ turns into /d/ (34a-b) or /n/ (34c). These changes are also found in verb morphology (35). It is also possible that /r/ turns into /g/ in the 3-person (34d), but this is very rare.

- (34) a. j-i-rosadi (1S), b-a-rosadi (2S), Ø-Ø-dosadi (3) ‘side; wall’
 b. j-i-ririŋaj (1S), b-a-ririŋaj (2S), Ø-Ø-diriŋaj (3) ‘arrival’
 c. j-i-rarane (1S), b-a-rarane (2S), Ø-Ø-narane (3) ‘shoulder blade’
 d. j-i-ridaj (1S), b-a-ridaj (2S), Ø-Ø-gidaj (3) ‘foot’

- (35) a. j-i-rĩ (1S), m-a-rĩ (2S), Ø-Ø-di (3), j-i-rĩ-ŋo (1P), wak-a-rĩ-jo (2P)

‘to arrive’

- b. j-i-rĩhi (1S), m-a-rĩhi (2S), Ø-Ø-nĩhi (3), j-i-rĩhi-ŋo (1P),
wak-a-rĩhi-ŋo (2P) ‘to wake up’

Alongside radical nouns such as *dosadi* and *diringai* /dirĩaj/ (34a-b), also *doringai* /doriñaj/ (36) has /d/ as root-initial consonant. However, *doringai* /doriñaj/ alternates with *coringai* /koriñaj/ in the 3-person and the latter form is the root used in the rest of the paradigm (36).

- (36) j-i-koriñaj (1S), b-a-koriñaj (2S), Ø-Ø-koriñaj / Ø-Ø-doriñaj (3)
‘departure’²⁴⁰

Initial /g/ in the 3-person can derive from /r/, as in (34d), but it is usually the root-initial consonant which is preserved (31d). Nevertheless, in (37a) root-initial /b/ turns into /g/ in the 3-person *gai* /gaj/. *Gai* /gaj/ means ‘body’ and can also be used as a locative postposition meaning ‘on top of, over’. Another consonantal change in the 3-person, /m/ > /b/ > /g/, is reported in *gaminóri* /gaminori/ (3) ‘who/what is over’.²⁴¹

- (37) a. j-i-baj (1S), b-a-baj (2S), Ø-Ø-gaj (3) ‘on top of; body’
b. j-i-maminori (1S), b-a-maminori (2S), Ø-Ø-gaminori (3)
‘who/what is over’

²⁴⁰ For this noun the variant *doringui* /doriñi/ or *coringui* /koriñi/ (3) is also reported. Its inflection follows that of *coringai* /koriñaj/ or *doringai* /doriñaj/. Note that the antonym of *coringai* or *doringai* (3) ‘departure’ is *diringai* /dirĩaj/ ‘arrival’. Both nouns are very similar phonologically and both are radical nouns with the 3-person in /d/-, but the possessive inflection is different.

²⁴¹ No other case in which /g/ turns into /b/ is observed.

In some nouns, /j/ turns into /tɕ/ in the 3-person (38). The presence of /tɕ/ in the 3-person is not always the result of fortition, because when /tɕ/ is in root-initial position, it can be preserved in the 3-person, as in *chímeno* /tɕimeno/ ‘fish trap’ (31c). As seen in (§4.6.4) there are radical verbs with root-initial /j/ turning into /tɕ/ in the 3-person (39), where /tɕ/ is possibly the result of fortition. However, these verbs could be considered problematic (see §4.6.4, ex. 31), because /tɕ-/ is the predominant 3-prefix in verb morphology, so that they could be considered /tɕ/-verbs via phonetically motivated elision in the 3-person, if the comparison with Chamacoco and Old Zamuco would not suggest that these verbs are actually radical (see §7.7). Moreover, if one considers that /tɕ-/ is never found as 3-prefix in noun morphology, the comparison between verb morphology and noun morphology (38-39) provides further evidence that the verbs in (39) are synchronically radical. As hypothesized in §7.7, the radical 3-person forms in (39) could also be the result of affrication of the sequence */dij/, where */d/- is a 3-irrealis prefix. If this is so, it is possible to hypothesize that the nouns in (38) also had a 3-prefix */d/-.

- (38) a. j-i-jaguej (1S), b-a-jaguej (2S), Ø-Ø-teaguej (3) ‘hunger’
 b. j-i-jaridi (1S), b-a-jaridi (2S), Ø-Ø-tearidi (3) ‘stopping place’
 c. j-i-jaripi (1S), b-a-jaripi (2S), Ø-Ø-tearipi (3) ‘chair; saddle’

- (39) a. j-i-jage (1S), b-a-jage (2S), Ø-Ø-teage (3), j-i-jage-go (1P),
 wak-a-jage-jo (2P) ‘to stand up’
 b. j-i-jo (1S), b-a-jo (2S), Ø-Ø-teo (3), j-i-jo-go (1P),
 wak-a-jo-jo (2P) ‘to fly, to leap’

§9.8 The generic form: meaning and uses

AY possessable nouns usually have a GF. Its morphology will be discussed in the following section. In the following examples, the difference between possessive inflection and the GF is shown: in (40) the possessor of the weapon, which in this case is coreferent with the subject, is known and is expressed by the possessive inflection (*yiboca* /*jiboka*/ ‘my weapon’). By contrast, the weapon in (41) could be bought in the future, but for the time being, does not have a possessor yet, so that the GF *poca* /*poka*/ is used.

- (40) *¡Ijínome y-iboca queru-a iji y-iguíjna-i*
/ihinome j-iboka keru-a ihi j-igiña-j/
 1S.to_leave 1S-weapon.FS.BF big-FS.FF LOC 1S-house-MS.FF
te que!
/te ke/
this PST
 ‘I have left my gun at home!’ (QCCB, I: 47)

- (41) *Ueradí-pise aro-i. Ujétiga a-siome enga*
/weradi-pise aro-j uhétiga a-siome eña/
 beautiful-ELAT.MS.BF 3.skin-MS.FF if 2S-to_give CONJ
y-iji ore tome poca
/j-ihí ore tome poka/
 1S-go purchase.FS PREP.in_exchange_for GF.weapon.FS.BF
queru-a ome ua iji Riberalta jne.
/keru-a ome wa íhi riberalta ñe/
 big-FS.FF PREP 2S LOC Riberalta FUT
 ‘What a beautiful skin. If you give it to me, I will buy a gun for you in Riberalta.’ (QCCB, I: 37)

In (42) the GF for ‘house’, *guiguíjna* /*gigiña*/, is used, because the possessor of the house, probably unknown, is not mentioned.

Conversely, in (43) the possessor of the house (*Don Felipe*) is known and must be expressed morphologically, so that the possessive inflection is used (*iguíjnai /iginaj/* ‘his house’).

- (42) Eduguéjna-i ch-igaru aja gu-iguíjna cutade
 /edugeña-j tɛ-igaru aha g-igin̥a kutade/
 3.guard.MS.FF 3-tie LOC GF-house.MS.BF pole.FS.FF
 enga e ore mo.
 /ɛŋa e ore mo/
 CONJ already 3P 3.sleep
 ‘The guard ties him to the pole of the house and goes to sleep.’
 (QCCB, I: 9)

- (43) Don Felipe todo ujétiga piro-i t-agu
 /don felipe todo uhetiga piro-j t-agu/
 Don Felipe 3.be_afraid COMP fire-MS.FF 3-to_eat
 iguíjna-i.
 /igin̥a-j/
 3.house-MS.FF
 ‘Don Felipe is afraid that the fire burns his house.’ (QCCB, I: 55)

In the same way, the word *guidai /gidaj/* ‘village’ is a GF which in (44) does not express any relationship with a potential possessor (in this case an inhabitant). By contrast, the corresponding 3-person possessive form *idai /idaj/* ‘his village’ in (45) expresses a genitival relationship between the missionary and the village where the missionary lives.

- (44) Jesús basí-ji gu-ida-i Belen.
 /hesus basi-hi g-ida-j belen/
 Jesus 3.to_be_born-LOC GF-village-MS.FF Bethlehem
 ‘Jesus is born in the village of Bethlehem.’ (NTM: 3)

- (45) Mu e idaja iji misionero i-da-i.
 /mu e idaha ihi misjonero i-da-j/
 but already far.MS.FF LOC missionary 3-village-MS.FF
 ‘But he is already far from the village of the missionary.’
 (QCCB, II: 41)

In (46) the word ‘death’ has no relationship with any referent. For this reason, the GF *pitoringai* /pitoringaj/ is used. In (47) the talk is about the death of someone (that is *Herod’s death*) and the noun for ‘death’ is inflected in the 3-person form (*itoringai* /itoringaj/ in (46)). Two alternative forms for ‘death’ are possible in the 3-person: *toringai* /toringaj/, a radical 3-person form, and *itoringai* /itoringaj/ a thematic 3-person form (the latter is far more frequent). This alternation is possible, because there is no overlap with the GF *pitoringai* /pitoringaj/. In the following section, one can see that the relationship between the 3-person and the GF is of fundamental importance in order to express the morphological contrast between GF and 3-person (for instance: *plata* (GF) ‘money’ vs. *iplata* (3) ‘money’).

- (46) A-todo p-itoringa-i te a?
 /a-todo p-itorija-j te a/
 2S-be_afraid GF-death-MS.FF this MOD
 ‘Are you afraid of death?’ (Bertinetto, field notes from IP)

- (47) Enga chi ore ch-áji te, jé_aja Heródes i-toringa-i.
 /eṅa tɛi ore tɛ-ahi te he_aha erodes i-torija-j/
 CONJ EVID 3P 3-stop there, until Herod 3-death-MS.FF
 ‘And they stopped there until Herod’s death.’ (NTM: 5-6)

§9.9 The morphology of the generic form

The meaning and the use of the GF have been discussed in the previous section. In the present section, the morphological expression of the GF will be analyzed. The GF will be considered apart from the domain of possessive inflection, whose basis is the 3-person. The morphological relationship between GF and possessive forms is not always predictable, but it can be systematized. The GF and the possessive forms will be compared: in most cases the GF is derived from the theme of the possessive forms, but in some cases it coincides with the root.

I will first analyze the most frequent cases in which the GF is derived from the theme of the possessive forms. The GF is mostly obtained by means of a prefix added to the noun theme (as it occurs with all verb and nominal prefixes). The prefix expressing the GF behaves like a possessive prefix. The thematic vowel of the GF is the same which characterizes possessive inflection, always expressed in the 1-person. The prefix /p/- is used for the GFs in example (48). This is the most frequently used prefix for the GF and can be added to thematic nouns (48a-b), prefixal nouns (48c-d) and radical nouns (48e-k). This way to obtain the GF could be considered the most representative.

- (48) a. a-kadisōri (3); p-a-kadisōri (GF) ‘teacher’
 b. i-kaniratigej (3); p-i-kaniratigej (GF) ‘kindness, generosity’
 c. g-a-tode (3); p-a-tode (GF) ‘head’
 d. g-e-rani (3); p-e-rani (GF) ‘gift’
 e. Ø-Ø-kasitigaj (3); p-i-kasitigaj (GF) ‘courage’
 f. Ø-Ø-gabi (3); p-i-gabi (GF) ‘path’
 g. Ø-Ø-gidaj (3); p-i-ridaj (GF) ‘foot’
 h. Ø-Ø-gaj (3); p-i-baj (GF) ‘body’
 i. Ø-Ø-poti (3); p-i-boti (GF) ‘food’

j. Ø-Ø-*tearipi* (3); p-i-*jaripi* (GF) ‘chair; saddle’

As one can see in the radical nouns in (48g-j), the root-initial consonant, which undergoes a change in the 3-person, is preserved in the GF. This confirms the previous statement that the GF prefixes behave like possessive prefixes. The thematic vowel of the possessive inflection is also used for the GF. If the 1- and the 3-vowel are different (as in the prefixal nouns in (25) and (26)), the GF preserves the 1-thematic-vowel. For instance, the GF of *dacaria* /dakaria/ (49) is *picaria* /pikaria/. This is because in these prefixal nouns the 3-person has assimilated to the RFL-person and, consequently, the 1-vowel corresponds to the original thematic vowel of the 3-person (see §9.5).

(49) a. p-i-*karia* (GF); j-i-*karia* (1S), b-a-*karia* (2S), d-a-*karia* (3)
‘daughter-in-law’

As already noted, in few cases the mechanism of 3-person formation is not rigid and two alternatives are sometimes possible. These considerations also apply to the GF, as one can see in (50), where the GF can alternate with another GF whose morphology will be discussed later.

(50) a. p-okaniṇaj (GF), hokaniṇaj (GF), i-hokaniṇaj (3) ‘war’
b. p-okonṇaj (GF), g-o-ṇaj (GF), o-ṇaj (3) ‘story, tale speech’
c. p-ĩ-rihiniṇaj (GF), Ø-Ø-nihiniṇaj (GF), ĩ-rihiniṇaj (3)
‘act of waking up’

Another possibility to obtain the GF consists in adding the prefix /dV_k/-, where V is the thematic vowel.

(51) a. dak-a-ṇej (GF) ‘possession; gift’, g-a-ṇej (3)
b. dak-a-ṇiṇaj (GF) ‘anger, indignation’, a-ṇiṇaj (3)

- c. dek-e-ɲarej (GF) ‘sickness, illness’, e-ɲarej (3)
- d. dik-i-roj (GF) ‘servant, worker’, i-roj (3)
- e. dok-o-ge (GF) ‘cane’, o-ge (3)
- f. duk-u-niri (GF) ‘territory’, u-niri (3)

This is a very interesting example of vocalic harmony, which in the domain of prefixation finds a parallel in Chamacoco. In CH verb morphology the prefix /tV_k/- can be used for the 1S-person. In this case too, V is generally a copy of the thematic vowel (see §5.1).

- (52) a. tak-a-tskir (1S), t-a-tskir (3) ‘to fight’
b. tok-o-rmihi (1S), t-o-rmihi (3) ‘to grease’
c. tuk-u-rka (1S), t-u-rka (3) ‘to swing’
d. tik-i-tirāha (1S), t-i-tirāha (3) ‘to spit’

There are a few exceptions in which the vowel of the prefix /dV_k/- is different from the thematic vowel.

- (53) a. duk-a-rane (GF); g-a-rane (3) ‘what is discarded’
b. duk-o-de (GF); o-de (3) ‘grave’
c. duk-a-joj (GF); a-joj (3) ‘headband worn by the Ayoreo men’

The prefix /dV_k/- is less frequent than /p/-, the most representative GF prefix. However, some nouns with both prefix /p/- and /dV_k/- are to be observed.

- (54) a. a-rej (3), dak-a-rej (GF), p-a-rej (GF) ‘tongue’
b. g-e-rani (3), dek-e-rani (GF), p-e-rani (GF) ‘gift’
c. u-tɛeraɲaj (3), duk-u-tɛeraɲaj (GF), p-u-tɛeraɲaj (GF)
‘what is opened’

Some thematic nouns use the prefix /g/ in order to obtain the GF (55). In (55f) the GF has the vowel /a/ rather than /u/, as expected.

This is due to the fact that intervocalic /r/ has dropped and /u/ has probably been replaced by the first root-vowel /a/.

- (55) a. a-serani (3), g-a-serani (GF) ‘table’
 b. a-tohe (3), g-a-tohe (GF) ‘hat’
 c. i-daj (3), g-i-daj (GF) ‘village, town’
 d. i-giṇaj (3), g-i-giṇaj (GF) ‘house’
 e. o-ṇaj (3), g-o-ṇaj (GF) ‘story, tale speech’
 f. j-u-rage (1S), b-a-rage (2S), u-rage (3), g-a-ge (GF) ‘group of people’

The GF of *ōráchai* /ōrateaj/ takes the prefix /k/-: *cōráchai* /kōrateaj/.

- (56) ð-rateaj (3), k-ð-rateaj (GF) ‘weapon’

In conclusion, the following prefixes are used to express the GF: /p/-, /dVk/-, /g/- and /k/-.

In the nouns discussed until now, the GF is obtained from the theme of the possessive forms. By contrast, some GFs coincide with the root. In this case, the noun is thematic. One can hypothesize that the 3-person is obtained by adding an inflectional vowel to the root. This vowel is usually /i/, which is either a default vowel or the original thematic vowel (57). If the first root-vowel is /u/ (and the above hypothesis is correct), /u/ is added to the root in order to form the 3-person (58). The so obtained thematic nouns have regular inflection.

- (57) a. Ø-Ø-pamoj (GF) ‘woven belt’, i-pamoj (3)
 b. Ø-Ø-kesej (GF) ‘knife’, i-kesej (3)

- (58) a. Ø-Ø-hubej (GF) ‘woman’s large bag’, u-hubej (3)
 b. Ø-Ø-pupuria (GF) ‘cow horn’, u-pupuria (3)

There are no phonetic limits to the inventory of the consonants which can occur root-initially in GFs. One can observe GFs beginning with the following consonants: /b/ (59a), /k/ (59b), /d/ (59c), /g/ (59d), /h/ (59e), /m/ (59f), /ṃ/ (59g), /n/ (59h), /p/ (59i), /s/ (59j), /t/ (59k).

- (59) a. Ø-Ø-bora(i)die (GF), j-i-bora(i)die (1S), b-a-bora(i)die (2S),
i-bora(i)die (3) ‘clothes’
- b. Ø-Ø-kaiguj (GF), j-i-kaiguj (1S), b-a-kaiguj (2S), i-kaiguj (3)
‘sputum’
- c. Ø-Ø-doṇṇabatigaj (GF), j-i-doṇṇabatigaj (1S),
b-a-doṇṇabatigaj (2S), i-doṇṇabatigaj (3) ‘insults, criticism’
- d. Ø-Ø-gebe (GF), j-i-gebe (1S), b-a-gebe (2S), i-gebe (3) ‘weapon
made of iron, machete’
- e. Ø-Ø-hokaniṇaj (GF), j-i-hokaniṇaj (1S), b-a-hokaniṇaj (2S),
i-hokaniṇaj (3) ‘war’
- f. Ø-Ø-moriṇaj (GF), j-i-moriṇaj (1S), b-a-moriṇaj (2S),
i-moriṇaj (3) ‘pipe’
- g. Ø-Ø-ṇoṇarahasōri (GF), j-i-ṇoṇarahasōri (1S), b-a-ṇoṇarahasōri
(2S), i-ṇoṇarahasōri (3) ‘one who threatens’
- h. Ø-Ø-nehenamani (GF), j-i-nehenamani (1S), b-a-nehenamani (2S),
i-nehenamani (3) ‘one who is invited’
- i. Ø-Ø-popej (GF), j-i-popej (1S), b-a-popej (2S), i-popej (3) ‘comb’
- j. Ø-Ø-sirobi (GF), j-i-sirobi (1S), b-a-sirobi (2S), i-sirobi (3)
‘craving for meat’
- k. Ø-Ø-tiḥabadi (GF), j-i-tiḥabadi (1S), b-a-tiḥabadi (2S),
i-tiḥabadi (3) ‘impressive thing’

The root-initial consonant of the GF is generally the same as that of the possessed forms. Nevertheless, in some cases fortition can occur word-initially. These are the same phonetic changes as in the

3-person of radical nouns. The root-initial consonant can devoice (and possibly nasalize) in the GF: /g/ > /k/ (60a); /b/ > /p/ (60b). Root-initial /r/ always undergoes fortition and derhotacizes into /d/ (60c) or /n/ (60d). The possessive inflection of *iyocuĩnai* /ijokĩnaj/ ‘father-in-law’ corresponds to the GF *choquĩnai* /tɛokĩnaj/ ‘older man’ (60e). In this word, the GF comes together with the fortition of root-initial /j/ into /tɛ/. This change has been pointed out in radical nouns (38-39). The meaning ‘older man’ in the GF is not completely lost in the possessive inflection, because, according to Higham *et al.* (2000: 537), *iyocuĩnai* /ijokĩnaj/ is also used by women as “affectionate name for one’s husband” (lit. ‘wife’s older man’). Some exceptions show changes not found in radical nouns: in *coráñarãi* /korañarãj/ ‘shovel’ (60f) root-initial /h/ turns into /k/ word-initially, while *pepei* /pepej/ ‘blanket’ is the GF of *itarãpei* /itarãpej/ (60g).

- (60) a. Ø-Ø-katibej (GF); i-gatibej (3) ‘spoon’
- b. Ø-Ø-purudi (GF); u-burudi (3) ‘shade’
- c. Ø-Ø-degúj (GF); i-rengúj (3) ‘camp, village’
- d. Ø-Ø-nihiniñaj (GF); ñ-rihiniñaj (3) ‘act of waking up’²⁴²
- e. Ø-Ø-tɛokĩnaj (GF) ‘old man’; i-jokĩnaj (3) ‘father-in-law’
- f. Ø-Ø-korañarãj (GF); i-horañarãj (3) ‘shovel’
- g. pepej (GF); i-tarãpej (3) ‘blanket’

²⁴² This noun derives from the radical verb *nĩji* /nĩhi/ ‘to wake up’. The derhotacization of /ɬ/ into /n/ in the 3-person can also be observed in the paradigm of the verb *nĩji*: ñ-*i-rĩji* /ɲ-i-rĩhi/ (1S), *m-a-rĩji* /m-a-rĩhi/ (2S), Ø-Ø-*nĩji* /nĩhi/ (3) ‘to wake up’ (see §4.6.3, ex. 20b). There is a clear morphological correspondence between the 3-person of the verb *nĩji* and *nijĩningai* /nihiniñaj/, the GF of the derived noun.

The presence of loanwords such as *cárpai* /karpaj/ ‘tent’ (cf. Spanish *carpa* ‘tent’), *pláta* ‘money’ (cf. Spanish *plata* ‘silver; money’), *Dupade* ‘God’,²⁴³ and so on, shows that the mechanism of possessive inflection is still productive, in spite of the increasingly pervasive contact with Spanish. *Dupade* ‘God, divinity’ has two alternative 3-person forms: *udupade* and *idupade*. In example (62) the GF of *pláta* ‘money’ is used, while in (63) its 3-person form is shown.

- (61) a. Ø-Ø-karpaj (GF), i-karpaj (3) ‘tent’
 b. Ø-Ø-dupade (GF), i-dupade (3), u-dupade (3) ‘God, divinity’
 c. Ø-Ø-plata (GF), i-plata (3) ‘money’
- (62) Jecute ore ch-isiome plata-die ome Napoleon.
 /hekute ore tɛ-isiome plata-die ome napoleon/
 therefore 3P 3-to_give money-FP.FF PREP Napoleon
 ‘For that reason they pay a salary to Napoleon.’ (QCCB, II: 15)
- (63) Mu que ore i-plata-rigui cuse.
 /mu ke ore i-plata-rigi kuse/
 but NEG 3P 3-money-MS.IF EXIST
 ‘But they have no money.’ (QCCB, II: 40)

§9.10 Conclusions

This chapter discussed the possessive inflection of Ayoreo. Like most Chaco languages, Ayoreo shows a distinction between possessable and non-possessable nouns, with possessive prefixation

²⁴³ This last word was probably introduced during the Jesuit period, while *cárpai* and *plata* are very recent loans. Although the etymology of *Dupade* is still debated (see §11.7), it is definitely a loan.

expressing the possessor, and classifiers for non-possessable nouns. Three inflectional classes have been distinguished: thematic, prefixal and radical nouns. The inflectional classes are usually not related to semantic criteria, but most kinship terms are /d/-nouns. AY possessive inflection is fairly regular with few exceptions. AY possessable nouns usually have a GF characterized by remarkable morphological variability.

§10 Chamacoco possessive inflection²⁴⁴

This chapter describes the possessive inflection of Chamacoco. CH nouns can be divided into possessable and non-possessable (§10.1). Sections §10.2 and §10.3 deal with the morphological structure of possessable nouns and their person prefixes. As in Ayoreo, in Chamacoco there are three classes of nouns: thematic nouns (§10.4), prefixal nouns (§10.5) and radical nouns (§10.6). Few possessable nouns also have a GF (§10.7). Some possessable nouns are only used in verbal periphrases (§10.8). Chamacoco only has the possessive classifier *uhut* §10.9. Section §10.10 deals with elements which syntactically should be considered verbs, but morphologically are possessable nouns. In §10.11 the possessive construction with *=/ε/* is addressed.

§10.1 Possessable and non-possessable nouns

CH nouns can be possessable or non-possessable. The possessor always precedes the noun. In the case of the non-possessable noun *hɲimich* /ɲimite/ ‘land’, the possessor simply precedes the noun without any agreement: *yok hɲimich* /jok ɲimite/ ‘my land’, *owa hɲimich* /owa ɲimite/ ‘your land’, *ire hɲimich* /ire ɲimite/ ‘his land’, *eyok hɲimich* /ejok ɲimite/ ‘our land (1PI)’, *ōryok hɲimich* /ōrjok ɲimite/ ‘our land (1PE)’, *olak hɲimich* /olak ɲimite/ ‘your land’, *wir hɲimich* /wir ɲimite/ or *ōr hɲimich* /ōr ɲimite/ ‘their land’.

There is no rule which permits to exactly determine whether the noun has possessive inflection, but there are semantic and

²⁴⁴ The present chapter is based on Ciucci (2010b), which will no longer be mentioned.

diachronic restrictions on possessive inflection. At a semantic level, plant nouns, such as *osdiita* /osdi:ta/ ‘caraguatà plant’, and animal nouns, such as *pohoch* /pohotɛ/ ‘dog’ are non-possessable nouns.²⁴⁵ The few exceptions with possessive inflection are some nouns used to refer to plants or animals in general, such as: *ijõrta* /ixõrta/ (3) ‘plant’, mainly used in the plural *ijõro* /ixõro/ (3), and *echit* /etɛit/ (3) ‘domestic animal’. The latter word corresponds to AY *gachidi* /gateidi/ (3), used as a possessive classifier. It is not by chance that a CH noun corresponds to an AY possessive classifier. This is because, while an AY non-possessable noun is generally preceded by a possessive classifier, possessive classifiers are not used in Chamacoco. In the course of my fieldwork, only one element which could be considered a possessive classifier emerged, but its use is limited to a semantically specific category of nouns (§10.9).

The second limit to the use of possessive inflection is diachronic: the mechanism of possessive inflections seems no longer productive. As a consequence, the numerous Spanish loanwords (and, to a lesser extent, Guaraní) usually have no possessive inflection. *Ijit* /ixit/ (3) ‘son’ (from Spanish *hijo*) is an exception, because it is possessable. This word has almost completely replaced the original indigenous word for ‘son’ (*aap* /a:p/) in the singular. In the plural, the original CH form *aabo* /a:bo/ ‘sons’ (3) survives and alternates with the loanword *ijo* (3) ‘sons’ (the plural of *ijit* /ixit/): both words are possessable. *Ijit* /ixit/, which has partially replaced a word of the fundamental lexicon, has

²⁴⁵ As already seen, Ayoreo nouns for plants and animals are non-possessable too. “En las culturas chaqueñas los animales son entidades autónomas que no guardan una relación de “pertenencia” respecto de un individuo” (Comrie *et al.* 2010: 113).

probably entered the CH lexicon at a very early stage of linguistic contact with Spanish, when possessive inflection was still productive.²⁴⁶ No other cases of Spanish loanwords with possessive inflection are to be observed. In Chamacoco there are two words for ‘house’: *ihyuch* /ijutɛ/ (3) and *pwertit*. *Ihyuch* /ijutɛ/ is the original CH word²⁴⁷ and is possessable. *Pwertit* is a loanword from Spanish *puerto* ‘port’. *Puerto* occurs in some toponyms in the coastal area of Rio Paraguay inhabited by the Chamacoco (*Puerto Diana*, *Puerto 14 de Mayo*²⁴⁸ and so on). Spanish *puerto*, adjusted to *pwertit* in Chamacoco, has undergone a semantic change, so that it does no longer indicate a settlement, but the single house. Since it is a loan, *pwertit* has no possessive inflection.

§10.2 The general structure of possessive inflection and its inflectional classes

The structure of the possessive inflection is reported in (1).

(1) *Possessable nouns structure*

THEME

PREFIX + THEMATIC VOWEL + ROOT

²⁴⁶ The linguistic contact between Ayoreo and Spanish is more recent than the contact between Chamacoco and Spanish. As a consequence, the possessive inflection is still productive in Ayoreo: Spanish loans in Ayoreo take possessive inflection (§9.9).

²⁴⁷ Forms of this word are already reported in Baldus (1932: 405).

²⁴⁸ *Puerto 14 de Mayo* was founded by Guido Boggiani, the first scholar who investigated the culture and the language of CH people (Boggiani 1894: 28).

(2) *Verb structure*

THEME

[PRE-PREFIX] + PREFIX + THEMATIC VOWEL + ROOT + [SUFFIX]

The CH verb structure looks more complex (2), but the first prefix and the last suffix are only added to other inflected forms in order to obtain the 1PI-person, the 2P-person and the 3P-person. By contrast, possessable nouns only express the 1S-person, the 2S-person and the 3-person. In the 3-person one has to distinguish between non-reflexive and reflexive 3-person. The latter one is coreferent with the subject and is also used for the reflexive 3P-person. In the non-reflexive 3P-person, the possessor is expressed in the same way it is expressed in non-possessable nouns: the possessed noun is directly preceded by the possessor or by the corresponding personal pronoun (unless it is understood). For obvious reasons, this is not the case in the reflexive 3-person. The non-reflexive 3-person will henceforth be called ‘3-person’, while the 3-person with reflexive value will be called ‘reflexive 3-person’ or simply ‘reflexive person’ (RFL-person). The 3-person is also preceded by the possessor (or by the corresponding personal pronoun) in order to express the 1PI-person, the 1PE-person and the 2P-person (3).

(3) p-i-jutɛ (1S), a-hutɛ (2S), i-jutɛ (3), l-a-hutɛ (RFL), ejok i-jutɛ (1PI),
 òrjok i-jutɛ (1PE), olak i-jutɛ (2P), òr i-jutɛ (3P) ‘house’²⁴⁹

²⁴⁹ The use of the 3P-pronoun òr (3P) is not obligatory, although in some cases it is necessary to disambiguate the possessor.

Depending on the 3-person, one can distinguish radical nouns, thematic nouns and prefixal nouns. Thematic nouns are the inflectional class with the highest number of elements. These groups have been pointed out in verb morphology (§5.3), where a class of thematic verbs (Table 10.1) and a class of radical verbs (Table 10.1) have been identified. Prefixal verbs form a macro-class (Table 10.1). This last group of verbs is the largest in Chamacoco and the most representative CH verb takes a prefix in the 3-person. By contrast, in possessive inflection, thematic nouns are the most representative, although the corresponding class of thematic verbs has few elements and plays a marginal role in the CH verb system. Both the class of radical nouns and the class of radical verbs are marginal too. The fact that most verbs take a prefix in the 3-person, while most nouns are thematic, ensures a degree of complementarity which facilitates the recognition between noun and verb. The prefixes /tɕ/-, /ts/-, /ɕ/ and /t/-, which are the most frequent in the 3-person of the verb, are never used in noun morphology: this is also functional to preserve a clear distinction between verb and noun in the 3-person, the basis of both verb and possessive inflection.

FIRST MACRO-CLASS verbs with consonantal prefix in 3.RLS: prefixal verbs			
FIRST CLASS		SECOND CLASS	
<i>First subclass</i> /tɛ/-verbs	<i>Second subclass</i> /ts/- and /ɛ/-verbs	<i>Third subclass</i> /t/-verbs	<i>Fourth subclass</i> /d/-verbs (/d/-, /l/-, /n/-, /j/-)
SECOND MACRO-CLASS verbs with no consonantal prefix in 3.RLS			
THIRD CLASS thematic verbs		FOURTH CLASS radical verbs	

Table 10.1. Classification of Chamacoco verbs (see §5.3)

Comparing the inflectional classes of nouns with the verb classes in Table 10.1, one can note that the inflectional noun classes correspond to the three verb groups in the right part of the table, which are the smaller groups in verb morphology. On the one hand, noun inflection has the same structure as the verb's personal inflection, on the other hand it uses devices which have a limited use in verb morphology.

§10.3 Person formation

The 1S-person is marked by the prefix /p/-, added to the thematic vowel and the noun root.

- (4) a. p-a:-bo (1S) 'children'; cf. a:-bo (3)
 b. p-a-rmista (1S) 'blood'; cf. a-rmista (3)
 c. p-e-tɛit (1S) 'domestic animal'; cf. e-tɛit (3)
 d. p-i-jutɛ (1S) 'house'; cf. i-jutɛ (3)
 e. p-i-xit (1S) 'son'; cf. i-xit (3)

The 2S-person has no prefix. It only consists of the thematic vowel and the root. As one can see in examples (5d-e), the 2S-vowel can be different from the rest of the paradigm, that is from the 1S- and the 3-person. This change in the 2S-vowel is due to a prefix vowel which has replaced the original thematic vowel and is sometimes associated with a consonantal alternation root-initially which opposes the 2-person to the rest of the paradigm, as in (5d).

- (5)a. a:-bo (2S) ‘children’; cf. a:-bo (3)
- b. a-rmista (2S) ‘blood’; cf. a-rmista (3)
- c. e-teit (2S) ‘domestic animal’; cf. e-teit (3)
- d. a-hute (2S) ‘house’; cf. i-jute (3)
- e. ej-xit (2S) ‘son’; cf. i-xit (3)

The 2S-person of possessive inflection has the same shape of the 2S-person in verb morphology, which has no prefix and may show changes in the 2S-vowel and in the root-initial consonant too.

The RFL-person is obtained by adding the prefix /d/- or /l/- to the 2S-person: as one can see in (6), the RFL-person has the same vowel of the 2S-person, when the latter is different from the 3-thematic-vowel (6d-e). When there is root allomorphy, the RFL-person has the same the root as the 2S-person (6b). From now on, whatever will be said of the 2S-person, it will also refer to the RFL-person, since the latter is morphologically dependent on the 2S-person. The prefix /d/- can nasalize into /n/ in nasal-harmony contexts (6b).

- (6)a. l-/d-a:-bo (RFL) ‘sons’; cf. a:-bo (2S), a:-bo (3)
- b. n-a-rmista (RFL) ‘blood’; cf. a-rmista (2S), a-rmista (3)
- c. l-/d-e-teit (RFL) ‘domestic animal’; cf. e-teit (2S), e-teit (3)
- d. l-/d-a-hute (RFL) ‘house’; cf. a-hute (2S), i-jute (3)

e. l-/d-ej-xit (RFL) ‘son’; cf. ej-xit (2S), i-xit (3)

As noted in verb morphology, in Chamacoco there is the tendency²⁵⁰ to block nasalization if a plosive consonant is interposed between the nasal element and the prefix. In (7a), /t/ blocks the expansion of nasalization, so that the use of the allomorph /n/- has been considered wrong by the informants. The same can occur with the sibilant /s/ (7b-c).

(7) a. a-te:mtea (2S) ‘aunt’ → l-a-te:mtea (RFL), *n-a-te:mtea (RFL)

b. a-sipsĩrte (2S) ‘opponent in combat’ → l-a-sipsĩrte (RFL),
*n-a-sipsĩrte (RFL)

c. osẽ:t (2S) ‘gift’ → l-o-sẽ:t (RFL), *n-o-sẽ:t (RFL)

The RFL-person is used when the 3-person possessor is the subject of the clause, as in *Juan shiyokõr dahuch* /xwan ɕijokõr dahutɕ/ ‘Juan builds his own house’: the subject (*Juan* /xwan/) builds (*shiyokõr* /ɕijokõr/) a house (*dahuch* /dahutɕ/) which belongs to him. For this reason the RFL-person of ‘house’ (6d) is used. If the house does not belong to the subject of the clause, the 3-person form *ihyuch* /ijutɕ/ (6d) is used, as in *Juan shiyokõr Pedro ihyuch* /xwan ɕijokõr pedro ijutɕ/ ‘Juan builds the house of Pedro’, where Pedro is the owner of the house and there is no coreference with the subject. The morphology of the 3-person will be discussed in detail while discussing each inflectional class.

²⁵⁰ The same tendency has been noted in verb inflection (§5.4.1).

§10.4 Thematic nouns

Thematic nouns represent the most representative class of possessable nouns, both because it is the class with the highest number of elements, and because its nouns are morphologically more regular than those of the other classes. The thematic vowel may correspond to one of the six vowels of Chamacoco /a e i o u i/ (without any restriction).²⁵¹ The 3-vowel is generally the thematic vowel. The vocalic pattern is usually the same in both verb and noun morphology. The behaviour of the thematic vowel in the other inflectional classes generally follows the same rules as that of thematic nouns. However, there are a few exceptions which will be discussed in detail.

CH thematic nouns correspond to the inflectional class of thematic verbs, which is composed of few elements. Thematic verbs can only have the thematic vowels /i u i/. By contrast, thematic nouns form a very large group and there is no limitation concerning the thematic vowel. The thematic vowel undergoes a change in the 2S-person if it is a high vowel (/i u i/), because it is replaced by a vowel originally belonging to the prefix. By contrast, non-high thematic vowels (/a e o/) usually replace the prefix vowel and are preserved in the whole paradigm. The following sections discuss thematic nouns in: /a/- (§10.4.1), /e/- (§10.4.2), /o/- (§10.4.3), /i/- (§10.4.4), /u/- (§10.4.5) and /i/- (§10.4.6).

²⁵¹ As in verb morphology, in noun morphology vowel length and presence or absence of nasalization are not to be considered relevant in the vocalic pattern. These features are usually preserved in the whole paradigm.

§10.4.1 Thematic nouns in /a/-

Thematic /a/ is preserved in the whole paradigm. As a consequence, it is not possible to distinguish the 3-person from the 2S-person.

- (8) a. p-a-rmista (1S), a-rmista (2S), a-rmista (3), n-a-rmista (RFL) ‘blood’
- b. p-a-lokot (1S), a-lokot (2S), a-lokot (3), d-a-lokot (RFL) ‘nickname’
- c. p-o-mate (1S), a-mate (2S), a-mate (3), d-a-mate (RFL) ‘anus; bottom of a boat’
- d. p-i-εipsĩrte (1S), a-sipsĩrte (2S), a-sipsĩrte (3), l-a-sipsĩrte (RFL) ‘opponent in combat’

In (8c-d) two (rare) exceptions are shown. In these nouns the 3-person has probably assimilated to the 2S- and the RFL-person. Consequently, the original thematic vowel is only preserved in the 1S-person. *Amach* /amate/ ‘anus; bottom of a boat’ has the 1S-person *pomach* /pomate/, in which the 1S-vowel is /o/. No such cases are to be found among thematic nouns in /a/-. /o/ can be a thematic vowel (10) and is sometimes a 1S-vowel in some radical nouns (39a-c), where it can alternate with /i/ (38a-c).²⁵² *Asipsĩrc* /asipsĩrte/ (8d), has /i/ as 1S-vowel. This is unusual, but occurs in some prefixal nouns with the 3-vowel /a/ (34c-d). Another interesting characteristic is the presence of /ε/ as root-initial consonant in the 1S-person *pishipsĩrc* /pieipsĩrte/. In both verb (29d-e) and noun morphology (29b-c), /s/ and /ε/ can alternate in the paradigm as root-initial consonant: /ε/ in the 3-person corresponds to /s/ in the 2S-person. This only occurs when the thematic vowel is a high vowel (29b-c), such as /i/ in *pishipsĩrc*

²⁵² In nouns with thematic /o/, it is replaced by /a/ in the 2-person if the root-initial consonant is /m/ (11a-b).

/p̥ieipsĩrt̥/. With regard to the alternation between /ɛ/ and /s/, a similar case is found in *laseēt* /las̥ɛ:t/ ‘son-in-law’ (34a).

§10.4.2 Thematic nouns in /e/-

The 3-thematic-vowel /e/ is preserved in the whole paradigm. These nouns have a very regular inflection.

- (9) a. p-e-rt̥ (1S), e-rt̥ (2S), e-rt̥ (3), d-e-rt̥ (RFL) ‘nape’
 b. p-e-t̥eit (1S), e-t̥eit (2S), e-t̥eit (3), d-e-t̥eit (RFL) ‘domestic animal’

§10.4.3 Thematic nouns in /o/-

Thematic /o/- is generally preserved in the whole paradigm.

- (10) a. p-o-bit̥ (1S), o-bit̥ (2S), o-bit̥ (3), d-o-bit̥ (RFL) ‘wound, injury’
 b. p-ō-rt̥ (1S), ō-rt̥ (2S), ō-rt̥ (3), n-ō-rt̥ (RFL) ‘fabric, cloth’

There are, however, some exceptions. *Omtsit* ‘bed’ (11a) has /a/ in the 2S-person. Here thematic /o/ is replaced by /a/, originally belonging to the prefix. Such a vowel is mostly replaced by /o/ in both verb and possessive inflection (10). In verb inflection, thematic /o/ is replaced by /a/ in the 2S-person if the root-initial consonant is /m/ (11b) or /b/ (12). In possessive inflection, this change is to be found if the root-initial consonant is /m/ (11a), but not if it is /b/ (cf. *obich* /obit̥/ (10a)).

- (11) a. p-o-mts̥it (1S), a-mts̥it (2S), o-mts̥it (3), n-a-mts̥it (RFL) ‘bed’
 b. t-o-mtis̥ (1S), a-mtis̥ (2S), ts-o-mtis̥ (3), j-o-mtis̥ (1PI),
 o-j-omtis̥ (1PI), a-mtis̥-lo (2P), o-ts-omtis̥ (3P) ‘to turn’
- (12) t-o-bit̥ (1S), a-bit̥ (2S), ts-o-bit̥ (3), j-o-bit̥ (1PI), o-j-obit̥ (1PE),
 a-bit̥-ilo (2P), o-ts-obit̥ (3P) ‘to scare away insects’

In *ojorrza* /oxoɬa/ ‘chest’ (13a), the 2S-vowel is /a/, rather than /o/, as expected (see (11a)), but this is probably due to the fact that *ojorrza* /oxoɬa/ is the reduced form of *ir(o)jorrza* /ir(o)xoɬa/ (13b): the original thematic vowel of *ojorrza* /oxoɬa/ was not /o/, but rather /i/. In (13c) two forms alternate in the 2S-person: *owich* /owite/ shows the thematic vowel /o/, while *awich* /awite/ takes the 2S-vowel /a/.

- (13) a. p-o-xoɬa (1S), a-xoɬa (2S), o-xoɬa (3), d-a-xoɬa (RFL) ‘chest’
 b. p-i-rxoɬa / p-i-roxoɬa (1S), e-rxoɬa / e-roxoɬa (2S), i-roxoɬa / i-rxoɬa (3), d-e-roxoɬa / d-e-rxoɬa (RFL) ‘chest’
 c. p-o-wite (1S), o-wite / a-wite (2S), o-wite (3), d-o-wite / d-a-wite (RFL) ‘place’

§10.4.4 Thematic nouns in /i/-

Like thematic verbs in /i/-, thematic nouns with thematic /i/ in the 3-person should be divided into two groups: a first group of nouns show /e/ or /ej/ in the 2S-person, while the nouns of the second group have /a/.

In the first group, the slot of the thematic vowel is mostly filled by the diphthong /ej/, far more frequent than /e/. /e/ was originally a prefix vowel which in some cases has replaced the original thematic vowel /i/. When the 2S-person displays /ej/, thematic /i/ has been preserved and consonantizes into /j/. /ej/ in the slot of the thematic vowel is only found in thematic nouns in /i/- rather than in thematic nouns in /u/- or /i/. Such a preservation of the high thematic vowel in the 2S-person is not very frequent in the Zamucoan family. As noted above (see examples 11-12), the replacement of the thematic vowel is not limited to the high vowels, but there are also a few occurrences with non-high thematic vowels.

From a synchronic perspective, this phenomenon can be regarded as a change in the thematic vowel, because /a/ and /e/ fill the slot of the thematic vowel, although its prefixal origin is evident in nouns with /ej/ in the 2S-person.

- (14) a. p-i-xit (1S), ej-xit (2S), i-xit (3), d-ej-xit (RFL) ‘son’
b. p-i-tita (1S), ej-tita (2S), i-tita (3), ej-tita (RFL) ‘testicle’

The length of the thematic vowel is preserved in all persons, so that /i:/ corresponds to /e:j/ (15a). Quantitative reduction is, however, also found, so that /i:/ can correspond to /ej/ in the 2S-person, as in (15b): this is a purely phonetic process and does not affect morphology.

- (15) a. p-i:-bit (1S), e:j-bit (2S), i:-bit (3), d-e:j-bit (RFL) ‘water container’
b. p-ĩ:-pita (1S), ĕj-pita (2S), ĩ:-pita (3), n-ĕj-pita (RFL) ‘robe’

The slot of the thematic vowel can also be filled by /e/ in the 2S-person, although this is less frequent than /ej/ (16a-b). In *iyakat* /ijakat/ (16b), the 2S-person begins with /ej/-, but /j/ does not derive from the thematic vowel, because it is part of the root.

- (16) a. p-i-tilta (1S), e-tilta (2S), i-tilta (3), d-e-tilta (RFL) ‘stick’
b. p-i-jakat (1S), e-jakat (2S), i-jakat (3), d-e-jakat (RFL) ‘crying’

The second group has /a/ as 2S-vowel. These nouns differ from the first group because they can also display root allomorphy in the 2S-person. Some of these alternations have already been pointed out in verb morphology. The nouns with /e/ (or /ej/) and those with /a/ in the 2S-person are present in equal proportion in Chamacoco. Root-initial /tɛ/ in the 1S- and 3-person corresponds to /ts/ in the 2S-person (17a-b). As one can see in (17c), this also occurs in verb morphology.

- (17) a. p-i-tɛaklaɬɬa (1S), a-tsaklaɬɬa (2S), i-tɛaklaɬɬa (3),
 d-a-tsaklaɬɬa (RFL) ‘nappy’
 b. p-i-tɛukut (1S), a-tsukut (2S), i-tɛukut (3), d-a-tsukut (RFL) ‘navel’
 c. t-i-tɛew (1S), a-tsew (2S), tɛ-i-tɛew (3), j-i-tɛew (1PI),
 o-j-i-tɛew (1PE), a-tsew-lo (2P), o-tɛ-i-tɛew (3P) ‘to pierce; to dig;
 to write’

Root-initial /j/ in the 1S- and 3-person corresponds to /l/ in the 2S-person.

- (18) a. p-i-jertɛ (1S), a-lertɛ (2S), i-jertɛ (3), d-a-lertɛ (RFL) ‘place’
 b. p-i-juwo (1S), a-luwo (2S), i-juwo (3), d-a-luwo (RFL) ‘hunger’

No nouns with thematic /i/, root-initial /tɛ/ and the 2S-vowel /e/ have been found. If such nouns were found, /tɛ/ would probably remain unchanged. Nevertheless, given the lack of occurrences, such a comparison cannot be made.

One can compare nouns with thematic /i/ and root-initial /j/ (18) but different 2S-vowel: if the 2S-vowel is /a/, the 2S-person root-initial consonant is /l/. If the 2S-vowel is /e/, no consonantal alternation occurs (19). The 2S-vowel /a/ is thus clearly connected with root-initial /l/ (on the other consonantal alternations, see below).

- (19) a. p-i-jakat (1S), e-jakat (2S), i-jakat (3), d-e-jakat (RFL) ‘crying’
 (see ex. 53)
 b. p-i-jap (1S), e-jap (2S), i-jap (3), d-e-jap (RFL) ‘smoke’

In verb morphology too, root-initial /j/ alternates with /l/ if the 2S-vowel is /a/ (20a). No consonantal alternation occurs if the 2S-vowel is /e/ (20b).

- (20) a. t-i-jew (1S), a-lew (2S), tɛ-i-jew (3), j-i-jew (1PI), o-j-i-jew (1PE),
a-lew-lo (2P), o-tɛ-i-jew (3P) ‘to cross (a stream, a river)’
b. t-i-juhu (1S), e-juhu (2S), tɛ-i-juhu (3), j-i-juhu (1PI),
o-j-i-juhu (1PE), e-juhu-lo (2P), o-tɛ-i-juhu (3P) ‘to remove,
to extract’

Thematic nouns showing root beginning with /j/ usually have thematic /i/ in the 3-person and /a/ in the 2S-person, where the root-initial consonant is /h/ (21a-b), but such root allomorphy does not occur in all nouns (21c-d). Note that two forms are reported for *ihyuch* /ijute/ (21b) in the 2S-person. *Ahuch* /ajute/ (2S) and *ehyuch* /ejute/ (2S) differ in the 2S-vowel. One can observe the correlation with root allomorphy in the 2S-person, which occurs when the inflectional vowel is /a/, but does not when it is /e/.

- (21) a. p-i-jɛɬa (1S), a-heɬa (2S), i-jɛɬa (3), d-a-heɬa (RFL) ‘wrist’
b. p-i-jute (1S), a-hute / e-jute (2S), i-jute (3), d-ahute (RFL) ‘house’
c. p-i-jerte (1S), a-jerte (2S), i-jerte (3), d-a-jerte (RFL) ‘breathing’
d. p-i-josĩrte (1S), a-josĩrte (2S), i-josĩrte (3), n-a-josĩrte (RFL) ‘creator’

In some nouns with consonantal alternation between /j/ and /h/, the first root-vowel can reduce to /i/ in the 2S-person after root-initial /h/. This phenomenon is shown in (22). The reduced vowel /i/ can alternate with the original vowel (22c, f). The noun for ‘plant’ has two variants: *ihyõrta* /ijõrta/ (22a) and *ijõrta* /ixõrta/ (see (23a)). For reasons of clarity, both the base form and the full form of ‘friend, companion’ are provided. Although the base form and the full form may show changes in the noun root, these differences do not concern possessive inflection.

- (22) a. p-i-jõrta (1S), a-hĩrta (2S), i-jõrta (3), n-a-hĩrta (RFL) ‘plant’
b. p-i-jět (1S), a-hĩrt (2S), i-jět (3), d-a-hĩrt / (d-a-jět) (RFL) ‘friend,

companion' (MS.FF) (also: *ijeēt*)²⁵³

- c. p-i-jěrak (1S), a-hĩrak / a-hěrak (2S), i-jěrak (3), n-a-hĩrak / n-a-hěrak (RFL) 'friend, companion' (MS.BF)
- d. p-i-jã:ta (1S), a-hĩta (2S), i-jã:ta (3), n-a-hĩta (RFL) 'friend, companion' (FS.FF)
- e. p-i-jěra (1S), a-hĩra (2S), i-jěra (3), n-a-hĩra (RFL) 'friend, companion' (FS.BF)
- f. p-i-hõro (1S), a-hõro / ahĩro (2S), ijõro (3), n-a-hõro / ahĩro (RFL) 'provisions, food supplies' (also: *ijokõro*)²⁵⁴

Most thematic nouns in /i/- with the 2S-vowel /a/ also have /tɛ/, /j/ or /j̥/ as 1S- and 3-person root-initial consonant, but other root-initial consonants are also observed. In *ijõrta* /ixõrta/ (23a), variant of *ihyõrta* /ijõrta/ (22a), the first root-vowel can reduce to /i/ in the 2S-person (23a). In *iĩta* /ĩ:-ta/ (23) the 2S-person, with inflectional vowel /a/, is irregular.

²⁵³ For *ihyēt* /ijēt/, the 'regularized' 2S-person form *ahyēt* /ajēt/ and the reflexive form *nahyēt* /najēt/ are also reported. In this form the 2S-vowel is /a/ and no phonetic change occurs in the noun root. However, the forms *ahĩrt* and *nakĩrt* provided in the example are far more frequent.

²⁵⁴ In the example the reduced form is mentioned: the 'full' variant *ihyokõro* /ijokõro/ (MP) 'provisions, food supplies' coincides in the 3-person with *ihyokõro* (MP) 'noise, work'. Apart from the 3-person, the rest of the paradigm (reported below in singular full form) is different, cf.:

- i. p-i-hokõrt (1S), a-hokõrt (2S), i-jokõrt (3), n-a-hokõrt (RFL) 'provisions, food supplies'
- ii. p-i-jokõrt (1S), a-hakõrt (2S), i-jokõrt (3), n-a-hakõrt (RFL) 'noise, work'

Note, however, that complementarity emerges, because 'provisions, food supplies' is mostly to be observed in the plural *ihyokõro*, while 'noise, work' is mostly to be found in the singular base form *ihyokõrak* /ijokõrak/.

- (23) a. p-i-xõrta (1S), a-x-ĩrta / a-x-õrta (2S), i-x-õrta (3), n-a-xĩrta /
n-a-xõrta (RFL) ‘plant’
b. p-ĩ:-ta (1S), ã-ŋta (2S), ĩ:-ta (3), n-ã-ŋta (RFL) ‘udder’

§10.4.5 Thematic nouns in /u/-

Most nouns with thematic /u/ in the 3-person, like most verbs in /u/-, take /e/ as 2S-vowel. If two identical vowels are separated by /h/, as in *uhurc* /uhurtɛ/ (24b), and one vowel undergoes a change, the other vowel assimilates to it. In *uhurc* /uhurtɛ/ (24b), thematic /u/ turns into /e/ in the 2S-person and the following vowel also assimilates to /e/: **e-hurc* /e-hurtɛ/ (2S) > *e-herc* /e-hertɛ/ (2S). This is a purely phonetic process which only indirectly involves morphology.

- (24) a. p-u-rte (1S), e-rte (2S), u-rte (3), d-e-rte (RFL) ‘piece of wood’
b. p-u-hurtɛ (1S), e-hertɛ (2S), u-hurtɛ (3), l-e-hertɛ (RFL) ‘end; age’

There is also a smaller group of nouns with /a/ as 2S-vowel. In this case /a/ is not associated with consonantal alternation (25a). The only case of root allomorphy found in thematic nouns in /u/- is the reduction to /i/ of the first root-vowel in the 2S-person. This may occur with nouns with both the 2S-vowel /a/ (25b-c) and the 2S-vowel /e/ (25d).

- (25) a. p-u-xut (1S), a-xut (2S), u-xut (3), d-a-xut (RFL) ‘side’
b. p-u-kurbo (1S), a-kirbo (2S), u-kurbo (3), d-a-kirbo (RFL)
‘strength, power, authority’
c. p-u-kuta (1S), a-kita (2S), u-kuta (3), d-a-kita (RFL) ‘branch’
d. p-u-tuɛt (1S), e-tiet (2S), u-tuɛt (3), d-e-tiet (RFL) ‘vein, root’

Some nouns with thematic /i/ or /u/ may also have a variant in which the thematic vowel reduces to /i/: *ujut* /uxut/ (25a) can alternate with *ijit* /ixit/ (26a), and *ichit* /iteit/ with *ichit* /iteit/ (26b).

- (26) a. p-i-xit (1S), a-xit (2S), i-xit (3), d-a-xit (RFL) ‘side’
 b. p-i-teit / p-i-teit (1S), a-tsit (2S), i-teit / i-teit (3), d-a-tsit (RFL)
 ‘belly, intestine, dung’

§10.4.6 Thematic nouns in /i/-

The largest group of thematic nouns consists of nouns with the 3-vowel /i/. In some cases /i/ is the result of the reduction of the original vowel (see ex. 26). Most nouns with /i/ in the 3-person also show /e/ as 2S-vowel (27). /e/ predominates in the 2S-person.

- (27) a. p-i-râte (1S), e-râte (2S), i-râte (3), n-e-râte (RFL) ‘food’
 b. p-i-râhata (1S), e-râhata (2S), i-râhata (3), n-e-râhata (RFL) ‘wife’

When /e/ is the 2S-vowel, no change occurs in the root (27). In (28) the first root-vowel can assimilate to the 2S-vowel /e/, as one can see in the alternation between *ehirbich* /ehirbite/, *eherbich* /eherbite/ (28) and *ehirosht* /ehiroæt/, *eherosht* /eheroæt/ (28). Thematic nouns in /i/ do not show /ej/ in the 2S-person, the only exception being represented by *ibituhurc* /ibituhurte/ (28c) and its feminine counterpart *ibituhurra* /ibituhurra/ (28d). These archaic words are rarely used.

- (28) a. p-i-hirbite (1S), e-hirbite / e-herbite (2S), i-hirbite (3),
 d-e-hirbite (RFL) ‘urine’
 b. p-i-hiroæt (1S), e-hiroæt / e-heroæt (2S), i-hiroæt (3),
 d-e-hiroæt (RFL) ‘belt’
 c. p-i-bituhurte (1S), ej-bituhurte (2S), i-bituhurte (3),
 l-i-bituhurte (RFL) ‘son-in-law/brother-in-law whose wife is dead’

- d. p-i-bituhuuḡa (1S), ej-bituhuuḡa (2S), i-bituhuuḡa (3),
l-i-bituhuuḡa (RFL) ‘daughter-in-law/ sister-in-law whose husband
is dead’

Some nouns have /a/ as 2S-vowel. /a/ generally comes together with root allomorphy, which is not limited to the reduction of the root vowel, as in (29a). Root-initial /ɛ/ in the 1S- and 3-person corresponds to /s/ in the 2S-person (29b-c). Such alternation also occurs in prefixal verbs with the 3-vowel /i/ (29d) or /i/ (29e). Note, however, that the verb in (29e) shows the 1S-vowel /o/ (see §5.5.6). Consonantal alternation between /ɛ/ and /s/ is not to be observed in thematic nouns in /i/-, because no thematic noun in /i/- with root-initial /ɛ/ and the 2S-vowel /a/ is found. The only thematic noun in /i/- with /ɛ/ as root-initial consonant is *isho* /iɛo/ (29f), which shows no root allomorphy.

- (29) a. p-i-ṇet (1S), a-ṇet / a-ṇit (2S), i-ṇet (3), n-a-ṇet / n-a-ṇit (RFL)
‘song’ (full form)
p-i-ṇerak (1S), a-ṇirak (2S), i-ṇerak (3), n-a-ṇirak (RFL) ‘song’
(base form)
- b. p-i-ɛuwo (1S), a-suwo (2S), i-ɛuwo (3), d-a-suwo (RFL)
‘possessed things, clothing’
- c. p-i-ɛuxãro (1S), a-suxãro (2S), i-ɛuxãro (3), d-a-suxãro (RFL)
‘possessed things, possessed objects’²⁵⁵
- d. t-i-ɛehe (1S), a-sehe (2S), tɛ-i-ɛehe (3), j-i-ɛehe (1PI), o-j-i-ɛehe
(1PE), a-sehe-lo (2P), o-tɛ-i-ɛehe (3P) ‘to take strongly; to rape’
- e. tok-o-sim (1S), a-sim (2S), i-ɛim (3), j-o-sim (1PI), o-j-osim (1PE),
a-sim-lo (2P), o-ɛim (3P) ‘to give’
- f. p-i-ɛo (1S), e-ɛo (2S), i-ɛo (3), d-e-ɛo (RFL) ‘power’

²⁵⁵ The words in (29b-c) are mainly used in the plural. *Ishujãro* /iɛuxãro/ refers to things which are not eatable.

In thematic nouns in /i/- with the 2S-vowel /a/, root-initial /tɛ/ in the 1S- and 3-person corresponds to /ts/ in the 2S-person (30a). One can observe the same alternation in thematic nouns in /i/- with the 2S-vowel /a/ (17a-b). If the 2S-thematic-vowel is /e/, no consonantal alternation occurs (30b).

- (30) a. p-i-tɛita (1S), a-tsita (2S), i-tɛita (3), d-a-tsita (RFL) ‘mosquito net’
 b. p-i-tɛibitɛ (1S), e-tɛibitɛ (2S), i-tɛibitɛ (3), d-e-tɛibitɛ (RFL) ‘spirit, imagine, photo’

In some cases /e/ and /a/ alternate in the 2S-person (31). In the following examples the 2S-vowel is not related to root allomorphy.

- (31) a. p-i-xita (1S), e-xita / a-xita (2S), i-xita (3), d-e-xita / d-a-xita (RFL) ‘belly’
 b. p-i-kirmista (1S), a-kirmista / e-kirmista (2S), i-kirmista (3), d-e-kirmista / d-a-kirmista (RFL) ‘blood’²⁵⁶
 c. p-i-nahata (1S), a-nahata / e-nahata (2S), i-nahata (3), n-a-nahata / n-e-nahata (RFL) ‘widowed mother’
 d. p-i-rã:tc (1S), a-rã:tc / e-rã:tc (2S), i-rã:tc (3), n-a-rã:tc / n-e-rã:tc (RFL) ‘food’
 e. p-i-rãhata (1S), e-rãhata / a-rãhata (2S), i-rãhata (3), n-e-rãhata / n-a-rãhata (RFL) ‘wife’

In conclusion, if the 3-vowel is a high vowel, it is preserved in the 1S-person, but is replaced by /a/ or /e/ in the 2S-person (/ej/ is here considered a subcase of /e/). The 2S-vowel /e/ is slightly more frequent, while the 2S-vowel /a/ is often associated with root allomorphy.

²⁵⁶ This word is a variant of *armista* (8a).

§10.5 Prefixal nouns

Prefixal nouns form the 3-person by adding a consonantal prefix to the noun theme. The inventory of the prefix consonants is limited: /d/-, /l/-, /n/-, /w/-, /j/- and /k/- are observed. The most common 3-prefix is /d/- or /l/- (32a), which can nasalize into /n/- if there is a nasal element in the noun root (32b), unless a plosive consonant blocks the spread of nasalization (32c).

- (32) a. p-a-tahatẽa (1S), a-tahatẽa (2S), d-a-tahatẽa (3), d-a-tahatẽa (RFL)
 ‘stepmother’
 b. jama / p-e-rmitẽ (1S), e-rmitẽ (2S), n-e-rmitẽ (3), n-e-rmitẽ (RFL)
 ‘uncle’²⁵⁷
 c. p-a-temtẽa (1S), a-temtẽa (2S), d-a-temtẽa (3), d-a-temtẽa (RFL)
 ‘aunt’

As one can guess from the above examples, most nouns with the 3-prefix /d/- or /l/- (from now on, /d/-nouns) are kinship terms. The 3-vowel of /d/-nouns is usually /a/ (32a, c) or /e/ (32b; 33a). All kinship terms have /a/ or /e/ as 3-vowel. However, there is a small number of /d/-nouns belonging to different semantic domains (33b-c), which are characterized by thematic /o/ (33b), /u/ (33c) and /i/ (33d). In /d/-nouns the RFL-person has replaced the 3-person, with the exception of (33c) and (33d), which show assimilation of the 3-person to the RFL-person rather than full replacement.

²⁵⁷ The form *nermich* /nermitẽ/ (3/RFL) and *ermich* /ermitẽ/ (2S) ‘uncle’ coincide with the reflexive and the 2S-person of *irmich* /irmitẽ/ ‘jaw’. These forms do not coincide in the plural, because the words have different plurals: *irmiyo* /irmijo/ ‘jaw’ (MP), *nermo* (MP) ‘uncle’.

- (33) a. p-e-hebitɛ (1S), e-hebitɛ (2S), d-e-hebitɛ (3), d-e-hebitɛ (RFL)
 ‘brother’
 b. p-o-sêt (1S), o-sêt (2S), d-o-sêt (3), d-o-sêt (RFL) ‘gift’
 c. p-u-ɛurtɛ (1S), e-ɛurtɛ (2S), d-u-ɛurtɛ (3), d-e-ɛurtɛ (RFL) ‘nail’
 d. p-i-rpita (1S), e-rpita (2S), d-i-rpita (3), d-e-rpita (RFL) ‘footprint’

Although the behaviour of the thematic vowel generally follows the same rules as in thematic nouns, the 1S-vowel of some kinship terms is different from the 3-vowel. The 3-vowel /a/ corresponds to the 1S-vowel /i/ (34a-b). Thematic /a/ or /e/ can turn into /i/ in the 1S-person (34b-i). The 1S-vowel /i/ or /i/ (34b, g) alternates with the ‘expected’ 1S-vowel /a/. In (34h-i) the 1S-thematic-vowel /i/ can alternate with /o/ (for similar cases, see (§5.5.6)). Some of these phenomena were pointed out in Ayoreo (§9.5). The original thematic vowel of these nouns was probably /i/ or /i/, which is preserved in the 1S-person. The 3-person has probably assimilated to the RFL-person and the RFL-vowel has replaced the original thematic vowel in the 3-person.

- (34) a. p-i-ɛê:t (1S), a-sê:t (2S), l-a-sê:t (3), l-a-sê:t (RFL) ‘son-in-law’
 b. p-i-te:mtea / p-a-te:mtea / p-i-te:mtea (1S), a-te:mtea (2S),
 l-a-te:mtea (3), l-a-te:mtea (RFL) ‘aunt’
 c. p-i-nimitea (1S), a-nimitea (2S), n-a-nimitea (3), n-a-nimitea (RFL)
 ‘sister’ (also: naɲimicha)
 d. p-i-keheɽa (1S), a-kahaɽa (2S), l-a-kahaɽa (3), l-a-kahaɽa (RFL)
 ‘daughter-in-law’²⁵⁸

²⁵⁸ The alternation between /-aha/- and /-ehe/- is due to assimilation to the vowel which fills the slot of the thematic vowel. In Chamacoco there are also other phenomena of the same kind, where assimilation is not due to the thematic vowel, but to the suffix.

- e. p-i-εibite (1S), e-εibite (2S), l-e-εibite (3), l-e-εibite (RFL) ‘brother (of a man)’
- f. p-i-tibitea (1S), a-tibitea (2S), d-a-tibitea (3), d-a-tibitea (RFL) ‘older sister (of a woman) / niece (of a woman)’
- g. p-i-tibite / p-a-tibite (1S), a-tibite (2S), d-a-tibite (3), d-a-tibite (RFL) ‘nephew (of a woman)’
- h. p-i-sibite / p-o-sibite (1S), a-sibite (2S), d-a-sibite (3), d-a-sibite (RFL) ‘nephew (of a man)’
- i. p-i-sibitea / p-o-sibitea (1S), a-sibitea (2S), l-a-sibitea (3), l-a-sibitea (RFL) ‘niece (of a man)’

Note that in the 1S-person of *laseēt* /lasē:t/ (34a), the root-initial consonant is /ε/, which corresponds to /s/ in the rest of the paradigm. The same is shown in *asipsīrc* /asipsīrte/ (8d), whose 1S-person is *pishipsīrc* /pieipsīrte/ (8d). Note also that the 1S-vowel of *laseēt* /lasē:t/ is /i/. Here the 3-person has assimilated to the RFL-person, so that both the original thematic vowel and the original root-initial consonant have not been preserved, but are still to be found in the 1S-person. In both *laseēt* /lasē:t/ and *asipsīrc* /asipsīrte/ the original root-initial consonant is /ε/. As already noted, /s/ in the 1S- and 3-person corresponds to /ε/ in the 2S-person of thematic nouns in /i/- if the 2S-vowel is /a/. This occurs in both noun (29b-c) and verb morphology (29d-e). There are no thematic nouns with the 3-vowel /i/ and root-initial /ε/, but this change has occurred in the 2S-person of *laseēt* /lasē:t/ and consequently in the RFL-person. In *laseēt* /lasē:t/ and *asipsīrc* /asipsīrte/, /ε/ comes together with the high thematic vowel, while /s/ comes together with the original 2S-vowel /a/, which in the 3-person is the result of assimilation to the RFL-person (dependent on the 2S-person).²⁵⁹

²⁵⁹ The main difference is that *asipsīrc* does not take the prefix /d/- in the

Dilt ‘leg’ (35a) is an exception, because root-initial /r/ turns into /l/ in the 3-person. The noun *data* ‘mother’ is very interesting. In the first place, a possible 1S-person form is *mama* (from Spanish *mamá* ‘mummy, mother’) and this shows how deep the Spanish influence on currently spoken Chamacoco is. In the second place, during the fieldwork some speakers have also indicated, as variant for the 1S-person, another form which is very rarely used because it sounds archaic: *ote*. Both Baldus (1932: 408) and Boggiani (1929: 173) report this form. *Ote* is an irregular, non-prefixed form for the 1S-person. Also other kinship nouns have an irregular 1S-person (35d-h). This form always alternates with the regular form.

- (35) a. p-i-rt (1S), e-rt (2S), d-i-lt (3), d-e-rt (RFL) ‘leg’
 b. o-te / mama / p-a-ti (1S), a-ta (2S), d-a-ta (3), d-a-ta (RFL)
 ‘mother’²⁶⁰
 c. di: / papa / p-e-jtɛ (1S), e-jtɛ (2S), d-e-jtɛ (3), d-e-jtɛ (RFL)
 ‘father’²⁶¹
 d. leki / p-e-kite (1S), e-kite (2S), d-e-kite (3), d-e-kite (RFL)
 ‘grandfather’ (also: dekite)
 e. kole / koli / p-e-kita (1S), e-kita (2S), d-e-kita (3), d-e-kita (RFL)
 ‘grandmother’ (also: dekuta)
 f. jama / p-e-rmite (1S), e-rmite (2S), n-e-rmite (3), n-e-rmite (RFL)
 ‘uncle’
 g. tama / itama / p-i-te:mtea / p-a-te:mtea / p-i-te:mtea (1S),
 a-te:mtea (2S), l-a-te:mtea (3), l-a-te:mtea (RFL) ‘aunt’

3-person.

²⁶⁰ In *pati*, the ‘regular’ 1S-person of *data*, final /i/ is due to the weakening of /a/.

²⁶¹ In ‘father’, the form *dii* /di:/ used for the 1-person also has a variant *diya* /dija/, only used as vocative form.

- h. dekãʔ / p-e-kūrte (1S), e-kūrte (2S), n-e-kūrte (3), n-e-kūrte (RFL)
 ‘stepfather’

There is a smaller group of nouns with a different prefix in the 3-person (36). In (36e-f) one finds two exceptions concerning the 1S-vowel, which is /i/ rather than /e/ in *ketita* (36e), and /i:/ rather than /a:/ in *kaalak* /ka:lak/ (36f). In both cases the 3-person has probably assimilated to the RFL-person (as seen in kinship terms), so that the 1S-vowel is the original thematic vowel.

- (36) a. p-o-lt (1S), o-lt (2S), w-o-lt (3), d-o-lt (RFL) ‘cap’
 b. p-ã:-teta (1S), ã:-teta (2S), w-ã:-teta (3), n-ã:-teta (RFL) ‘right’
 c. p-o-nĩ:t (1S), o-nĩ:t (2S), j-o-nĩ:t (3), n-o-nĩ:t (RFL) ‘ghost, evil spirit’
 d. p-i-nsĩrte (1S), e-nsĩrte (2S), j-i-nsĩrte (3), n-e-nsĩrte (RFL)
 ‘employer, owner’²⁶²
 e. p-i-tita (1S), e-tita (2S), k-e-tita (3), d-e-tita (3) ‘knee’
 f. p-i:-lak (1S), a:-lak (2S), k-a:-lak (3), d-a:-lak (RFL) ‘food, meal’

The morphological behaviour of the thematic vowel in prefixal nouns follows the same rules as in thematic nouns. If the 3-thematic-vowel is a high vowel, two options (/e/ or /a/) are theoretically possible in the 2S-person. The few prefixal nouns with a high vowel in the 3-person (33c-d, 35a, 36d) have the 2S-thematic-vowel /e/, which is also the most frequent option in thematic nouns.²⁶³

²⁶² *Yinsĩrc* /jĩnsĩrte/ also has the variant form *unsĩrc* /unsĩrte/ which behaves as a thematic noun: *punsĩrc* /punsĩrte/ (1S), *ensĩrc* /ensĩrte/ (2S), *unsĩrc* /unsĩrte/ (3), *nensĩrc* /nensĩrte/ (RFL) ‘employer, owner’.

²⁶³ Note that no prefixal noun with the 3-vowel /i/ is observed. Moreover, there are only a few prefixal nouns with the 3-vowel /u/ or /i/.

The 3-prefixes /w/- and /k/- are only found in noun morphology, while /d/- and /j/- are also found in verb morphology. This confirms the classification which has been proposed in §5.3 and §10.2. The subclass of /d/-verbs also includes *yana* /jana/ ‘to laugh’, the only verb with the prefix /j/- in the 3-person. The paradigm of the verb *yana* /jana/ exhibits morphological properties similar to those of /d/- and /t/-verbs. For this reason it has been included in the group of /d/-verbs, although there was no phonetic evidence for this.²⁶⁴ Since they are rare suffixes in the realis, the prefixes /d/- and /j/- also exhibit the property to be used in noun morphology and this is further evidence which justifies the inclusion of /d/-verbs and *yana* /jana/ in the same verb subclass.

§10.6 Radical nouns

The inflectional class of radical nouns represents the group with the smallest number of elements. Radical nouns correspond to the inflectional class of radical verbs. Radical nouns and verbs share two characteristics:

- (1) This class of nouns shows many idiosyncrasies which will be discussed in detail, but which make systematization difficult.
- (2) Since the 3-person has no thematic vowel, the inflectional vowel in the rest of the paradigm is either a default vowel or the

²⁶⁴ In word-initial position, /d/ and /l/ are free variant allophones, while /n/ is the result of nasalization. There is no relationship between /t/ and /j/. By contrast, there is some connection between /l/ and /j/, because in some nouns and verbs /j/ corresponds to /l/ in the 2-person when thematic /i/ is replaced by /a/ (see (18) and (20a)).

original thematic vowel. It is a high vowel, replaced by an original prefix vowel in the 2S-person. In radical nouns, the 1S-vowel is mostly /i/, while the 2S-vowel is mostly /a/. Nevertheless, this scheme shows many variants which will be discussed hereafter.

Apparently, the only limits which can be found in the inventory of root-initial consonant depend exclusively on the limited number of radical nouns. At least one example for each different root-initial consonant will be shown in the following examples. The root can begin with /b/ (37a), with /k/ (37b) or with /t/ (37c). In (37a-b) the vocalic pattern is /i/-/a/-/Ø/, as mentioned above. In (37c-e) the vocalic pattern is different: /i/-/e/-/Ø/. In (37c) and (37f-g) the root-initial consonants are /h/ and /w/, respectively. /u/ in *huta* (37c) and labiovelar /w/ in *weetita* /we:tita/ and *weheta* (37f-g) have an influence on the 1S-thematic-vowel, which is /u/ rather than /i/: the vocalic pattern is so /u/-/e/-/Ø/ (37c, f) or /u/-/a/-/Ø/ (37g).

As in verb morphology, the first root-vowel is often preserved in the 3-person, but can reduce to /i/ (37d) or delete (37b) in the rest of the paradigm. In *kotsirbit* (37b) /o/ cannot drop in the 3-person, because the result would be a consonant cluster, disallowed word-initially. The first root-vowel assimilates to the 2S-vowel /e/ in the 2S-person of *huta* (37c).

- (37) a. p-i-bahat (1S), a-bahat (2S), Ø-Ø-bahat (3), d-a-bahat (RFL)
 ‘price’
 b. p-i-ktsirbit (1S), a-ktsirbit (2S), Ø-Ø-kotsirbit (3),
 l-a-ktsirbit (RFL) ‘bag’
 c. p-u-huta / p-u:-ta (1S), e-heta / e:-ta (2S), Ø-Ø-huta (3), d-e-heta /
 d-e:-ta (RFL) ‘head’²⁶⁵

²⁶⁵ CH /VhV/ often reduces to /VV/ if the vowels are identical. In this case, the

- d. p-i-tĩĩ:t (1S), e-tĩĩ:t (2S), Ø-Ø-torĩ:t (3), d-e-tĩĩ:t (RFL) ‘faint’
- e. p-i-tĩpita (1S), e-tĩpita (2S), Ø-Ø-tĩpita (3), d-e-tĩpita (RFL)
‘brain’²⁶⁶
- f. p-u-we:tita (1S), e-we:tita (2S), Ø-Ø-we:tita (3), d-e-we:tita (RFL)
‘ankle’
- g. p-u-weheta (1S), a-weheta (2S), Ø-Ø-weheta (3),
d-a-weheta (RFL) ‘throat’

All radical nouns with root-initial /m̥/ derive from *hmata* /m̥ata/ ‘hand’ (38). Note the alternation between /i/ and /o/ in the 1S-person. Thus, the vocalic pattern shows two variants: /i/-/a/-/Ø/ and /o/-/a/-/Ø/. It is not clear why /o/ and /i/ can alternate. One can simply suppose that /o/ was originally the thematic vowel of the paradigm and that underwent reduction, but there is insufficient evidence to support it. As already seen in (37b, d), the first root-vowel is always preserved in the 3-person, but can undergo articulatory weakening in the rest of the paradigm: it turns into /i/ in the paradigm of *hmata* /m̥ata/ (38a). Such vowel reduction to /i/ is also to be observed in nouns belonging to other inflectional classes, e.g. (25b-d), where it usually only occurs in the 2S-person. By contrast, in radical nouns this change also involves the 1S-person (see also (39a-c)). Note that the first root-vowel /a/ is preserved in the whole paradigm of the nominals derived from *hmata* /m̥ata/ (38b-c).

A radical verb such as *masaha* ‘to enter’ (38d) exhibits similar characteristics to these radical nouns: the 1-vowel is /o/ and the

thematic vowel is not indicated in morphological segmentation.

²⁶⁶ For this noun a thematic variant is also reported: *p-i-terpita* (1S), *e-terpita* (2S), *i-terpita* (3), *d-e-terpita* (RFL) ‘brain’. These forms coincide with those of *i-terpita* (3) ‘trousers; women’s panties’.

original first root-vowel is preserved in the 3-person, but it drops in the rest of the paradigm.

- (38) a. p-i-ṁita / p-o-ṁita (1S), a-ṁita (2S), Ø-Ø-ṁata (3), n-a-ṁita (RFL) ‘hand’
 b. p-i-ṁantita / p-o-ṁantita (1S), a-ṁantita (2S), Ø-Ø-ṁantita (3), n-a-ṁantita (RFL) ‘fist’
 c. p-i-ṁartita / p-o-ṁartita (1S), a-ṁartita (2S), Ø-Ø-ṁartita (3), n-a-ṁartita (3) ‘ring’
 d. t-o-msaha (1S), a-msaha (2S), Ø-Ø-masaha (3), j-o-msaha (1PI), o-j-o-msaha (1PE), a-msaha-lo (2P), o-masaha (3P) ‘to enter’

As in verb morphology (see §5.6), the root-initial consonant can undergo fortition word-initially, that is in the 3-person. For instance, /b/ turns into /p/ in (39a-c). These radical nouns are derived from *posht* /poet/ or are semantically related. In this case too, the first root-vowel, to be found in the 3-person, reduces to /i/ in the rest of the paradigm. The same is to be observed in radical verbs, such as *tola* (39c). Although the first root-vowel undergoes weakening, it probably has an influence on the 1S-thematic-vowel /o/. The vocalic pattern is then: /o/-/a/-/Ø/ (39a-c). Compare the paradigm of *posht* /poet/ (39a) with that of *bahat* (39e). Both exhibit the same root-initial consonant, but in the latter /b/ is preserved in the 3-person. This confirms that the fortition of root-initial /b/ is lexically idiosyncratic (cf. §5.6.1).

- (39) a. p-o-biet (1S), a-biet (2S), Ø-Ø-poet (3), d-a-biet (RFL) ‘food’
 b. p-o-bitēt (1S), a-bitēt (2S), Ø-Ø-potēt (3), l-a-bitēt (RFL) ‘tooth’
 c. p-o-bitita (1S), a-bitita (2S), Ø-Ø-potita (3), l-a-bitita (RFL) ‘edible fruit’
 d. tik-i-tila (1S), a-tila (2S), Ø-Ø-tola (3), j-i-tila (1PI), o-j-i-tila (1PE), a-tili-lo (2P), o-tola (3P) ‘to be afraid of’

- e. p-i-bahat (1S), a-bahat (2S), Ø-Ø-bahat (3), d-a-bahat (RFL)
 ‘price’

In (40a-b) one can find radical nouns with root-initial /j/. In *yũhurrza* /jũhuɽa/ (40a) /j/ is present in the whole paradigm, including the 2S-person, where the inflectional vowel is /e/. By contrast, root-initial /j/ corresponds to /n/ in the 2-person of *yermich* /jermite/ (40b), where the 2S-vowel is /a/. In radical nouns too, the correlation between consonantal alternation and the 2S-vowel /a/ is thus confirmed, while there is no root allomorphy when the 2S-vowel is /e/. A case similar to (40b) is observed in the thematic verb *iyem* /ijem/ (40e).

In (40c-d) the 3-person root-initial consonant is /n/, while the 1S-person root-initial-consonant is /j/.²⁶⁷ The vocalic pattern is /i/-/a/-/Ø/. In verb morphology too, root-initial /j/ alternates with /l/ or /n/ (depending on nasalization), with the latter option to be found in the 2-person, together with inflectional /a/ (40d). In some thematic nouns without nasality, /j/ turns into /l/ in the same context (see ex. 19). In (40c-d) one may suppose that the 3-person has assimilated to the 2S- and to the RFL-person. The original root-initial consonant is thus preserved only in the 1S-person.

- (40) a. p-i-jũhuɽa (1S), e-jũhuɽa (2S), Ø-Ø-jũhuɽa (3), n-e-jũhuɽa (RFL)
 ‘skin’
 b. p-i-jermite (1S), a-nermite (2S), Ø-Ø-jermite / Ø-Ø-jĩrmite (3),
 n-a-nermite (RFL) ‘back’ (anatomy)
 c. p-i-jěr (1S), a-ner (2S), Ø-Ø-ner (3), n-a-ner (RFL) ‘behind’
 d. p-i-jěrpta (1S), a-nerpta (2S), Ø-Ø-nerpta (3), n-a-nerpta (RFL)

²⁶⁷ This phoneme can be realized as [ɲ] word-internally in nasal-harmony contexts.

‘shirt, dress’

e. t-i-jem (1S), a-nem (2S), i-jem (3), j-i-jem (1Pl), o-j-i-jem (1PE),
a-nem-lo (2P), o-jem (3P) ‘to wait’

The variability of the different vocalic patterns found in radical nouns is summarized in (Table 10.2). The number of different vocalic patterns is even more remarkable if one considers that relatively few radical nouns are to be found. In most cases the 1S-thematic-vowel is a high vowel, as if a high vowel would be present in the 3-person, the only exception being the vocalic pattern /o/-/a/-/Ø/. The presence of /o/ in the 1S-person and /a/ in the 2S-person is rare and is also found in the few examples with the vocalic pattern /o/-/a/-/a/ (8c) or /o/-/a/-/o/ (11a, 13a, 13c).

1S	2S	3	Examples
i	a	Ø	(40a-b, d)
i	e	Ø	(40c)
o	a	Ø	(39a-c)
o/i	a	Ø	(38a-c)
u	a	Ø	(37g)
u	e	Ø	(37c, f)
ĩ	a	Ø	(37a-b) (40e)
ĩ	e	Ø	(37d-e)

Table 10.2

The noun *hnitita* /ɲitita/ ‘foot’ does not belong to any of the above mentioned classes, because it has a suppletive form in the 3-person.

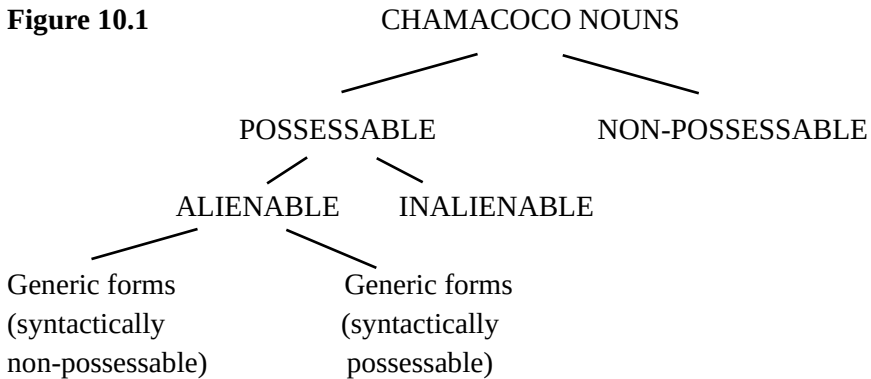
(41) p-i-ɬja (1S), e-ɬja (2S), ɲitita (3), d-e-ɬja (RFL) ‘foot’

§10.7 The generic form

Only a few GFs are to be observed. Although all GFs express no possessor at the morphological level, in Chamacoco they differ in the possibility of having a possessor at the syntactic level. Thus, two kinds of GFs have to be distinguished. The first group of GFs cannot have any syntactic possessor, while the second group of GFs can be preceded by a possessor, although the possessor should not be expressed in conjunction with a GF. This difference between syntactically non-possessable and syntactically possessable forms shows that the CH use of the GF has entered a critical phase.

In Figure 10.1 the system of CH possessive inflection is summarized. Chaco languages generally distinguish between possessable and non-possessable nouns. If one looks at this issue in terms of alienability, most possessable nouns are inalienable, because always take a morphological form expressing the agreement with a possessor, and in case no possessor is at stake, they have to appear in the 3-person. The few nouns with a GF are alienable. Alienable nouns can be divided into syntactically possessable and non-possessable. Section §10.7.1 describes the morphology of the GF, while §10.7.2 deals with its uses.

Figure 10.1



§10.7.1 The morphology of the generic form

In (42-43) all GFs recorded during my fieldwork are reported. The GFs are divided into syntactically non-possessable and syntactically possessable, and are ordered according to the respective (pre-)prefixes. One can observe a certain degree of variation in spite of the few GFs. There are six ways to obtain the GF. Five (pre-)prefixes are used, depending on the noun: /o/-, /d/-, /dVk/-, /e/- and /k/-. The prefix /dVk/- for the GF is also found in Ayoreo. *Ijõrta* /ixõrta/ (3) ‘plant’ has the only radical GF. Although it is difficult to make generalizations based on few examples, the same prefix or pre-prefix can be used for both syntactically possessable and non-possessable GFs, such as /d/-, /dVk/- and /o/-, although /o/- is more frequent in syntactically non-possessable GFs. /k/- is only used for syntactically possessable GFs. The prefixes /k/- and /d/- do not only occur in the GF, but, as already mentioned, they are also used as 3-pronouns. The difference between syntactically possessable and non-possessable GFs and the occurrence of the same morphological devices in both types of GF indicates that the system is falling apart.

(42) Syntactically non-possessable (SN)²⁶⁸

Pre-prefix /o/-

i-jutɛ (3) ‘house’ → o-jutɛ (GF.SN)²⁶⁹ (ojutɛ also means ‘village’)

i-bitɛ (3) ‘work, job’ → o-bitɛ (GF.SN) (ibich)²⁷⁰

i-miet (3) ‘medicine’ → o-miet (GF.SN)

i-terpita (3) ‘pants’ → o-terpita (GF.SN)

j-o-ni:t (3) ‘ghost, spirit’ (masculine) → o-j-o-ni:t (GF.SN)

j-o-ni:ta (3) ‘ghost, spirit’ (feminine) → o-j-o-ni:ta (GF.SN)

Ø-Ø-poɛt (3) ‘food’ → o-poɛt (GF.SN)

Ø-Ø-martita (3) ‘ring’ → o-martita (GF.SN)

Ø-Ø-nerpita / Ø-Ø-nerpta (3) ‘shirt, dress’ → o-nerpita /
o-nerpta (GF.SN)

Pre-prefix /e/-

j-i-nsĩrtɛ (3) ‘boss, owner’ → ej-nsĩrtɛ (GF.SN)

²⁶⁸ There are other dubious or only apparent GFs which have to be discussed. The term *kotêrc* /kotêrtɛ/ is a vulgar word, which is the GF (syntactically non-possessable) of *otêrc* /otêrtɛ/ ‘ass’. This word has a particular semantic nuance, because it refers to a big bottom and is considered very vulgar. For this reason, it is not used by all speakers and has not been included in the previous examples. The word *kamit* ‘bed’ is a loanword from Spanish *cama*. As most loanwords, *kamit* is non-possessable. The form *okamit* is also found. This looks like a GF, but is just a variant and /o/- here does not have to be interpreted as a generic prefix.

²⁶⁹ The GF of *ihyuch* /ijutɛ/, *ohyuch* /ojutɛ/, can also mean ‘village, town’.

²⁷⁰ The GF of *ibich* /ibitɛ/ is mainly used in the plural *obiyo* /obijo/.

Prefix /d/-

i-teit (3) ‘dung’ → d-i-teit (GF.SN)

Prefix /dVk/-

i-teibite (3) ‘spirit, image’ → dik-i-teibite (GF.SN)

i-hirmitē (3) ‘crying’ → dik-i-hirmitē (GF.SN)

(43) Syntactically possessable (SP)

Pre-prefix /o/-

i-teita (3) ‘mosquito net’ → o-teita (GF.SP)

Prefix /d/-

i-kirmista (3) ‘blood’ → d-i-kirmista (GF.SP)

Prefix /dVk/-

i-ŋe:t (3) ‘song’ → luk-u-ŋe:t (GF.SP)

Prefix /k/-

i:-bite (3) ‘smoke’ → k-i:-bite (GF.SP)

u-rkit / u-rkite (3) ‘hammock’ → k-u-rkit / k-u-rkite (GF.SP)

i-εuxãro / i-εuxãro (3) ‘thing’ → k-u-εuxãro (GF.SP)

Root

i-xõrta (3) ‘plant’ → Ø-Ø-xõrta (GF.SP)

As one can see from the above examples, /o/- (and possibly its variant /e/-) is a pre-prefix added to the 3-person. This is particularly evident when it is added to a prefixal noun: *y-oniit* /j-oni:t/ (3) ‘ghost, spirit’ → *o-y-oniit* /o-j-oni:t/ (GF.SN). In *o-posht* /o-poʃt/ (GF.SN) ‘food’ the GF preserves the word-initial fortition of the 3-person *posht* /poʃt/ (3) ‘food’ (see (40a)). When /o/- is added to a thematic noun, it replaces the thematic vowel: *iterpita* (3) ‘pants’ → *oterpita*. The same process occurs in verb morphology with the 3P pre-prefix /o/-, which can replace the 3-vowel of thematic verbs (§5.5): e.g. *uushi* /u:ɕi/ (3) → *ooshi* /o:ɕi/ (3P) ‘to run’; *ishim* /iɕim/ (3) → *oshim* /oɕim/ (3P) ‘to give’ (about the GF pre-prefix /o/- and the 3P pre-prefix /o/-, see also §10.7.2). While the GF pre-prefix /o/- can be applied to all noun classes, owing to scarcity of data it is not possible to establish whether the prefixes /d/-, /dVk/- and /k/- can only be added to thematic nouns.

The vowel of the prefix /dVk/- harmonizes to the thematic vowel. Since [d] and [l] are free allophones in word-initial position, the prefix can also be realized as /lVk/-. The alternation between /i/ and /u/ in the thematic vowel is frequent in possessive inflection. /dVk/- is very similar to the 1S-prefix /tVk/- in verb inflection.

Vocalic syncope in the root occurs in the GFs of *eynsĩrc* /ejnsĩrɕ/ and *ishujãro* /iɕuxãro/, namely: *yinsĩrc* /jinsĩrɕ/ and *kushjãro* /kuɕxãro/, respectively. In the latter form the root vowel /u/ drops (cf. *ishujãro* /iɕuxãro/), leaving a harmonized thematic vowel.

§10.7.2 The use of the generic form

In this section, examples of the use of the GF are shown. Examples (44-45) are taken from a text in which the speaker talks about the

herbal remedies of CH people. The modern remedies of the Western medicine are literally the ‘medicines of the Paraguayan people’ (*Mar imshiyo* /mar imɕijo/). Since these are the medicines (*imshiyo* /imɕijo/) of the Paraguayan people (*Mar(o)* /mar(o)/), the 3-person form of ‘medicines’ is used.²⁷¹ In (45) the speaker suggests to cure some people with traditional herbal remedies. Here ‘medicines’ is expressed by the GF *omshiyo* /omɕijo/, because the plants of the forest do not belong to anyone. In (45) the apposition of *omshiyo* /omɕijo/ is *pohir* ‘plants’, a non-possessable noun. The GF is also reported for *posht* /poɕt/ ‘food’. In (46) the possessor of food (i.e. the one who is going to eat the food) is known and the 3-person form *posht* /poɕt/ (plural: *poso*) is used. In (47) there is no food and consequently no possessor. For this reason the GF *oposo* is used (*oposht* /opoɕt/ in the singular).

- (44) Tok-osim òr Mar imshi-yo.
 /tok-osim òr Mar imɕi-jo/
 1S-give 3P Paraguayan.MP 3.medicine-MP
 ‘I give them modern medicine.’ (literally ‘Paraguayan medicine’)
 (Ciucci 2011a)

- (45) A-sim òr o-mshi-yo uu erze pohir.
 /a-sim òr o-mɕi-jo u: eɾɕe pohir/
 2S-give 3P GF-medicine-MP DET.P that.P plant.FP
 ‘Give them those plants as medicine.’ (Ciucci 2011a)

²⁷¹ *Imishiyo* /imɕijo/ is a plural form, the singular is *imisht* /imɕet/.

- (46) Luk posh-t listo.
 /luk poɛ-t listo.
 Luca 3.food-MS.FF ready
 ‘Luca’s dinner is ready.’ (Ciucci 2011a)²⁷²

- (47) Nihyōk naa o-pos-o.
 /nijōk na: o-pos-o/
 NEG.EXIST NEG GF-cibo-MP
 ‘There is no food.’ (Ciucci 2011a)²⁷³

In (48) the addressee is looking for a job and he is asked when he is going to talk to a potential employer. The speaker uses the GF of ‘employer’, rather than the 2S-person, because he does not know whether the employer will recruit the addressee. When a working relationship is established, the possessive prefix is used, as in (49). In (50) the talk is about a cloud of smoke in the woods (the origin of the fire is not mentioned). In (51) one speaks of the habit of smoking. In Chamacoco there is no specific verb for ‘to smoke’ and when someone smokes, he/she literally ‘eats his/her smokes’, so that the plural of ‘smoke’ (*iibo* /i:bo/) agrees with the subject. In (52) the possessor of the mosquito net is unknown or not specified.

²⁷² This is what the CH people told me when they called me for dinner.

²⁷³ This sentence is taken from a spontaneous speech recording. The influence of Spanish is very strong in this clause. The traditional negation *ye* /je/ is replaced by *naa* /na:/ (from Spanish *no*) and the standard plural of *oposo* is used, rather than the plural of the indeterminate form. However, there is no linguistic interference with the prefixation of the GF.

- (48) Fransisk, latik nehe etĩr wahacha e-ynsĩr-c?
 /Fransisk latik nehe etĩr wahateã e-jnsĩr-te/
 Francisco what FUT 2S.go_to there GF-employer-MS.FF
 ‘Francisco, when are you going to go to the employer?’
 (Ciucci, field notes)

- (49) Wichĩ yok p-insĩr-k.
 /witẽi jok p-insĩr-k/
 3.MS 1S 1S-employer-MS.BF
 ‘He is my boss.’ (Ciucci, field notes)

- (50) K-iib-o de wahacha ich e-raha uje
 /K-i:b-o de wahateã itẽ e-raha uxe/
 GF-smoke-MP 3.EXIST there and 2S-know SUB
 jweki-ta de wahacha.
 /xweki-ta de wahateã/
 fire-FS.FF 3.EXIST there
 ‘There is smoke there, so you know that the fire is there.’
 (Ulrich & Ulrich 1990d: 146)

- (51) Ye o-t-ew iib-o=pe.
 /je o-t-ew i:b-o=pe/
 NEG P-3-eat 3.smoke-MP=NEG
 ‘They do not smoke.’ (Ciucci, field notes)

- (52) Õhwa wate o-chi-ta ã-rtĩ-ta!
 /õwã wate o-tei-ta ã-rtĩ-ta/
 2S.bring DET.FS GF-mosquito_net-FS.FF 3-stick-FS.FF
 ‘Bring the stick of the mosquito net.’
 (Chamacoco; Balbuena 1991: 6)

In (53) the GF *kushjãro* /kuɛxãro/ is syntactically possessable and in this case it is preceded by its possessor, indicated by the 1S-pronoun *yok* /jok/. In the last part of the example, the

corresponding possessed form *pishujãro* /piɛuxãro/ is used. The word *kushjãro* /kuɛxãro/, GF of *ishujãro* /iɛuxãro/, may refer to both edible things and objects. *Kushjãro* /kuɛxãro/ is syntactically possessable. When the first speaker says *yok kushjãro* /jok kuɛxãro/ ‘my things’, the second asks him whether he refers to edible things. Then the first speaker replies that he refers to objects belonging to him (*yok pishujãro* /jok piɛuxãro/ ‘my things’). The term *ishujãro* /iɛuxãro/ is so used in order to disambiguate the meaning of *kushjãro* /kuɛxãro/, indicating that the first speaker is talking about objects rather than about food. Although from a semantic point of view *kushjãro* /kuɛxãro/ does not exactly coincide with *ishujãro* /iɛuxãro/, it is morphologically its GF.

- (53) – Yok kushjãro. – Je o-t-ew? – No, yok p-ishujãr-o. –
 /jok kuɛxãro xe o-t-ew no jok p-iɛuxãr-o/
 1S thing.MP INT P-3-eat no 1S 1S-thing.MP
 – My things – Do you eat it? – No, my objects. –
 (Ciucci, field notes)

The 3P pre-prefix /o/- in verb inflection and the GF pre-prefix /o/- are phonologically identical and it is legitimate to wonder whether diachronically they are the same element. Although there cannot be any certainty, two features might suggest the hypothesis that /o/- spread from verb morphology to possessive inflection.

(1) The 3P-person of the verb can convey an impersonal meaning, especially when giving instructions, as in (54), where the speaker teaches how to weave the caraguata fibre. In (53) too, the 3-person form is used as an impersonal form.

(2) In both verb and noun morphology, /o/- only exists in Chamacoco, in contrast with the other Zamucoan languages.

Ayoreo and Old Zamuco, which use other GF prefixes, do not even have any morphological form for the 3P-person of the verb.

- (54) Hmeychim: o-ch-ukwer o-sh-uu itsorz.
 /mɛjɛim o-tɛ-ukwer o-ɛ-u: itsorz/
 2S.look P-3-weave P-3-do this_way.RLS
 (Giving instructions) ‘Look: one should weave this way.’
 (Ciucci field notes)

Another possibility is that /o/- derives directly from *os* ‘people’ or *õr* (3P). The former is the reduced form of the plural *oso* ‘people’, owing to final syllable reduction (see §13.7.3), while *õr* is a possible etymology for the 3P pre-prefix /o/- (cf. §7.1). Both *os* and *õr* can precede the 3-person of a noun when the possessor is unspecified. Note that this is a syntactic strategy and *os* and *õr* should not be considered affixes.²⁷⁴ In (55) *os(o)* simply means ‘people’, while in (56) it precedes *deych* /dejtɛ/ ‘father’ to refer to the father’s role (lit. ‘the people’s father’) rather than to the father of someone in particular. In this context, *õr* and *os(o)* can alternate.

- (55) Uu õryoo os poor-c ii-ch
 /u: õrjo: os po:r-tɛ i:-tɛ/
 DET.MS 1PE person.MP ancestor-MS.FF 3.name-MS.FF
 otsii Basibiki.
 /otsi: basibiki/
 3P.QUOT Basibiki
 ‘The ancestor of our people was called Basibiki.’
 (Ciucci, field notes)

²⁷⁴ *Os* is regarded as an affix by Campbell (2012b: 297-298), based on Sušnik (1986/87: 75).

- (56) Ye os d-ey-ch d-akit pukuhnin
 /je os d-ej-ɬe d-akit pukunin/
 NEG person.MP 3-father-MS.FF 3.IRLS-suggest child.MP
 kinaho=pe.
 /kinaho=pe/
 someone_else's=NEG
 ‘A father (lit. ‘the father of the people’) doesn’t give suggestions to
 other people’s children.’ (Ciucci, field notes)

§10.8 Other possessable nouns

Some possessable nouns are not autonomous syntactically, because they are only used after a verb in verbal periphrases.²⁷⁵ Their possessive inflection is regular and in most cases the noun agrees in person with the subject. Note that in the following examples the RFL-person agrees with the 3-person subject, while the 3-person form of the noun (that is the basis of possessive inflection) is used for the plural persons, because they have no proper possessive form. Since these words are only used in verbal periphrases, it is difficult to establish the exact meaning of each noun, but the meaning of the verbs is, in most cases, clear.

- (57) ti: puhut (1S), e:j ehet (2S), ɬei: lehet (3), ji: ejok uhut (1PI),
 oji: ɖrjok uhut (1PE), e:jlo olak uhut (2P), otei: lehet (3P),
 di: lehet (3.IRLS) ‘to take the floor’ (ɬei: ‘to do, to make’)
- (58) ti:s pulo (1S), a:s elo (2S), ɬe:s / tse:s delo (3), ji:s ejok ulo (1PI),
 oji: ɖrjok ulo (1PE), a:slo olak ulo (2P), oɬe:s delo (3P),
 li:s delo (3P)²⁷⁶ ‘to get angry’ (ɬe:s ‘to bite, to sting, to criticize’)

²⁷⁵ Analogous verbal periphrases also exist in Ayoreo.

²⁷⁶ The first and the 3-person form of *ulo* are also found with /u:/: *puulo* /pu:lo/,

- (59) ti: parʒɪt (1S), e:j arʒɪt (2S), tɛi: larʒɪt (3), ji: ejok arʒɪt (1PI),
oji: ɔrʒok arʒɪt (1PE), e:jlo olak arʒɪt (2P), otei: larʒɪt (3P),
di: larʒɪt (3.IRLS) ‘lie beside’ (tɛi: ‘to do, to make’)
- (60) tehek pota (1S), ehek ota (2S), tsehek lota (3), jehek ejok ota (1PI),
ojehek ɔrʒok ota (1PE), ehek olak ota (2P), otsehek lota (3P),
dehek lota (3.IRLS) ‘to spring up, to jump up’ (tsehek ‘to divide’)
- (61) tiɛ piɛ (1S), as abe (2S), tɛiɛ labe (3), jiɛ ejok iɛ (1PI),
ojiɛ ɔrʒok iɛ (1PE), aslo olak iɛ (2P), oteiɛ labe (3P),
diɛ labe (3.IRLS) ‘to marvel, to be amazed’ (tɛiɛ ‘to meet,
to reach’)
- (62) tukwɛɣ piɛ (1S), ekwɛɣ abe (2S), tɛukwɛɣ labe (3),
jukwɛɣ ejok iɛ (1PI), ojukwɛɣ ɔrʒok iɛ (1PE),
ekwɛɣ olak iɛ (2P), otɛukwɛɣ labe (3P), dukwɛɣ labe (3.IRLS)
‘to spin’ (tɛukwɛɣ ‘to twist, to grind’)
- (63) tej peɲimite / paɲimite (1S), ej eɲimite / aɲimite (2S), sej neɲimite /
naɲimite (3), ji: ejok eɲimo / aɲimo (1PI), oji: ɔrʒok eɲimo /
aɲimo (1PE), olak ejlo olak eɲimo / aɲimo (2P), otsej neɲimo /
naɲimo (3P), dej eɲimo / aɲimo (3.IRLS) ‘to get facedown, to fall
on the ground, to fall facedown’ (tseja ‘to lead to’)

Although it is usually difficult to establish the exact meaning of each element, the noun used in the last example (63) is a possessable form for ‘land’ *hnimich* /ɲimite/ (and in this case *hnimich* /ɲimite/ could be considered a radical GF). If the subject is plural, the speakers prefer to use *ehnimich* /eɲimite/ in the plural *ehnimimo* /eɲimo/. Other possessable nouns only found in verbal

periphrases do not agree with the subject, but with the object, as in (64), where the noun is *ibe*, also used in (61) and (62).

- (64) a. tu: *ibe* (1S), uhu: *ibe* (2S), eu: *ibe* (3), juhu: *ibe* (1Pl),
 ojuhu: *ibe* (1PE), uhulo: *ibe* (2P), oeu: *ibe* (3P), duhu: *ibe* (3.IRLS)
 ‘to praise (him/her)’ eu: ‘to make, to do’
 b. tu: *pibe* ‘I praise myself’
 c. tu: *abe* ‘I praise you’
 d. tu: *ibe* ‘I praise her/him’ / tu: Laura *ibe* ‘I praise Laura’
 e. eu: *labe* ‘he praises himself’

§10.9 The possessive classifier *uhut*

In Ayoreo, non-possessable nouns must be preceded by a possessive classifier in order to express the possessor. Possessive classifiers are not used in Chamacoco (with one exception, discussed below). As already said (§10.1), Chamacoco overcomes the absence of a possessive classifier by having a non-possessable noun preceded by the possessor without carrying itself the possessive inflection. Nevertheless, in Chamacoco there exists an element, *uhut*, which performs the function of a possessive classifier and is only used in a semantically very limited context. *Uhut* is used with non-possessable nouns which refer to human beings to indicate relationship, fellowship, companionship or even friendship among the possessor and the possessee.

- (65) p-u-hut (1S.PCL_fellow), u-hut (2S.PCL_fellow), u-hut (3.PCL_fellow),
 l-/d-u-hut (RFL.PCL_fellow)

The possessive inflection of *uhut* is irregular, because thematic /u/ is preserved in the 2S-person. This is a very rare exception which in the Zamucoan family only occurs in another element: the

CH verb *shuu* /ɕu:/, when it means ‘to do, to make’ and is used as a causative verb (see §7.3).²⁷⁷ The possessive classifier *uhut* has no lexical meaning and cannot stand alone, but has to precede the possessee. *Uhut* agrees in person with the possessor and in gender, number and form with the possessee, as one can see in the following examples. Gender, number and form are expressed by the suffixation of *uhut*. About these characteristics, see the chapter on CH nominal suffixation (§13.8).

In (66) and (67) the possessive classifier is used. Both *hnakirbito* /ɲakirbito/ ‘young men’ and *apibite* ‘girls, young women’ (here used in the plural) are non-possessable.

- (66) Alojo uu iji-t otsĩ Moyto òr
 /aloxo u: ixi-t otsi: mojto òr/
 Alojo DET.MS 3.child-MS.FF 3P.QUOT Moyto with
 l-uhu hnakirbit-o o-hno o-tĩr onoo-ta.
 /l-uhu ɲakirbit-o o-ɲo o-tĩr ono:-ta/
 RFL-PCL_fellow.MP young_man-MP P-3.go P-3.go_to river-FS.FF
 ‘The son of Alojo, Moyto and other boys (his companions) go to the river.’ (Ciucci, field notes)

- (67) Maria o-hno o-tĩr kwela hõr l-uhu
 /maria o-ɲo o-tĩr kwela hõr l-uhu/
 Maria P-3.go P-3.go_to school with RFL-PCL_fellow.FP
 apibit-e par o-ch-ichew hut-e.
 /apibit-e par o-tɕ-itɕew hut-e/
 girl-FP SUB P-3-write book-FP
 ‘Maria and the (lit. ‘her’) girls go to school in order to write in the

²⁷⁷ The irrealis form of *shuu* /ɕu:/, *luhu* / duhu, phonologically coincides with the plural of the RFL-person of *uhut*. This form is to be observed in examples (66-67).

notebooks (lit. ‘to write notebooks’).’ (Ciucci, field notes)

In the following examples the *boys* and the *girls* are the companions of *Maria* and *Moyto*. Note that in this case one could use the word for ‘friend’, which has possessive inflection, but it cannot occur along with *uhut* (68-69).

- (68) *Alojo uu iji-t otsii Moyto òr
 /aloxo u: ixi-t otsi: mojto òr/
 Alojo DET.MS 3.child-MS.FF 3P.QUOT Moyto with
 l-uhu n-ahĩr-e o-hno o-tĩr onoo-ta.
 /l-uhu n-ahĩr-e o-ŋo o-tĩr ono:-ta/
 RFL-PCL_fellow.MP RFL-friend-MP P-3.go P-go_to river-FS.FF
 [The son of Alojo, Moyto and other friends (his companions) go to the river.] (Ciucci, field notes)

- (69) *Maria o-hno o-tĩr kwela hõr l-uhu
 /maria o-ŋo o-tĩr kwela hõr l-uhu/
 Maria P-3.go P-3.go_to school with 3-PCL_fellow.FP
 n-ahĩr par o-ch-ichew hut-e.
 /n-ahĩr par o-te-itew hut-e/
 RFL-friend-FP SUB P-3-write book-FP
 [Maria and the her friends go to school in order to write in the notebooks (lit. ‘to write notebooks’).] (Ciucci, field notes)

Note that in (70) *luhu hnakĩrbo* /luhu ŋakĩrbo/ (lit. ‘his men, his companions the men’) and *nahĩre* (‘his friends, his companions’) are considered to convey about the same meaning.

- (70) a. Luka ĩya l-uhu hnakĩrb-o.
 /luka ĩja l-uhu ŋakĩrb-o/
 Luka 3.accompany RFL-PCL_fellow.MP young_man-MP
 ‘Luca accompanies his friends.’ (Ciucci, field notes)

- b. Luka ĩya ĩr n-ahĩr-e.
 /luca ĩja ĩr n-ahĩr-e/
 Luca 3.accompany 3S RFL-friend-MP
 ‘Luca accompanies his friends.’ (Ciucci, field notes)

In (71) one can see the semantic difference between two sentences with the object *ĩhirmiĩ* (‘the weeper’) used with and without *uhut*.

- (71) a. Yesh yok t-ish ĩhirmi-t.
 /jeɕ jok t-ɨɕ ĩhirmi-t/
 now 1S 1S-meet 3.weeper-MS.FF
 ‘Now I find a weeper.’ (Ciucci, field notes)
- b. Yok t-ish p-uhu-t ĩhirmi-t.
 /jok t-ɨɕ p-uhu-t ĩhirmi-t/
 1S 1S-meet 1S-PCL_fellow-MS.FF 3.weeper-MS.FF
 ‘I find my (companion the) weeper.’ (Ciucci, field notes)

Uhut is not used with proper names (72).

- (72) Yok tak-aha t-itĩr kwela hõr Juan.
 /jok tak-aha t-itĩr kwela hõr xwan/
 1S 1S-go 1S-go_to school with Juan
 ‘I go to school with Juan.’ (Ciucci, field notes)

In (73) *uhut* occurs with two synonyms: *irhĩch* /ĩɾĩtɕ/ and *yinsĩrc* /jĩnsĩrtɕ/ ‘employer’. *Irhĩch* /ĩɾĩtɕ/ is non-possessable and has to be preceded by *uhut* if the speaker wants to specify who is the employee (73a), while a form of *yinsĩrc* /jĩnsĩrtɕ/ taking possessive inflection cannot be preceded by *uhut* (73b). In (73c) too, *uhut* is used to express a fellowship between the speaker and another Chamacoco (*Ishirc* /ĩɕĩrtɕ/), because *Ishirc* /ĩɕĩrtɕ/ is non-possessable.

- (73) a. Yok tuk-umo p-uhu-t irhĩ-ch.
 /jok tuk-umo p-uhu-t irĩ-*te*/
- 1S 1S-see 1S-PCL_fellow-MS.FF employer-MS.FF
- ‘I see my employer.’ (Ciucci, field notes)
- b. *Yok tuk-umo p-uhut p-ĩnsĩr-c.
 /jok tuk-umo p-uhut p-ĩnsĩr-*te*/
- 1S 1S-see 1S-PCL_fellow-MS.FF 1S-employer-MS.FF
- [I see my employer.] (Ciucci, field notes)
- c. Yok tuk-umo p-uhu-t Ishĩr-c.
 /jok tuk-umo p-uhu-t i^hĩr-*te*/
- 1S 1S-see 1S-PCL_fellow-MS.FF Chamacoco-MS.FF
- ‘I see my (companion the) Chamacoco.’ (Ciucci, field notes)

The presence of *uhut* in Chamacoco is typologically relevant, because it confirms that the presence of the possessive classifier is an areal feature of Chaco languages. Fabre (2007b) analyzes the possessive classifier structures in Chaco languages and shows a «remarkable convergence» (Fabre 2007b: 67) between Chaco languages. However, Fabre does not provide any data for Chamacoco, which differs from the other Chaco languages with regard to possessive classifiers. First, in the Zamucoan languages analyzed by Fabre, a minimum of two classifiers is to be observed (Fabre 2007b: 79), while *uhut* is for the time being the only CH possessive classifier. Second, Chamacoco does not follow the typological hierarchy of possessive classifiers proposed in Fabre (2007b: 78), because the CH possessive classifier is semantically very specific and Chamacoco lacks the neutral classifier which occurs in most Chaco languages and in most languages having possessive classifiers (Fabre 2007b: 79). By contrast, Ayoreo has more than 20 possessive classifiers according to Fabre and is a

prototypical language with respect to the typology of its classifiers. These elements suggest that *uhut* is probably a relic of a more complex system of possessive classifiers which has disappeared owing to linguistic contact with Spanish.²⁷⁸

§10.10 *Ekwerta* and *eyucha* /*ejutca*/

Ekwerta and *eyucha* /*ejutca*/ ‘to remember’ are two hybrid elements. Both convey the same meaning and have the syntactic behaviour of a verb, as one can see in the following examples, but the morphology of a noun. *Ekwerta* is a loanword from the Spanish verb *acordarse* /*akordarse*/ ‘to remember’ (*se acuerda* /*se akwerda*/ ‘he remembers’) or from the Spanish noun *recuerdo* /*rekwerdo*/ (‘memory, remembrance’), although it could even result from a combination of both forms. By contrast, *eyucha* /*ejutca*/ is the original Chamacoco term. This is a further example of how indigenous and Spanish-derived words with the same meaning co-exist in currently spoken Chamacoco.

- (74) Yok tuk-ucha uje aãchi like tenihni.
 /jok tuk-utca uxe â:tei like teniɲi/
 1S 1S-remember COMP 2S.arrive here recently
 ‘I remember that you have arrived recently.’ (Ciucci, field notes)

- (75) Yok p-ewkerta uje aãch=ni.
 /jok p-ewkerta uxe â:te=ni/
 1S 1S-remember COMP 2S.arrive=PST
 ‘I remember that you have arrived.’ (Ciucci, field notes)

²⁷⁸ About possessive classifiers in Chaco languages, see also Aikhenvald (2011: 174-175).

- (76) Ikon eyucha uje Kapo sh-iyokōr=ni.
 /ikon ejutea uxe Kapo ɛ-ijokōr=ni/
 Ikon 3.remember COMP Kapo 3-do=PST
 ‘Ikon remembers what Kapo has done.’ (Ciucci, field notes)

Although at the syntactic level both *ekwerta* and *eyucha* /ejutea/ are verbs, at the morphological level they should be included in the class of possessable nouns. *Ekwerta* (77) has the inflectional morphology of thematic nouns with thematic /e/, which indicates that it is a possessable noun, since thematic verbs in /e/- do not exist. The prefix /p/- in the 1S-person characterizes possessive inflection. Also *eyucha* /ejutea/ should be considered a thematic noun in /e/ (78), although in the 1S-person there are both a ‘nominal’ 1S-person with the prefix /p/- and a ‘verbal’ person with the prefix /tuk/-. The presence of /u/ in the prefix is probably due to the presence of the same vowel in the root. The alternation between a ‘nominal’ and a ‘verbal’ form in the 1S-person and its syntactic behaviour shows that this element probably has a verbal origin.

- (77) p-e-kwerta (1S), e-kwerta (2S), e-kwerta (3) ‘to remember’²⁷⁹

- (78) tuk-utea / p-e-jutea (1S), e-jutea (2S), e-jutea (3), d-e-jutea (RFL)
 ‘to remember’

In the case of *eyucha* /ejutea/, a reflexive form with the prefix /d/- is observed, which is used when the main and the subordinate

²⁷⁹ The reflexive form of *ekwerta* is not observed: the form **dekwerta* is ungrammatical according to the informants. Note that *ekwerta* can take the suffix -/lo/ (for both the greater plural of the 1-person inclusive and the 2P-person). This is typical of verb morphology.

clause have the same subject (79), while the 3-person is used when the subject of the subordinate clause is different (76).

- (79) Ir d-eyucha uje sh-iyokõr=ni.
 /ir d-ejut̥ea uxe ɛ-ijokõr=ni/
 3S RFL-remember COMP 3-do=PST
 ‘He remembers what he has done.’ (Ciucci, field notes)

The fact that *eyucha* /*ejut̥ea*/ has the RFL-person, not to be found in *ekwerta*, indicates that the latter loan entered the language when possessive inflection was no longer productive and the RFL-person has been the first element to disappear. Although the ending of both words is invariable, the last syllables *-/ta/* and *-/t̥ea/* remind of a FS-FF.

§10.11 The possessive construction with *=/ɛ/*

In Chamacoco there is no verb meaning ‘to have, to own’. In order to say that someone has/owns something, the enclitic *=/ɛ/* is added to the possessee, which agrees in person with the possessor. If the possessee is a non-possessable noun, it does not agree with the possessor.

- (80) Owa, je aab-o=sh? Yok p-aab-o=sh.
 /owa xe a:b-o=ɛ jok p-a:b-o=ɛ/
 2S INT 2.child-MP=EXIST 1S 1S-child-MP=EXIST
 ‘Do you have children? I have children.’ (Ciucci, field notes)

- (81) Ye eyuwĩr=sh heke a-pook.
 /je ejuwĩr=ɛ heke a-po:k/
 NEG 2S.judgment =EXIST for_this_reason 2S-feel_ashamed
 ‘You do not understand anything, for this reason you feel ashamed.’
 (Ciucci, field notes)

§10.12 Conclusions

This chapter has discussed the possessive inflection of Chamacoco. Three inflectional classes have been distinguished: thematic, prefixal and radical nouns. The classes do not generally correspond to the semantic features of the noun, but most kinship terms are /d/-nouns. As in CH verb inflection, in possessive inflection there are consonantal alternations which come together with the 2-vowel /a/. Chamacoco has few GFs, characterized by remarkable morphological variability. Some GFs can be preceded by a possessor: this is the result of a syntactic change, probably related to language endangerment. For the same reason, possessive classifiers have almost completely disappeared. Chamacoco only has one possessive classifier, *uhut*, which is semantically very specific and is what remains of a system of possessive classifiers. The mechanism of possessive inflection is no longer productive in Chamacoco. Finally, there are hybrid elements, such as *ekwerta* and *eyucha* /ejutea/, which are syntactically verbs, but show possessive inflection.

§11 Possessive inflection in the Zamucoan languages: a comparison

This chapter compares the possessive inflection of Ayoreo, Old Zamuco and Chamacoco. In (§9) and (§10) the AY and CH possessive inflection have been analyzed. Section §11.1 describes the possessive inflection of Old Zamuco. Then, the possessive prefixes used in the Zamucoan languages are discussed (§11.2). In §11.3 the possessive morphology of the Zamucoan languages is compared with verb morphology. Possessable nouns form the same inflectional classes in all Zamucoan languages §11.4. Section §11.5 deals with thematic nouns and with the behaviour of thematic vowels. Prefixal nouns are addressed in §11.6. In all Zamucoan languages, most kinship terms are /d/-nouns (§11.7). Section §11.8 deals with radical nouns. GFs and non-possessable nouns are compared in §11.9. Possessive classifiers are addressed in §11.10.

§11.1 Old Zamuco possessive inflection

In Old Zamuco, nouns have possessive inflection, described by Chomé (1958: 140-142). Examples from Old Zamuco will only be discussed when the possessive paradigm is provided in Chomé's grammar. A complete list of the possessive paradigms reported in Chomé's grammar is provided in Appendix B.

The morphological structure of possessive inflection is the same as in Ayoreo and Chamacoco. As for the inflectional classes, three classes can be distinguished, according to the structure of the 3-person: radical nouns, thematic nouns and prefixal nouns (§3.1). The paradigm has six persons (1S-person, 2S-person, 3-person, RFL-person, 1P-person, 2P-person). Usually, there is also a GF. I will mainly focus on the first three persons, because Chomé

provides few examples for the RFL-person, the 1P- and the 2P-person, which depend on the first three persons. The GF is generally reported by Chomé when an inflectional paradigm is shown.

- (1) y-i-noriga (1S), a-noriga (2S), n-o-riga (3), p-i-noriga (GF) ‘way’,
from the verb *no* (3.to_go)
- (2) ch-a-cac (1S), a-cac (2S), a-cac (3), ay-a-cac (1P/2P), p-a-cac (GF)
‘what is planted’
- (3) y-u-ague (1S), a-gue (2S), g-ü-ague (3/GF) ‘family’

If the 3-thematic-vowel is /a e o/, it is preserved in the whole paradigm (4-8). If the thematic vowel is high (/i u/), it turns into /a/ in the 2S-person (and in the RFL-person) (9-12). In (13) /a/ still has the function of a prefix, because thematic /i/ is preserved. In the 1S-person two prefixes are possible: *ch-* (/tɕ/-) or *y-* (/j/-). The first prefix is only used with deverbal nouns (as in (2)). Nevertheless, some O.Z. deverbal nouns take the prefix *y-* (/j/-) (14-15). Only deverbal nouns derived from /tɕ/-verbs take the 1S-prefix *ch-* (/tɕ/).²⁸⁰ There is no prefix in the 2S-person (apart from /a/). For this reason, the 2S- and the 3-person of thematic nouns coincide if the thematic vowel is /a/, /e/ or /o/. Few radical nouns are to be observed. In (14) the fortition of root-initial /b/ in the 3-person *pidit* is to be found.

- (4) ch-a-cac (1S), a-cac (2S), a-cac (3), ay-a-cac (1P/2P), p-a-cac (GF)

²⁸⁰ Deverbal nouns derived from verbs belonging to other classes take the 1-prefix *y-* (/j/-). According to Chomé only some deverbal nouns derived from /t/-verbs can take the prefix *ch-* (/tɕ/-). However, the few examples provided by Chomé are not reported above, because they are not complete or the derivational process is not clear (1958: 141), see Appendix B.

‘what is planted’

(5) y-a-ho (1S), a-ho (2S), a-ho (3), p-a-ho (GF) ‘leather’

(6) ch-e-câric (1S), e-caric (2S), e-caric (3), p-e-caric (GF)

‘what is followed’

(7) y-e-ddo (1S), e-ddo (2S), e-ddo (3), p-e-ddo (GF) ‘eye’

(8) ch-o-irac (1S), o-irac (2S), o-irac (3), p-o-irac (GF) ‘what is added’

(9) ch-i-mecêrac (1S), a-mecêrac (2S), i-mecêrac (3),

ay-i-mecêrac (1P/2P), p-i-mecêrac (GF) ‘what is loved’

(10) y-i-baya (1S), a-baya (2S), i-baya (3), p-i-baya (GF) ‘excuse’

(11) ch-u-manic (1S), a-manic (2S), u-manic (3), p-u-manic (GF)

‘what is finished’

(12) y-u-cau (1S), a-cau (2S), u-cau (3), p-u-cau (GF) ‘elbow’

(13) y-i-gueda (1S), a-i-gueda (2S), i-gueda (3), da-i-gueda (RFL),

ay-i-gueda (1P/2P), gu-i-gueda (GF) ‘house’

(14) y-i-bidit (1S), a-bidit (2S), Ø-Ø-pidit (3), p-i-bidit (GF)

‘who/what is called’ from: t-i-bidi (3) ‘to call’

(15) y-i-yauc (1S), a-yauc (2S), i-yauc (3), p-i-yauc (GF) ‘what is quit’

from: i-yau (3) ‘to stop, to quit’

The RFL-person follows the same rules as the Ayoreo and Chamacoco RFL-person, and shares all morphological peculiarities of the 2S-person: “La 3a possessiva en si mismo relativa, se haze en todos los nombres con preponer la *d*, a la 2a possessiva. *Aigueda*... tu casa, *daigueda*... su propia casa. esta regla no tiene excepcion alguna” (Chomé 1958: 47). There is no difference between singular and plural in both the 3- and the RFL-person (16). The plural of the 3-person can be specified by the 3P-pronoun: *ore igueda* /ore igeda/ “their house”.

- (16) Ore ch-echâre da-igueda-tie.
 3P 3- demolish RFL-house-MS.FF

‘They demolish their own house.’ (Chomé 1958: 48)

A peculiarity of Old Zamuco is the frequent identity of 1P- and 2P-person, both expressed by the prefix *ay-* (/aj/-) (17a-c). In the 1S-person also a rare allomorph *z-* (/s/-) is documented (17d), which is always associated with the 1P- and 2P-prefix *az-* (/az/-). In *date* ‘mother’ one finds two distinct forms for 1P- and 2P-person (17e). However, *z-* /s/- (1S), *ay-* /aj/- (1P/2P) and *az-* /as/- (1P/2P) have no successors in the currently spoken Zamucoan languages; moreover, the fact that *date* has two distinct forms for 1P- and 2P-person, while the other nouns only have one, could indicate that a process of gradual disappearance had already begun in Old Zamuco and also took place in rest of the family: in Chamacoco there are no morphological forms for 1P- and 2P-person, while the Ayoreo 1P- and 2P-person prefixes directly stem from independent personal pronouns.

- (17) a. ch-a-cac (1S), a-cac (2S/3) ay-a-cac (1P), ay-a-cac (2P)
 ‘what is planted’
 b. ch-o-rotat (1S), ay-o-rotat (1P), ay-o-rotat (2P) ‘shoulder’
 c. y-i-gueda (1S), ay-i-gueda (1P), ay-i-gueda (2P) ‘house’
 d. z-o-ritat (1S), az-o-ritat (1P), az-o-ritat (2P) ‘buckler’
 e. o-te (1S), a-tetae (2S.FF), d-a-te (3), az-o-te (1P), ay-a-te (2P)
 ‘mother’

§11.2 Person prefixes in the Zamucoan languages

This section aims at comparing the prefixation of possessive inflection in the Zamucoan family.²⁸¹ At the descriptive level, the inflectional structure of the possessive inflection is as follows in all Zamucoan languages:

- (18) _____THEME_____
- PREFIX + THEMATIC + ROOT
- VOWEL

(19) Ay. j-a-rej (1S), b-a-rej (2S), a-rej (3), d-a-rej (RFL), jok-a-rej (1P), wak-a-rej (2P) ‘tongue’

(20) Ch. p-a-hãrte (1S), a-hãrte (2S), a-hãrte (3), n-a-hãrte (RFL) ‘tongue’

(21) O.Z. y-i-gueda (1S), a-i-gueda (2S), i-gueda (3), da-i-gueda (RFL), ay-i-gueda (1P), ay-i-gueda (2P) ‘house’

Not all elements shown in (18) obligatorily occur in all forms. In all Zamucoan languages, the basis of possessive inflection is the 3-person. The inflectional paradigm of possessable nouns has six inflected forms in Old Zamuco (19) and Ayoreo (20), while it consists of four inflected forms in Chamacoco (21) (excluding the GF, which here is not considered part of possessive inflection). The comparison will be limited to these four forms.

In the 1S-person, the prefix /j/- is the same for both Ayoreo (20) and Old Zamuco (19). In Old Zamuco the prefix /tɛ/- is also used. /tɛ/- is not to be found in the other Zamucoan languages and is probably an O.Z innovation. /tɛ/- is also the 1-irrealis prefix in O.Z verb morphology and only occurred in /tɛ/-verbs.

²⁸¹ For a comparison between AY and O.Z possessive inflection, see also Kelm (1964: 493-499).

The Chamacoco 1S-prefix /p/- (21) is identical to the AY and O.Z prefix for the GF, although it probably has a different origin.

In the 2S-person, Chamacoco (21) and Old Zamuco (19) have no consonantal prefix, while the 2S-vowel /a/ was originally a prefix (see §3.1), and this can be seen in (19).

In all Zamucoan languages there is a correspondence in the 3-person (non-reflexive), which will be analyzed in detail below. In all Zamucoan languages there is a distinction between non-reflexive and reflexive 3-person. In all Zamucoan languages the prefix /d/- is used for the RFL-person. It may nasalize into /n/- in nasal-harmony contexts (21) (however, there are not enough data about the nasalization of the O.Z prefix /d/-). Moreover, in all Zamucoan languages (see Chomé 1958: 47, above) the 2S-person and the RFL-person share the same morphological peculiarities when the 2S-theme is different from the rest of the paradigm, as in (19). Note that in the course of this chapter the suffixation of Old Zamuco, AY and CH examples does not match, because the paradigms which have possessive inflection are usually provided in base form in Chomé's grammar, while they are provided in full form in Ayoreo and Chamacoco.

§11.3 Verb morphology vs. possessable noun morphology

As noted in §3.1, the general structure of verb and possessive inflection is the same. The Ayoreo 1S-prefix /j/- is shared by nouns and verbs. It is also the 1S-prefix used in O.Z nouns and in some O.Z verbs, that is /tɛ/-verbs and deverbal nouns derived from /tɛ/-verbs. In both AY and O.Z verb morphology, /j/ is the 1-irrealis prefix. O.Z verbs take the prefix *a-* for the 1-real. /j/- is also the

1PE-prefix in CH verbs. There is no correspondence between the 1S-prefix used in CH verb and possessive morphology.

In all Zamucoan languages, the morphology of the noun's 2S-person and the verb's 2S-irrealis (the 2S-person in CH verbs) match. Note that *chize* and *igueda* share the same kind of irregularity in the 2-person: the original prefix has not replaced the high thematic vowel (24).

The 3-person of possessive inflection does not generally correspond to the 3-person of the verb. The only exception is the prefix /d/-, which in Old Zamuco and Chamacoco is used for the 3-person (usually irrealis) of the verb and the 3-person of some nouns.

Possessive inflection has no plural forms in Chamacoco. The Ayoreo 2P-prefix is the same in verbs and in possessive inflection. The Old Zamuco 1P- and 2P-prefix *ay-* (/aj/-) does not correspond to any element of verb inflection. The AY possessable noun morphology is more similar to the corresponding verb morphology than to CH possessable noun morphology.²⁸²

(22) Ay. j-a-kadisõri (1S), b-a-kadisõri (2S), a-kadisõri (3),
d-a-kadisõri (RFL), jok-a-kadisõri (1P), wak-a-kadisõri (2P),
ore a-kadisõri (3P) 'teacher'

Ay. j-a-kate (1S), b-a-kate (2S), ʔ-a-kate (3), j-a-ka-ko (1P),
wak-a-ka-ʔeo (2P), ore ʔ-a-kate (3P) 'to teach, to instruct'

(23) Ch. p-a-lokot (1S), a-lokot (2S), a-lokot (3), d-a-lokot (RFL),
ejok alokot (1PI), õrjok alokot (1PE), olak alokot (2P),
õr alokot (3P) 'nickname'

Ch. t-a-kit (1S), a-kit (2S), ts-a-kit (3), j-a-kit (1PI), o-j-a-kit (1PE),

²⁸² For a comparison between verb and possessive inflection in other Chaco languages, see Comrie *et al.* (2010: 104-107).

a-kit-lo (2P), ñ-ts-a-kit (3P) ‘to advise’

(24) O.Z. y-i-gueda (1S), a-i-gueda (2S), i-gueda (3), da-i-gueda (RFL),
ay-i-gueda (1P), ay-i-gueda (2P) ‘house’

O.Z. a-i-ze (1S), da-i-ze (2S), ch-i-ze (3), a-i-co (1P), da-i-zo (2P)
‘to reach’

§11.4 The inflectional classes of possessable nouns in the Zamucoan languages

As noted in §3.1, in all Zamucoan languages the inflection of possessable nouns can be divided into three classes: radical nouns (1), thematic nouns (2), and prefixal nouns (3).

(25) Radical nouns. Third person: ROOT

a. Ay. j-i-gaidi (1S), b-a-gaidi (2S), Ø-Ø-gaidi (3), d-a-gaidi (RFL)
‘purpose, intention’

b. Ch. p-i-bahat (1S), a-bahat (2S), Ø-Ø-bahat (3), d-a-bahat (RFL)
‘price’

c. O.Z. y-i-noriga (1S), a-noriga (2S), Ø-Ø-noriga (3) ‘way’

(26) Thematic nouns. Third person: _____THEME_____
(THEMATIC VOWEL) + ROOT

a. Ay. j-a-hej (1S), b-a-hej (2S), a-hej (3), d-a-hej (RFL)
‘stomach, intestine’

b. Ch. p-u:-ɬa (1S), e:-ɬa (2S), u:-ɬa (3), d-e:-ɬa (RFL) ‘cheek’

c. O.Z. y-i-baya (1S), a-baya (2S), i-baya (3) ‘excuse’

(27) Prefixal nouns. Third person:

CONSONANTAL _____THEME_____
PREFIX + (THEMATIC VOWEL) + ROOT

a. Ay. j-u-kari (1S), b-a-kari (2S), d-u-kari (3), d-a-kari (RFL)

- ‘thread, string’
b. Ch. p-i-rt (1S), e-rt (2S), d-i-rt (3), d-e-rt (RFL) ‘leg’
c. O.Z. y-u-ague (1S), a-gue (2S), g-ü-ague (3/GF) ‘family’
see also: O.Z. d-a-te (3), ay-a-te (2P) ‘mother’

Although the inflectional classes are not the same, these groups are also to be found in verb inflection: in all Zamucoan languages radical, prefixal and thematic verbs can be distinguished. In Table 11.1 CH verb classes are represented and an example of each type of 3-person is provided (28). Chamacoco is the most complex language with regard to verb classification. In (29) and (30) one finds examples of verb classes in Ayoreo and Old Zamuco. In all Zamucoan languages there is a separation of labour between verb inflection and possessive inflection: most verbs are prefixal, while most possessable nouns are thematic.

FIRST MACRO-CLASS verbs with consonantal prefix in 3.RLS: prefixal verbs			
FIRST CLASS		SECOND CLASS	
<i>First subclass</i> /tɕ/-verbs	<i>Second subclass</i> /ts/- and /ɕ/-verbs	<i>Third subclass</i> /t/-verbs	<i>Fourth subclass</i> /d/-verbs (/d/-, /l/-, /n/-, /j/-)
SECOND MACRO-CLASS verbs with no consonantal prefix in 3.RLS			
THIRD CLASS thematic verbs		FOURTH CLASS radical verbs	

Table 11.1. Chamacoco verb classes (see §5.3)

- (28) Chamacoco:
a. tik-i-raha (1S), e-raha (2S), tɕ-i-raha (3), j-i-raha (1PI),
o-j-i-raha (1PE), e-raha-lo (2P), d-i-raha (3.IRLS) ‘to know,
to understand’

- b. t-a-tir (1S), a-tir (2S), ts-a-tir (3), j-a-tir (1PI), o-j-a-tir (1PE),
a-tir-lo (2P), o-ts-a-tir (3P), l-a-tir (3.IRLS) ‘to give back’
- c. tak-a:-k (1S), a:-k (2S), t-a:-k (3), j-a:-k (1PI), o-j-a:-k (1PE),
a:-ki-lo (2P), o-t:-a-k (3P), t-a:-k (3.IRLS) ‘to eat’
- d. tak-a-buhu (1S), e-buhu (2S), d-e-buhu (3), j-e-buhu (1PI),
o-j-e-buhu (1PE), e-buhu-lo (2P), o-d-e-buhu (3),
d-e-buhu (3.IRLS) ‘to live’
- e. tok-o-ta (1S), o-ta (2S), l-o-ta (3), j-o-ta (1PI), o-j-o-ta (1PE),
o-ti-lo (2P), o-l-o-ta (3P), l-o-ta (3.IRLS) ‘to play’
- f. tik-i-na (1S), e-na (2S), n-i-na (3), j-i-na (1PI), o-j-i-na (1PE),
e-ni-lo (2P), o-n-i-na (3P), n-i-na (3.IRLS) ‘to thank; to hug’
- g. tik-i-na (1S), a-na (2S), j-a-na (3), j-i-na (1PI), o-j-i-na (1PE),
a-ni-lo (2P), o-j-a-na (3P), j-a-na (3.IRLS) ‘to laugh’
- h. t-i-jem (1S), a-nem (2S), i-jem (3), j-i-jem (1PI), o-j-i-jem (1PE),
a-nem-lo (2P), o-jem (3P), tse:m (3.IRLS) ‘to wait’
- i. t-i-kĩtkẽr / t-i-kĩtkẽr (1S), e-kĩtkẽr (2S), Ø-Ø-kẽjtkẽr (3),
j-i-kĩtkẽr (1PI), o-j-i-kĩtkẽr (1PE), e-kĩtkẽr-lo / e-kĩtkẽri-lo (2P),
o-kẽjtkẽr (3P), Ø-Ø-kẽjtkẽr (3.IRLS) ‘to speak, to talk’
(also: kẽjtĩkẽr)

(29) Ayoreo:

- a. j-i-raha (1S), b-a-raha (2S), tẽ-i-raha (3), j-i-raha-go (1P),
wak-a-raja-jo (2P) ‘to know, to understand’
cf. Ch. tẽ-i-raha ‘to know, to understand’
- b. j-a-tire (1S), b-a-tire (2S), tẽ-a-tire (3), j-a-tire-go (1P),
wak-a-tire-jo (2P) ‘to give back’
cf. Ch. ts-a-tir ‘to give back’
- c. j-a-ke (1S), b-a-ke (2S), t-a-ke (3), j-a-ho (1P), wak-a-tẽo (2P)
‘to eat’ cf. Ch. t-a:-k ‘to eat’
- d. j-u-ṇapego-me (1S), b-a-ṇapego-me (2S), u-ṇapego-me (3),
j-u-ṇape-ho-me (1P), wak-a-ṇape-tẽo-me (2P) ‘to be able to do,

to be apt to'²⁸³

- e. j-i-katekãri (1S), b-a-katekãri (2S), Ø-Ø-katekãri (3),
j-i-katekã-ko-ri (1P), wak-a-katekãri (2P) 'to talk'
cf. Ch. Ø-Ø-kěj̥t(i)kěr (3.IRLS) 'to speak, to talk'

(30) Old Zamuco

- a. a-i-mecêre (1S), d-a-mecêre (2S), ch-i-mecêre (3) ch-i-mecêre(3)
'to fish (with bait)'
- b. a-i-yague (1S), d-a-yague (2S), i-yague (3) 'to stand'
- c. a-i-taña (1S), d-a-taña (2S), Ø-Ø-taña (3) 'to be strong'

§11.5 The thematic vowel

The behaviour of the thematic vowel is similar in all Zamucoan languages. There is a basic distinction between high and non-high vowels. If the thematic vowel is a non-high one, it is preserved in the whole paradigm. By contrast, high vowels are replaced by a vowel originally belonging to the prefix in the 2S- and the RFL-person: /a/ in Ayoreo (31c, e) and Old Zamuco (33c, e), /a/ or /e/ in Chamacoco (32b, d, f, g). Since Old Zamuco and Chamacoco have no 2S-prefix, the 3-person of thematic nouns generally coincide if they have a non-high thematic vowel. In Chamacoco, given a high thematic vowel in the 3-person, it is impossible to predict whether the 2S-vowel will be /a/ or /e/. Chamacoco also has one vowel (/i/) more than the other Zamucoan languages and is characterized by greater variability in the vocalic pattern, which displays some irregularities, as one can see, for instance in (32b).

(31) Ayoreo

- a. j-a-hej (1S), b-a-hej (2S), a-hej (3), d-ahej (RFL) 'stomach,

²⁸³ On AY thematic verbs, see §4.7.

intestine'

- b. j-e-bie (1S), e-bie (2S), e-bie (3), d-e-bie (RFL) 'foam, froth'
- c. j-i-jobie (1S), b-a-jobie (2S), i-jobie (3), d-a-jobie (RFL) 'hearth'
- d. j-o-hoj (1S), b-o-hoj (2S), o-hoj (3), d-o-hoj (RFL) 'feathers'
- e. j-u-duj (1S), b-a-duj (2S), u-duj (3), d-a-duj (RFL) 'water (brought for drinking)'

(32) Chamacoco

- a. p-a-rmista (1S), a-rmista (2S), a-rmista (3), n-a-rmista (RFL) 'blood'
- b. p-o-mate (1S), a-mate (2S), a-mate (3), n-a-mate (RFL) 'bottom' (of a boat)
- c. p-e-teit (1S), e-teit (2S), e-teit (3), d-e-teit (RFL) 'pet'
- d. p-i-jute (1S), a-hute (2S), i-jute (3), d-a-hute (RFL) 'house'
- e. p-o-nta (1S), o-nta (2S), o-nta (3), n-o-nta (RFL) 'eye'
- f. p-u:-ɬa (1S), e:-ɬa (2S), u:-ɬa (3), d-e:-ɬa (RFL) 'cheek'
- g. p-i-tilta (1S), e-tilta (2S), i-tilta (3), d-e-tilta (RFL) 'stick'

(33) Old Zamuco

- a. y-a-ho (1S), a-ho (2S), a-ho (3), p-a-ho (GF) 'leather'
- b. y-e-ddo (1S), e-ddo (2S), e-ddo (3), p-e-ddo (GF) 'eye'
- c. y-i-baya (1S), a-baya (2S), i-baya (3), p-i-baya (GF) 'excuse'
- d. ch-o-irac (1S), o-irac (2S), o-irac (2S), p-o-irac (GF) 'what is added'
- e. y-u-cau (1S), a-cau (2S), u-cau (3), p-u-cau (GF) 'elbow'

The same vocalic patterns are to be observed in verb morphology. In both verb and possessive morphology, /a/ or /e/ in the 2-person was probably the original prefix or part of it, which has replaced the high vowels (see §3.1). A trace of this is to be found in O.Z *iguada* (/igeda/) (34), where thematic /i/ is not replaced by /a/. In this case /a/ is clearly analyzable as prefix. This is a rare and probably conservative paradigm in Old Zamuco. In

AY *iguɨɲnai* /*igiɲaj*/ (34) the replacement of the thematic vowel has been accomplished and /a/ is no longer distinguished from the thematic vowel (34).

- (34) Ay. j-i-giɲaj (1S), d-a-giɲaj (2S), i-giɲaj (3), d-a-giɲaj (RFL) ‘house’
 O.Z. y-i-gueda (1S), a-i-gueda (2S), i-gueda (3), da-i-gueda (RFL)
 ‘house’

In the verb morphology of the Zamucoan languages, one can find the same difference concerning the behaviour of high and non-high thematic vowels in the 2-person. High thematic vowels are replaced by /a/ or /e/ in the 2- and the RFL-person, while non-high thematic vowels replace the original prefix vowels /a/ or /e/. In (35-36) one finds examples from Ayoreo and Chamacoco.

(35) Ayoreo

- a. j-a-ka, b-a-ka, ɬe-a-ka, j-a-ka-go, wak-a-ka-jo ‘to plant’
- b. j-e-do, b-e-do, ɬe-e-do, j-e-do-go, wak-e-do-jo ‘to criticize’
- c. j-o-ha-re, b-o-ha-re, ɬe-o-ha-re, j-o-ha-ko, wak-o-ha-ɬeo ‘to smell’
- d. j-i-go, b-a-go, ɬe-i-go, j-i-go-go, wak-a-go-jo ‘to say’
- e. j-u-ga, b-a-ga, ɬe-u-ga, j-u-ga-go, wak-a-ga-jo ‘to sew’

(36) Chamacoco

- a. t-a-pur (1S), a-pur (2S), ts-a-pur (3), j-a-pur (1PI), o-j-a-pur (1PE),
 a-pur-lo (2P), o-ts-apur (3P), l-a-pur (3.IRLS) ‘to ask’
- b. t-e-nɛehe (1S), e-nɛehe (2S), ɬe-e-nɛehe (3), j-e-nɛehe (1PI),
 o-j-e-nɛehe (1PE), e-nɛehelo (2P), o-ɬe-e-nɛehe (3P),
 n-e-nɛehe (3.IRLS) ‘to remove, to take away’
- c. t-o-ntew (1S), o-ntew (2S), ts-o-ntew (3), j-o-ntew (1PI),
 o-j-o-ntew (1PE), o-ntew-lo (2P), o-ts-ontew (3P),
 n-o-ntew (3.IRLS) ‘to hold’
- d. t-i-jeru (1S), a-heru (2S), ɕ-i-jeru (3), j-i-jeru (1PI), o-j-i-jeru (1PE),
 a-heru-lo (2P), o-ɕ-i-jeru (3P), d-i-jeru (3.IRLS) ‘to close, to tie’

- e. tuk-u:-na (1S), e:-na (2S), tɛ-u:-na (3), j-u:-na (1PI),
 o-j-u:-na (1PE), e:-n-i-lo (2P), o-tɛ-u:-na (3P), n-u:-na (3.IRLS)
 ‘to perceive, to feel’
- f. tik-i-bite (1S), e-bite (2S), t-i-bite (3), j-i-bite (1PI), o-j-i-bite (1PE),
 e-bite-lo (2P), o-t-i-bite (3P), t-i-bite (3.IRLS) ‘to scream’

In (37-40) AY and CH nominals with thematic /a/ are compared. In this case, the correspondence is very regular. In (41-42) AY /a/ corresponds to CH /e/. In these examples, one can note that AY /a/ can correspond to CH /a/ or /e/, as already seen in the thematic vowel of the verb (§7.2.8) and as will be shown with other possessable nouns (see §11.7, in particular ex. 62-63, 75 and 80). The correspondence between the two thematic vowels in (43) is irregular.

- (37) Ay. j-a-bi (1S), b-a-bi (2S), a-bi (3), d-a-bi (RFL) ‘child, baby’
 Ch. p-a:-p (1S), a:-p (2S), a:-p (3), d-a:-p (RFL) ‘child, baby’
- (38) Ay. j-a-rej (1S), b-a-rej (2S), a-rej (3), d-a-rej (RFL) ‘tongue’
 Ch. p-a-hârte (1S), a-hârte (2S), a-hârte (3), n-a-hârte (RFL) ‘tongue’
- (39) Ay. j-a-di (1S), b-a-di (2S), a-di (3), d-a-di (RFL)
 ‘body part; part of things, member of body’
 Ch. p-a:-t (1S), a:-t (2S), a:-t (3), d-a:-t (RFL) ‘body, smell’
- (40) Ay. j-a-hugoro (1S), b-a-hugoro (2S), a-hugoro (3), d-a-hugoro (RFL)
 ‘chin, under the chin’
 Ch. p-a-woɰa (1S), a-woɰa (2S), a-woɰa (3), d-a-woɰa (RFL) ‘chin’
- (41) Ay. j-a-hej (1S), b-a-hej (2S), a-hej (3), d-a-hej (RFL) ‘inside of, in
 the midst of’
 Ch. p-e-het (1S), e-het (2S), ehet (3), d-e-het (RFL) ‘inside of, in the
 midst of’

- (42) Ay. j-a-kote (1S), b-a-kote (2S), a-kote (3), d-a-kote (RFL) ‘wife’
 Ch. p-e-kuta (1S), e-kuta (2S), e-kuta (3), l-e-kuta (RFL) ‘wife’
 O.Z. y-a-cotetae (1S.FF), a-cotetae (2S.FF), a-cotetae (3.FF) ‘wife’

- (43) Ay. j-o-rotabidi (1S), b-o-rotabidi (2S), o-rotabidi (3),
 d-o-rotabidi (RFL) ‘rib’
 Ch. p-a-ṭṭibite (1S), a-ṭṭibite (2S), a-ṭṭibite (3), d-a-ṭṭibite (RFL) ‘rib’

In (44) AY /u/ finds its counterpart in CH /i/, while in (45-46) one finds examples of nominals with thematic /i/ in both Ayoreo and Chamacoco. Here too, the Chamacoco 2S-vowel /e/ or /a/²⁸⁴ usually corresponds to AY /a/. In the Ayoreo 2-person form *bei* /bej/ (46), the thematic vowel is preserved before the 2-vowel /e/. Such an irregularity in Ayoreo corresponds to a regularity in Chamacoco, as shown in the inflection of *iich* /i:te/.

- (44) Ay. j-u-ṇari (1S), b-a-ṇari (2S), u-ṇari (3), d-a-ṇari (RFL) ‘breath, respiration’
 Ch. p-i-jerte (1S), a-jerte (2S), i-jerte (3), d-a-jerte (RFL) ‘breath, breathing’

- (45) Ay. j-i-giosi (1S), b-a-giosi (2S), i-giosi (3), d-a-giosi (RFL) ‘relative’
 Ch. p-i:-sit (1S), ej-sit (2S), i:-sit (3), d-ej-sit (RFL) ‘relative’
 O.Z. y-i-guioz (1S), a-guioz (2S), i-guioz (3), Ø-Ø-guioz (GF) ‘relative’

- (46) Ay. j-i (1S), b-e-j (2S), i (3), d-e-j (RFL) ‘name’
 Ch. p-i:-te (1S), e-j-te (2S), i:-te (3), d-e:j-te (RFL) ‘name’

²⁸⁴ In (45), the presence of /ej/ in the slot of the thematic vowel is considered a subcase of /e/ (§10.4.4).

In (47-49) one finds CH and AY cognate nominals with thematic /u/. The Ayoreo 2-vowel /a/ corresponds to CH /e/. *Utusht* /utuet/ probably results from the merger of two words, as one can see in its Ayoreo counterparts (50).

(47) Ay. j-u-ri (1S), b-a-ri (2S), u-ri (3), d-a-ri (RFL) ‘dream’

Ch. p-u:-rtɛ (1S), e:-rtɛ (2S), u:-rtɛ (3), d-e:-rtɛ (RFL) ‘dream’

(48) Ay. j-u-di (1S), b-a-di (2S), u-di (3), d-a-di (RFL) ‘under, below, underneath’

Ch. p-u:-t (1S), e:-t (2S), u:-t (3), d-e:-t (RFL) ‘under, below, underneath’

(49) Ay. j-u-kuge (1S), b-a-kuge (2S), u-kuge (3), d-a-kuge (RFL)
‘fire stick, stick which has fire on one end’

Ch. p-u-kutit (1S), e-kutit (2S), u-kutit (3), d-e-kutit (RFL) ‘cooking fire’

(50) Ay. j-u-tasi (1S), b-a-tasi (2S), u-tasi (3), d-a-tasi (RFL) ‘vein, artery’

Ay. j-ẽ-tasi (1S), b-ẽ-tasi (2S), ẽ-tasi (3), d-ẽ-tasi (RFL)
‘root of plant’

Ch. p-u-tuet (1S), e-tiɛt (2S), u-tuet (3), d-e-tiɛt (RFL) ‘vein, root’

CH /i/ is not present in either Ayoreo or Old Zamuco. When it is a thematic vowel, /i/ generally corresponds to /u/ (51-53) or /i/ (54) in Ayoreo. In this case too, AY /a/ in the 2-person may correspond to CH /a/ (51-52) or /e/ (53-54). In (55) the Chamacoco 2S-vowel /e/ was probably the original thematic vowel in the whole paradigm, as it emerges from the comparison with Ayoreo, where the thematic vowel is /e/. The same could also be true of the pair of nouns in (56).

(51) Ay. j-u-mahosõri (1S), b-a-mahosõri (2S), u-mahosõri (3),

d-a-mahosōri (RFL) ‘enemy’

Ch. p-i-mehet (1S), a-mehet (2S), i-mehet (3), n-a-mehet (RFL)
‘enemy’

(52) Ay. j-u-ṭeaj (1S), b-a-ṭeaj (2S), u-ṭeaj (3), d-a-ṭeaj (RFL) ‘excrement, feces, dung’

Ch. p-i-ṭeīt (1S), a-tsīt (2S), i-ṭeīt (3), d-a-tsīt (RFL) ‘excrement, feces, dung’

(53) Ay. j-u-gutadi (1S), b-a-gutadi (2S), u-gutadi (3), d-a-gutadi (RFL)
‘pillow, cushion’

Ch. p-i-tiṭe (1S), e-tiṭe (2S), i-tiṭe (3), d-e-tiṭe (RFL) ‘pillow’

(54) Ay. j-i-garubi (1S), b-a-garubi (2S), i-garubi (3), d-a-garubi (RFL)
‘woven or worn belt’

Ch. p-i-hiroet (1S), e-hiroet / e-heroet (2S), i-hiroet (3),
d-e-hiroet (RFL) ‘belt’

(55) Ay. j-e-rubi (1S), e-rubi (2S), e-rubi (3), d-e-rubi (RFL) ‘urine’

Ch. p-i-hirbiṭe (1S), e-hirbiṭe / e-herbiṭe (2S), i-hirbiṭe (3),
d-e-hirbiṭe (RFL) ‘urine’

(56) Ay. j-e-roj (1S), b-e-roj (2S), e-roj (3), d-e-roj (RFL) ‘firewood’

Ch. p-u-rṭe (1S), e-rṭe (2S), u-rṭe (3), d-e-rṭe (RFL) ‘piece of wood’

§11.6 Prefixal nouns

AY and CH prefixal nouns may share the same morphological devices. The most frequently used prefix is /d/- (57), with its nasal counterpart /n/- (58). The prefix /k/- is also found in both languages (59).

(57) Ay. j-u-kari (1S), b-a-kari (2S), d-u-kari (3), d-a-kari (RFL)
‘thread, string’

Ch. p-u-ēurte (1S), e-ēurte (2S), d-u-ēurte (3), d-e-ēurte (RFL) ‘nail’

- (58) Ay. j-ẽ-ri (1S), b-ẽ-ri (2S), n-e-ri (3), n-e-ri (RFL) ‘uncle, mother's brother’
 Ch. jama / p-e-rmitẽ (1S), e-rmitẽ (2S), n-e-rmitẽ (3), nermite (RFL) ‘uncle’
- (59) Ay. j-a-kadi (1S), b-a-kadi (2S), k-a-kadi (3), d-a-kadi (RFL) ‘entrance’
 Ch. p-i-tita (1S), e-tita (2S), k-e-tita (3), d-e-tita (RFL) ‘knee’

§11.7 Kinship terms

In both Ayoreo and Chamacoco, most kinship terms are prefixal nouns with the 3-prefix /d/- or /n/-. Usually they share the same thematic vowel (60). AY /a/ (not always the thematic vowel in the following examples) corresponds to CH /e/ (61-64), as already seen in verb morphology and thematic nouns (§11.5).

- (60) Ay. j-ẽ-ri (1S), b-ẽ-ri (2S), n-e-ri (3/RFL) ‘uncle, mother's brother’
 Ch. jama / p-e-rmitẽ (1S), e-rmitẽ (2S), n-e-rmitẽ (3/RFL) ‘uncle’
- (61) Ay. kode / j-i-kode (1S), b-a-kode (2S), d-a-kode (3/RFL) ‘grandmother’
 Ch. kole / koli / p-e-kita (1S), e-kita (2S), l-/d-e-kita (3/RFL) ‘grandmother’ (also: dekuta)
- (62) Ay. j-a-kide (1S), b-a-kide (2S), d-a-kide (3/RFL) ‘grandfather’ (also: daki)
 Ch. leki / p-e-kite / p-e-kite (1S), e-kite / e-kite (2S), d-e-kite / d-e-kite (3/RFL) ‘grandfather’
- (63) Ay. j-a-haj (1S), b-a-haj (2S), d-a-haj (3/RFL) ‘brother, of a woman’ (also: dahate)
 Ch. p-e-hebite (1S), e-hebite (2S), d-e-hebite (3/RFL) ‘brother of

a woman’

(64) Ay. i-tigate / j-i-tigate (1S), b-atigate (2S), d-a-tigate (3/RFL) ‘older brother of a man’

Ch. p-e-ti:bite (1S), e-ti:bite (2S), d-e-ti:bite (3/RFL) ‘older brother of a man’

The 1S-person of ‘mother’ (65) is irregular in all Zamucoan languages. The fact that *ote* is reported in both Chamacoco and Old Zamuco suggests that this form is very old and that AY *ite* is probably a more innovative form. In Chamacoco a Spanish form is used for the 1S-person, while in Ayoreo a regularized form is also used. In (66) both Ayoreo and Chamacoco have an independent innovation, because a loan is observed in the 1S-person: Spanish *papa* in Chamacoco and *yapade* /japade/ in Ayoreo. This last word reminds of *Dupade* ‘God’, a loanword dating back to the Jesuit period (from Chiquitano *Tupas* ‘God’ or Guaraní *Tupã* ‘God’ or Spanish *tu padre* ‘your father’).

(65) Ay. i-te / j-a-te (1S), b-a-te (2S), d-a-te (3/RFL) ‘mother’

Ch. o-te / mama / p-a-ti (1S), a-ta (2S), d-a-ta (3/RFL) ‘mother’

O.Z. o-te (1S), a-tetae (2S.FF), d-a-te (3), az-ote (1P),
ay-ate (2P) ‘mother’

(66) Ay. j-a-pade / j-a-j (1S), b-a-j / b-a-je (2S), d-a-j / d-a-je (3/RFL)
‘father’

Ch. di: / papa / p-e-jte (1S), e-jte (2S), l/d-e-jte (3/RFL) ‘father’

O.Z. y-a-itie (1S), a-itie (2S), d-a-itie (3/RFL) ‘father’

The presence of the prefix /d/ or /n/- in the 3-person is probably due to the fact that the 3-person has assimilated to the RFL-person. As a consequence, the 1-vowel can be different from the 3-vowel. The 1-vowel might look irregular, but is the original thematic

vowel which has undergone a change in the 3-person. In the following examples (67-72), the Ayoreo 1-vowel /i/ and CH /i/ or /i/ should be considered the thematic vowel. The Ayoreo and Chamacoco 1-vowels match in (67-70). In (71-72) only the CH nouns show the 1S-vowels /i/ and /i/, corresponding to AY /a/ and /e/ respectively. This suggests that the original thematic vowel was preserved in Chamacoco, while ‘regularization’ has probably occurred in Ayoreo, where the thematic vowels are now /a/ and /e/.

(67) Ay. j-i-ñoṇamia (1S), b-a-ñoṇamia (2S), d-a-ñoṇamia (3/RFL) ‘aunt, father’s sister’

Ch. p-i-ṇemtea / p-e-ṇemtea (1S), a-ṇemtea (2S), n-a-ṇemtea (3/RFL) ‘aunt’ (also: nane:mtea)

(68) Ay. ṇ-i-sarāj (1S), m-a-sarāj (2S), n-a-sarāj (3/RFL) ‘son-in-law’

Ch. p-i-εē:t (1S), a-sē:t (2S), d-/l-a-sē:t (3/RFL) ‘son-in-law’

(69) Ay. j-i-karia (1S), b-a-karia (2S), d-a-karia (3/RFL) ‘daughter-in-law’

Ch. p-i-keheṭṭa (1S), a-kahaṭṭa (2S), l-akahaṭṭa (3/RFL) ‘daughter-in-law’

(70) Ay. i-na (1S), b-e-na (2S), n-e-na (3/RFL) ‘sister’

Ch. p-i-nimitea (1S), a-nimitea (2S), n-a-nimitea (3/RFL) ‘sister’ (also: naṇimitea)

(71) Ay. j-a-terama (1S), b-a-terama (2S), d-a-terama (3/RFL) ‘aunt, mother’s sister’ (also: daterã, dateramia)

Ch. p-i-te:mtea / p-i-te:mtea / p-a-te:mtea (1S), a-te:mtea (2S), l-/d-a-te:mtea (3/RFL) ‘aunt, mother’s sister’ (also: late:mtea; plural: late:rmi)

(72) Ay. j-e-saj (1S), b-e-saj (2S), d-e-saj (3/RFL) ‘brother, younger’

Ch. p-i-εibite (1S), e-εibite (2S), l-/d-e-εibite (3/RFL) ‘brother’

However, not all kinship terms take the prefix /d/- or /n/- in the 3-person: ‘husband’ (73) and ‘grandson’ (74) are thematic nouns in both languages, as ‘wife’, AY. *acoté* /akote/ (3), CH. *ekuta* (3) (see ex. 42). In (75-76) the CH noun is prefixal, while its Ayoreo counterpart is thematic. In (77-78) the opposite situation is shown. Note that in (77) the CH term for ‘mother-in-law’, *ohota*, is derived from the masculine *ohot* ‘father-in-law’. The latter word does not correspond to ‘father-in-law’ in Ayoreo, because it has a different root.

- (73) Ay. j-a-baj (1S), b-a-baj (2S), a-baj (3), d-a-baj (RFL) ‘husband’
 Ch. p-a-bite (1S), a-bite (2S), a-bite (3), d-a-bite (RFL) ‘husband’
 (also: abej’)

- (74) Ay. j-a-ṇami (1S), m-a-ṇami (2S), a-ṇami (3), n-a-ṇami (RFL)
 ‘grandson’
 Ch. p-a-ṇimite (1S), a-ṇimite (2S), a-ṇimite (3), n-a-ṇimite (RFL)
 ‘grandson’

- (75) Ay. j-a-buhi (1S), b-a-buhi (2S), a-buhi (3), d-a-buhi (RFL) ‘nephew,
 woman’s brother’
 Ch. p-e-bihit (1S), e-bihit (2S), d-e-bihit (3), d-e-bihit (RFL) ‘nephew,
 woman’s brother’ (also: debihite)

- (76) Ay. j-a-buhia (1S), b-a-buhia (2S), a-buhia (3), d-a-buhia (RFL)
 ‘niece, woman’s brother’s daughter’
 Ch. p-e-bihita (1S), e-bihita (2S), d-e-bihita (3), d-e-bihita (RFL)
 ‘niece, woman’s brother’s daughter’ (also: debihitea / debuhutea)

- (77) Ay. j-e-ho (1S), b-e-ho (2S), e-ho (3), d-e-ho (RFL) ‘mother-in-law’
 Ch. p-o-hota (1S), o-hota (2S), o-hota (3), d-o-hota (RFL)
 ‘mother-in-law’
 cf. Ay. ijokinaĵ (3) ‘father-in-law’ vs. Ch. ohot (3) ‘father-in-law’

- (78) Ay. j-a-kerã (1S), b-a-kerã (2S), d-a-kerã (3), d-a-kerã (RFL)
 ‘uncle, father’s brother’ (3/RFL, also: daqueramai)
 Ch. p-i-kĩrmĩtẽ (1S), e-kĩrmĩtẽ (2S), i-kĩrmĩtẽ (3), d-e-kĩrmĩtẽ (RFL)
 ‘uncle’

In examples (79-82) one finds cognate nouns which do not belong to the same inflectional class: AY *jogadi* /hogadi/ (79) is a radical noun which corresponds to CH *owich* /owitẽ/, a thematic noun. *Gachidi* /gateidi/ (80) and *gajnesõri* /gañesõri/ (81) show the 3-prefix /g/-. The phoneme /g/ does not exist in Chamacoco. Therefore, AY /g/ sometimes corresponds to Ø in Chamacoco, as in the thematic noun *echit* /etẽit/ (80). AY /g/ can also correspond to CH /j/, as in *y-i-nsĩrc* /j-i-nsĩrtẽ/ (81). In the latter case, both nouns belong yet to the same inflectional class.

Cognate words can have different functions: AY *gachidi* /gateidi/ is a possessive classifier, while *echit* /etẽit/ does not have such a function, because only one possessive classifier has so far been observed in Chamacoco. In (82), as in examples (75-78), a CH prefixal noun corresponds to an AY thematic noun.

- (79) Ay. j-i-hogadi (1S), b-a-hogadi (2S), Ø-Ø-hogadi (3),
 d-a-hogadi (RFL) ‘place’ (base form: hogat)
 Ch. p-o-witẽ (1S), o-witẽ / a-witẽ (2S), o-witẽ (3), d-o-witẽ /
 d-a-witẽ (RFL) ‘place’²⁸⁵
- (80) Ay. j-a-tẽidi (1S), b-a-tẽidi (2S), g-a-tẽidi (3), d-a-tẽidi (RFL)
 ‘pet, domesticated animal, vehicle’ (base form: gateit)
 Ch. p-e-tẽit (1S), e-tẽit (2S), e-tẽit (3), d-e-tẽit (RFL) ‘pet,
 domesticated animal’

²⁸⁵ Cf. Wichí [wet] ‘place’ (Viñas Urquiza 1974, II: 109; see also Ciucci 2014b: 33).

(81) Ay. j-a-ṇesōri (1S), b-a-ṇesōri (2S), g-a-ṇesōri (3), d-a-ṇesōri (RFL)

‘owner, master, possessor’

Ch. p-i-nsĩrte (1S), e-nsĩrte (2S), j-i-nsĩrte (3), n-e-nsĩrte (RFL)

‘master, owner, employer’

(82) Ay. j-u-suguruj (1S), b-a-suguruj (2S), u-suguruj (3),

d-a-suguruj (RFL) ‘fingernail, claw, hoof’

Ch. p-u-ẽurte (1S), e-ẽurte (2S), d-u-ẽurte (3), d-e-ẽurte (RFL)

‘fingernail, toenail’

§11.8 Radical nouns

In (83-84) two radical nouns, ‘hand’ and ‘forearm’, are compared. In both languages ‘forearm’ derives from ‘hand’. The AY vocalic pattern is /i/-/a/-Ø, which corresponds to /i/-/a/-Ø in Chamacoco. This correspondence has already been pointed out in the verb (85). The vocalic pattern of CH radical nouns, however, shows more variability than that of AY radical nouns (see §9.7), as one can see in the possible alternation between /i/ and /o/ in the 1S-person (83-84), which has no corresponding example in Ayoreo. In both languages the root-initial consonant undergoes fortition in the 3-person (86-87): /m/ and /b/ turn into /p/ word-initially. This change is also found in Old Zamuco (89) and in AY and CH verb morphology (90).

In (83) and (86) the AY first root-vowel is only to be found in the Chamacoco 3-person, but not in the rest of the paradigm, where it turns into /i/. This suggests that in this respect the Chamacoco 3-person is more conservative than the rest of the paradigm. In conclusion, in both verb and noun morphology, the comparison shows that in the Zamucoan languages the 3-person can be

innovative in the root-initial consonant, but the Chamacoco 3-person may occasionally preserve the original first root-vowel.

- (83) Ay. j-i-ṃanaj (1S), b-a-ṃanaj (2S), Ø-Ø-ṃanaj (3), d-a-ṃanaj (RFL)
‘hand’

Ch. p-i-ṃita / p-o-ṃita (1S), a-ṃita (2S), Ø-Ø-ṃata (3),
n-a-ṃita (RFL) ‘hand’

O.Z. y-i-manaitie (1S.FF), Ø-Ø-manai (3.BF) ‘hand’

- (84) Ay. j-i-ṃanekaj (1S), b-a-ṃanekaj (2S), Ø-Ø-ṃanekaj (3),
d-a-ṃanekaj (RFL) ‘forearm’

Ch. p-i-ṃikit / p-o-ṃikit (1S), a-ṃikit (2S), Ø-Ø-ṃejkit (3),
n-a-ṃikit (RFL) ‘forearm’

- (85) Ay. j-i-pati-ha (1S), b-a-pati-ha (2S), Ø-Ø-p-a-ti-ha (3), j-i-pati-go-ha
(1P), wak-a-pati-jo-ha (2P) ‘endure, remain firm’

Ch. tik-i-pim (1S), a-pim (2S), Ø-Ø-pojm (3), j-u-pim (1PI),
o-j-u-pim (1PE), a-pim-lo (2P), o-pojm (3P) ‘to be ashamed’

- (86) Ay. j-i-boti (1S), b-a-boti (2S), Ø-Ø-poti (3), d-a-boti (RFL) ‘food’

Ch. p-o-biet (1S), a-biet (2S), Ø-Ø-poet (3), d-a-biet (RFL) ‘food’
O.Z. y-i-bosoddoe (1S.MP.FF) ‘food’

- (87) Ay. j-i-mataraj (1S), b-a-mataraj (2S), Ø-Ø-pātaraj (3),
d-a-mataraj (RFL) ‘tooth’

Ch. p-o-bitēt (1S), a-bitēt (2S), Ø-Ø-potēt (3), l-/d-a-bitēt (RFL)
‘tooth’ (plural: potēre)

- (88) Ay. j-i-taroj (1S), b-a-taroj (2S), Ø-Ø-taroj (3), d-a-taroj (RFL) ‘brain;
top of head’

Ch. p-i-tirpita (1S), e-tirpita (2S), Ø-Ø-tirpita (3), d-e-tirpita (RFL)
‘brain’

- (89) O.Z. y-i-bidit (1S), a-bidit (2S), Ø-Ø-pidit (3), p-i-bidit (GF)

‘who/what is called’ from: t-i-bidi (3) ‘to call’

(90) Ay. j-i-bo (1S), b-a-bo (2S), Ø-Ø-po (3), j-i-bo-go (1P),

wak-a-bo-jo (2P) ‘to cry’

Ch. t-o-bitá (1S), a-bitá (2S), Ø-Ø-pota (3), j-o-bitá (1PI),

o-j-o-bitá (1PE), a-biti-lo (2P), o-pota (3P) ‘to envy, to lust after’

§11.9 Generic forms and non-possessable nouns: a comparison

In this section, GFs and non-possessable nouns are compared. Section §11.9.1 deals with the GF. Some non-possessable nouns in a Zamucoan language may correspond to a GF, to the root of a possessable noun or to the 3-person in another language (§11.9.2). Section §11.9.3 lists nouns which are non-possessable in both Ayoreo and Chamacoco.

§11.9.1 The generic form

In Old Zamuco, the GF is generally obtained by means of the prefix /p/- (91-93). The thematic vowel is the same as that of possessed forms. This is also the most frequent device to obtain the GF in Ayoreo (94). In Chamacoco, the prefix /p/- is used for the 1S-person, but there is no relation with the GF prefix. The GFs of O.Z and AY radical nouns (92-93, 95-96) has the inflectional vowel /i/ and the prefix /p/-. According to Chomé’s data, most, but not all, possessable nouns have a GF: in *güague* /guage/ (97), the 3-person form, that is the basis of possessive inflection, is also used when the possessor is not expressed (as in most CH nouns). Note that O.Z *güague* /guage/ corresponds to the GF of Ayoreo.

(91) O.Z. ch-a-cac (1S), a-cac (2S), a-cac (3), ay-a-cac (1P/2P),

p-a-cac (GF) ‘what is planted’

(92) O.Z. y-i-noriga (1S), a-noriga (2S), Ø-Ø-noriga (3),
p-i-noriga (GF) ‘way’, from: no (3) ‘to go’

(93) O.Z. y-i-bidit (1S), a-bidit (2S), Ø-Ø-pidit (3), p-i-bidit (GF)
‘who/what is called’ from: t-i-bidi (3) ‘to call’

(94) Ay. a-kadisōri (3), p-a-kadisōri (GF) ‘teacher’

(95) Ay. Ø-Ø-kasitigaj (3), p-i-kasitigaj (GF) ‘courage’

(96) Ay. j-i-boti (1S), b-a-boti (2S), Ø-Ø-poti (3), p-i-boti (GF) ‘food’

(97) Ay. j-u-rage (1S), b-a-rage (2S), u-rage (3), g-a-ge (GF)
‘group of people’
O.Z. y-u-ague (1S), a-gue (2S), g-ü-ague (3/GF) ‘family’

Although the Old Zamuco GF is usually obtained from the noun theme, the GF occasionally coincides with the root, as in (98-101). One possibility is that the noun theme is obtained in such cases by adding the default thematic vowel /i/ (or /u/) to the GF. In (100-101) root-initial /r/ undergoes fortition and turns into /d/ word-initially, that is in the GF.

(98) O.Z. y-i-guioz (1S), a-guioz (2S), i-guioz (3), Ø-Ø-guioz (GF)
‘relative’

(99) O.Z. y-i-podduo (1S), a-podduo (2S), i-podduo (3),
Ø-Ø-podduo (GF) ‘lungs’

(100) O.Z. y-i-raogenna (1S), a-raogenna (2S), i-raogenna (3),
Ø-Ø-daoguenna (GF) ‘mortar’

- (101) O.Z. y-u-rahec (1S), a-rahec (2S), u-rahec (3), Ø-Ø-dahec (GF)
‘path’

If the above hypothesis is correct, the theme of the possessive forms can derive from the GF in Ayoreo too, when it corresponds to the root (102-103), cf. §9.9. The AY cognate of (101) exhibits the same fortition of root-initial /r/ in the GF (103).

- (102) Ay. Ø-Ø-popej (GF), j-i-popej (1S), b-a-popej (2S), i-popej (3)
‘comb’

- (103) Ay. Ø-Ø-dahej (GF), j-ũ-rahej (1S), b-ã-rahej (2S), ã-rahej (3)
‘path’

The Old Zamuco GF of *iterepec* /iterepek/, *pepec* /pepek/ (104), is irregular. Ayoreo shares the same exception in the GF of *itarâpei* /itarâpej/.

- (104) Ay. pepej (GF), i-tarâpej (3) ‘what is used to cover’²⁸⁶
O.Z. pepec (GF), y-i-terepec (1S), a-terepec (2S), i-terepec (3)
‘fabric, cloth’

Also other GF prefixes are used, such as /d/- (105), /dVk/- (106), /g/ or /k/- (107). The prefix /d/- is to be found in Chamacoco and Old Zamuco for the GF (105). The AY counterpart of the Old Zamuco GF *ducoz* /dukos/ is *ducosi* /dukosi/ ‘fever sickness’ (105), a non-possessable noun. The prefix /dVk/- is observed in both

²⁸⁶ During my fieldwork in Colonia Peralta, I have noted that in this variety of Ayoreo *itarâpej* /itarâpej/ and *pepei* /pepej/ have acquired the meaning of ‘bed sheet’ and ‘blanket’, respectively, so that two separate inflectional paradigms have originated.

Ayoreo and Chamacoco (106). The prefix /g/-, used in Old Zamuco and Ayoreo for the GF, corresponds to the CH prefix /k/-.²⁸⁷

- (105) Ch. i-*teit* (3), d-i-*teit* (GF) ‘intestine, dung’
 O.Z. y-u-hoz (1S), a-hoz (2S), u-hoz (3), d-u-coz (GF) ‘disease’
 cf. Ay. d-u-kos (GF.MS.FF) ‘fever sickness’

- (106) Ay. i-*joj* (3), dik-i-*joj* (GF) ‘blood’
 Ch. i-*teibite* (3), dik-i-*teibite* (GF) ‘spirit, ghost; image, photo’

- (107) Ay. i-*giñaj* (3), g-i-*giñaj* (GF) ‘house’
 Ch. i-*bite* (3), k-i-*bite* (GF) ‘smoke’
 O.Z. y-i-gueda (1S), a-i-gueda (2S), i-gueda (3), d-a-i-gueda (RFL),
 gu-i-gueda (GF) ‘house’

§11.9.2 Generic forms vs. non-possessable nouns

Only a few GFs are to be observed in Chamacoco, where the possessive inflection is no longer productive. This is probably due to intense linguistic contact with Spanish. In spite of a limited number of occurrences, the morphology of the Chamacoco GF shows some variability of forms. In (108-119) AY possessable nouns are compared with CH non-possessable nouns. In (108-112) the CH non-possessable noun corresponds to the Ayoreo GF. The latter consists of the pure noun root in (108-111). In (112) the Ayoreo GF obtained via the prefix /dV_k/- corresponds to the CH non-possessable noun.

²⁸⁷ Note that also /k/- is found in Ayoreo, although it is very rare (see §9.9, ex. 56). In examples (106-107) the CH words are not cognate of the other Zamucoan words. However, the morphological devices used are the same.

- (108) Ay. Ø-Ø-kuteaj (GF), u-guteaj (3) ‘thing’
Ch. Ø-Ø-kuteit (NPS) ‘thing’
- (109) Ay. Ø-Ø-bora (GF), i-bora (3) ‘article of clothing, general term’
Ch. bortiet (NPS) ‘clothing’
- (110) Ay. Ø-Ø-dahej (GF), ũ-rahej (3) ‘path’;
Ch. dehet (NPS) ‘path’
O.Z. Ø-Ø-dahec (GF), u-rahec (3) ‘path’
- (111) Ay. Ø-Ø-purudi (GF), u-burudi (3) ‘shade’ (base form: purut)
Ch. pu:ɾte (NPS) ‘shade, shadow’
- (112) Ay. duk-o-de (GF), o-de (3) ‘tomb, grave’
Ch. dukuta / lukuta (NPS) ‘cemetery’

In (113-114) the CH non-possessable noun reminds of the forms reported in Ayoreo. In (115) CH *dit/dut* corresponds to the root of *idai* /*idaj*/. In (116-117) two AY forms ending in *-sõri*/ and *-ŋori*/ convey the same meaning and correspond to two CH nouns: the first is possessable (116), while the second is non-possessable (117). In (117-119) the CH non-possessable noun corresponds to the Ayoreo 3-person.

- (113) Ay. j-u-takepie (1S), b-a-takepie (2S), u-takepie (3),
d-a-takepie (RFL) ‘outhouse, toilet’
Ch. ditiipita (NPS) ‘outhouse, bathroom, toilet’
- (114) Ay. j-o-sõrasõri (1S), o-sõrasõri (2S), o-sõrasõri (3),
d-o-sõrasõri (RFL) ‘one who is merciful, compassionate’
Ch. josĩrsĩɾte (NPS) ‘liberator, merciful person’
- (115) Ay. g-i-daj (GF), i-daj (3) ‘village; town’
Ch. dit / dut (NPS) ‘village’

- (116) Ay. j-i-sõri (1S), b-e-sõri (2S), j-u-sõri (3), d-e-sõri (RFL)
 ‘killer; winner in a game’
 Ch. p-i-rsĩrte (1S), e-rsĩrte (2S), i-rsĩrte (3), d-e-rsĩrte (RFL)
 ‘winner’²⁸⁸
- (117) Ay. j-i-ŋori (1S), b-e-ŋori (2S), j-u-ŋori (3), d-e-ŋori (RFL)
 ‘killer; winner in a game’
 Ch. juwĩrte (NPS) ‘killer’
- (118) Ay. j-a-sõre (1S), b-a-sõre (2S), a-sõre (3), d-a-sõre (RFL) ‘lance’
 Ch. asõũja (NPS) ‘lance’
- (119) Ay. j-ũ-riaroj (1S), b-ã-riaroj (2), ã-riaroj (3), d-ẽ-riaroj (3)
 ‘molar; hinge of jawbone’
 Ch. irũrte / irũrt / urũrte (NPS) ‘tooth’

The opposite situation is shown in (120), an isolated case. The AY noun *bisidi* is non-possessable, but its CH counterpart has possessive inflection. No other similar examples are to be observed. In conclusion, the possessive inflection of Chamacoco is no longer productive and the data in the above examples show that the tendency to lose possessive inflection has also occurred with indigenous words.

- (120) Ay. bisidi (NPS) ‘medicine’
 Ch. p-i-miet (1S), e-miet (2S), i-miet (3), n-e-miet (RFL) ‘medicine’

²⁸⁸ *Irsĩrc* /*irsĩrte*/ also means ‘rope’.

§11.9.3 Ayoreo vs. Chamacoco non-possessable nouns

Example (121) provides some nouns with no possessive inflection in both Ayoreo and Chamacoco. Some of these are animal nouns, which are non-possessable in both languages.

- (121) a. Ay. kukarani (NPS.MS) ‘mountain, hill’; kukarane (NPS.FS)
 ‘rock, stone, gem’
 Ch. koxãtɛ (NPS) ‘stone; mountain, hill’
 b. Ay. diri (NPS) ‘day’
 Ch. de:jtɛ (NPS) ‘day’
 c. Ay. edorobe (NPS) ‘rabbit; hare’
 Ch. erĩbit (NPS.MS), erĩbita (NPS.FS) ‘rabbit’
 d. Ay. hoŋoŋo (NPS) ‘large toad’
 Ch. jōkokota (NPS) ‘toad’
 e. Ay. ŋakari (NPS) ‘young man’
 Ch. ŋakirbitɛ (NPS) ‘man’
 f. Ay. ŋakaripitaj (NPS) ‘young teenaged man’
 Ch. ŋakirbitit (NPS) ‘young man’
 g. Ay. ŋumi (NPS) ‘earth; ground; floor; dust’
 Ch. ŋimite (NPS) ‘land, ground’
 h. Ay. hutikaj (NPS) ‘horsefly’
 Ch. hutukita (NPS) ‘horsefly (tabano mbutú)’
 i. Ay. otadi (NPS) ‘juice, broth, liquid’
 Ch. otitɛ (NPS) ‘liquid, juice’
 j. Ay. kikiabia (NPS) ‘bird, parakeet’
 Ch. kirkirbitea (NPS) ‘type of bird’

§11.10 Possessive classifiers

As already noted, (§9.1), Ayoreo is very rich in possessive classifiers (Fabre 2007b), while only one element emerges in Chamacoco. An AY possessive classifier, such as *gachidi* /gatchidi/,

can correspond to a CH possessable noun, such as *echit* /etɛit/ (see §11.7, ex. 80). CH *uhut* corresponds to AY *ujoi* /uhoj/. Like *uhut*, *ujoi* indicates relationship or fellowship between the possessee and the possessor. *Ujoi* does not appear in the list of possessive classifiers provided by Fabre (2007b: 80), but, as one can see in example (122), it clearly has the function of a possessive classifier.²⁸⁹ The possessee in (122) is *ayorei* /ajorej/, which is non-possessable and appears in base form, while the possessive classifier appears in full form, as expected (see §9.1).

- (122) Uyu ga y-igaid-i tu ujetiga
 /uju ga j-igaid-i tu uhetiga/
 1S then 1S-intention-MS.FF COP COMP
 y-uj-ode ayore-o ore nina raque
 /j-uh-ode ajore-o ore nina rake/
 1S-PCL_fellow-MP.FF person-MP.BF 3P 3.welcome themselves
 jnese ome y-a-tigo jnese.
 /nese ome j-a-tigo nese/
 all with 1S-manner-MP.IF all
 ‘It is my intention that all my people are happy with all my ways
 to behave.’ (NTM, Corinthians 10,33)

At the morphological level, both *ujoi* and *uhut* have irregular possessive inflection showing the same kind of irregularity. As one

²⁸⁹ There are morphosyntactic reasons to surmise that *uhut* and *ujoi* are classifiers, but the anomaly here is that, at least in some cases, such classifiers could be regarded not only as the morphosyntactic head, but also as the semantic head (cf., for instance, §10, ex. 66-68). *Uhut* and *ujoi* are relational classifiers according to the definition of Lichtenberk (1983), but this type of classifier is regarded as a subtype of possessive classifier by Fabre (2007b).

can see in (123), *ujoi* also has a lexical meaning (unlike *uhut*). The 2-vowel is irregular. The Chamacoco 2-person vowel is thematic /u/, rather than /e/ or /a/, as expected, and in Ayoreo it is /o/, while /a/ would be expected.

- (123) Ay. j-u-hoj (1S), b-o-hoj (2S), u-hoj (3), d-o-hoj (RFL),
jok-u-hoj (1P), wak-o-hoj (2P) ‘fellow’
Ch. p-u-hut (1S.PCL_fellow), u-hut (2S.PCL_fellow),
u-hut (3.PCL_fellow), d-u-hut (RFL.PCL_fellow)

A morphosyntactic difference between the use of general classifiers in Ayoreo and Chamacoco should be highlighted. In Ayoreo (§9.1) the possessive classifier may appear in full form (according to the syntactic shape of the sentence), while the following possessee must appear in base form. By contrast, CH *uhut* agrees in gender, number and form with the possessee which follows (see §10.9 and §13.8).

§11.11 Conclusions

This chapter has compared the possessive inflection of Old Zamuco, Ayoreo and Chamacoco. Some morphological similarities have emerged: in all Zamucoan languages possessable nouns have the same morphological structure; there are the same inflectional classes; the behaviour of the thematic vowel is similar; the RFL-person is the same. Some similarities between verb inflection and possessive inflection also emerge. GFs have similar morphology and a non-possessable noun in a Zamucoan language often corresponds to the root or an inflected form in another language. Finally, the only possessive classifier to be found in Chamacoco, *uhut*, corresponds to the AY possessive classifier *ujoi* /uhoj/. Both classifiers have a similar irregularity in the 2-vowel. In

conclusion, the comparison between the possessive inflection of the Zamucoan languages confirms that these languages have a common ancestor.

FOURTH PART: NOMINAL SUFFIXATION

This part describes in detail the nominal suffixation of the Zamucoan languages. In all Zamucoan languages the difference between adjective and nouns is a semantic one. At the morphological level, the adjective does not take possessive inflection, but there is no difference between nouns and adjectives in suffixation, so that they will jointly be referred to as ‘nominals’. Nominals can be inflected for:

- (1) Gender (masculine and feminine);
- (2) Number (singular and plural);
- (3) Form (base form, full form and indeterminate form).

Since these features are encoded in the same morpheme, the Zamucoan languages are fusional. Therefore the present analysis of inflectional morphology in the Zamucoan nominals will be based on the “form”, so that number and gender will be discussed in relation to it. Although the uses of each form depend on the single language, the BF is generally used for nominal predication, while the IF refers to non-specific referents. The BF is so-called, because it is often the starting point of any morphological operation. In Ayoreo and in Old Zamuco the singular BF coincides with the root.²⁹⁰ In Chamacoco, where some nominals have lost the singular BF vs. FF opposition, the former also coincided with the original root. The FF is used as dictionary entry by Higham *et al.* (2000) for Ayoreo and will be the citation form used in this work. In the

²⁹⁰ The only exception are the feminine nominals derived from a MS-BF by means of the suffix *-e/*, see §12.4.

Zamucoan languages there is no correlation between prefixation (which expresses the possessor) and suffixation. Sections §12 and §13 describe the morphology of nominal suffixation and the use of the forms in Ayoreo and Chamacoco, respectively. In §14, after a short description of O.Z nominal suffixation, the nominal suffixation of the Zamucoan languages is compared.

§12 Ayoreo nominal suffixation

The present chapter deals with the nominal suffixation of Ayoreo. I start with the expression of the BF and FF in masculine (§12.1) and feminine nominals (§12.2). The diminutive is addressed in §12.3. Section §12.4 discusses gender derivation. Section §12.5 describes the morphology of the IF. Section §12.9 gives an overview of the morphosyntax of BF, FF and IF. Then, some derivational mechanisms are analyzed, with a focus on the interaction between BF and derivational suffixes: the formation of abstract nouns (§12.7), verbal nouns (§12.8) and *nomina agentis* (§12.9) are described. Finally, anticipating the comparison in chapter §14, O.Z verbal nouns (§12.10) and *nomina agentis* (§12.11) are discussed.

In this chapter, I will mainly use data from Higham *et al.* (2000) with some differences:

(1) The glottal stop has a phonematic status according to Morarie (1980: 42) and Higham *et al.* (2000).²⁹¹ It can only occur in absolute final position²⁹² and disappears in all other contexts owing to morphophonological restrictions. According to Kelm (1964: 467, 472, 481), Morarie (1980: 42, 58) and Higham *et al.* (2000: 2, 5), all singular BFs (with the exception of those in *-/k/*, *-/p/*, *-/r/*, *-/s/* and *-/t/*) end in a vowel (or semivowel) plus glottal stop. The

²⁹¹ These authors use a different terminology to refer to the base form, the full form and the indeterminate form. Morarie (1980) and Higham *et al.* (2000) use the terms “definite form” and “indefinite form” for BF and IF respectively, while they do not use a specific term for the FF.

²⁹² “Glottals are heard under certain conditions, but when another word follows immediately, though inherently there, the glottal is not pronounced” (Higham *et al.* 2000: 2).

presence vs. lack of glottal stop distinguishes the singular BF from the plural BF or the singular FF when they end with the same (semi)vowel. There is no evidence that this is so (Bertinetto, personal communication). The phonematic status of the glottal stop is not confirmed by Bertinetto (2009: 9). According to Bertinetto (2009: 10) the glottal stop “is likely to be a generalized allophonic behaviour, unrelated to any morphological conditioning”. For these reasons the alleged glottal stop will not be reported in the following examples (see also §2.1).

(2) Final /e/ will not be reported when there are reasons to surmise that it is a euphonic vocoid.

(3) For reasons of simplicity, in chapters §12-§14 the morphological segmentation which refers to the possessive inflection will not be provided (with the exception of sections §12.8-§12.11).

§12.1 Base form and full form in masculine nominals

The MS-FF is marked by the suffix *-i/*, the MP-FF by the suffix *-ode/*. The MP-BF is marked by the suffixes *-o/* (after vowels) and *-jo/* or */io/* (after consonants).²⁹³ These suffixes are attached to the singular BF.

The MP-FF suffix *-ode/* nasalizes into *-one/* in nasal-harmony contexts. Thus, although in (1) *tamocoi* /tamokoj/ ‘dog’ has a nasal

²⁹³ /jo/ and /io/ can alternate in the MP-BF. The segment preceding /o/ in the MP-BF and /e/ in the FP-FF suffix *-(i)die/* is ambiguous between glide and full vowel.

consonant, /k/ blocks nasalization, so that the plural FF is *tamocode* /tamokode/ rather than **tamocone* /tamokone/.

- (1) tamokoj (MS.FF) ‘dog’ → tamoko (MS.BF) + ode (MP.FF)
 → tamokode (MP.FF), **tamokone* [MP.FF]

The interaction between masculine BF and masculine FF will be the object of this chapter. Depending on the BF ending, the nominals will be divided into two groups: (1) Nominals ending in a vowel; (2) Nominals ending in a consonant (/k/, /p/, /t/, /r/ or /s/).

Section §12.1.1 deals with nominals in vowels (or in semivowels). Some nominals of this group show an irregular FF in *-de/* (§12.1.2). Then, masculine nominals in other consonants are discussed: nominals in *-p/* (§12.1.3), nominals in *-t/* (§12.1.4), nominals in *-k/* (§12.1.5), nominals in *-s/* (§12.1.6) and nominals in *-r/* (§12.1.7).

§12.1.1 Masculine nominals in *-V/* and in *-j/*

The MS-FF suffix *-i/* turns into a glide when added to a vowel-ending singular BF (3-6), but when the singular BF ends in */i/*, it merges with the MS-FF suffix, so that the singular BF and FF coincide (2).

In the plural BF and FF, the suffixes *-o/* (MP.BF) and *-ode/* (MP.FF) (or its nasal counterpart *-one/*) are added to the singular BF. When the nominal ends in *-a/*, the MP-BF suffix *-o/* deletes and the */o/* of *-ode/* is replaced by */a/* (3). As a consequence, the singular and plural BF coincide and the plural FF ends in *-ade/*. When *-o/* and *-ode/* are attached to a singular BF in *-o/* (4), this vowel merges with the suffix vowel */o/*, so that the singular and plural BF coincide. In nominals with BF in *-e/* (5) or *-u/* (6), the suffixes are simply added to the singular BF.

- (2) a. *tearipi* (3.MS.BF) ‘chair’ → *tearipi* (3.MS.FF), *tearipode* (3.MP.FF),
tearipio (3.MP.BF)
 b. *honakepi* (GF.MS.BF) ‘container for seeds’ → *honakepi* (GF.MS.FF),
honakepode (GF.MP.FF), *honakepio* (GF.MP.BF)
- (3) a. *agaha* (3.MS.BF) ‘meal’ → *agahaj* (3.MS.FF), *agahade* (3.MP.FF),
agaha (3.MP.BF)
 b. *joka* (MS.BF) ‘turtle’ → *jokaj* (MS.FF), *jokade* (MP.FF), *joka* (MP.BF)
- (4) a. *gidobo* (MS.BF) ‘white pigeon’ → *gidoboj* (MS.FF),
gidobode (MP.FF), *gidobo* (MP.BF)
 b. *homio* (MS.BF) ‘lake, water hole’ → *homioj* (MS.FF),
homione (MP.FF), *homio* (MP.BF)
- (5) a. *igoige* (3.MS.BF) ‘victory song’ → *igoigej* (3.MS.FF),
igoigeode (3.MP.FF), *igoigeo* (3.MP.BF)
 b. *sore* (MS.BF) ‘type of bird’ → *sorej* (MS.FF), *soreode* (MP.FF),
soreo (MP.BF)
- (6) a. *gaṇetu* (MS.BF) ‘sweat, perspiration’ → *gaṇetuj* (MS.FF),
gaṇetuode (MP.FF), *gaṇetuo* (MP.BF)
 b. *uru* (3.MS.BF) ‘word’ → *uruj* (3.MS.FF), *uruode* (3.MP.FF),
uruo (3.MP.BF)

There are a few nominals with singular BF ending in a vowel followed by /j/: in this case the singular FF suffix *-i/* merges with /j/ and the plural BF suffix is *-o/*. /j/ may drop in the plural FF (7).

- (7) a. *edogaj* (MS.BF) ‘edge of body water’ → *edogaj* (MS.FF),
edogade (MP.FF), *edogajo* (MP.BF)
 b. *opoj* (MS.BF) ‘dark, dirty’ → *opoj* (MS.FF), *opode* (MP.FF),
opoio (MP.BF)

§12.1.2 Nominals with full form in *-de/* and other exceptions

Few irregular nominals add *-de/* to the singular BF in order to obtain the singular FF (8). In (8a) the FF in *-de/* alternates with the standard singular FF.

- (8) a. daki (3.MS.BF) ‘grandfather’ → dakide / daki (3.MS.FF),
dakio (3.MP.FF), dakio (3.MP.BF)
b. dupa (GF.MS.BF) ‘God’ → dupade (GF.MS.FF)
c. gedosi (MS.BF) ‘moon’ → gedoside (MS.FF), gedoside (MP.FF),
gedosio (MP.BF)

Generally masculine and feminine entities correspond to masculine and feminine nominals, respectively. There are, however, some exceptions concerning gender. *Asuté* (3.FS.FF) ‘chief, leader’ is feminine, although it applies to men; *guedé* /*gede*/ (MS.FF) ‘sun’ and *gaté* /*gate*/ (MS.FF) ‘sky’ do not end in *-i/* in the singular FF, although they are masculine; *quicujadia* /*kikuhadia*/ ‘ancestor’ (3.FS.FF) is feminine, but refers to both men and women. One may surmise that final *-de/* in the FF is related to the teknonymic suffix *-de/* (*-ne/* in nasal-harmony contexts), which is attached to the name of the first son to indicate the father: e.g. *Dihai-de* /*dihaj-de*/ (‘the father of *Dihai* /*dihaj*/’), *Ejei-ne* (‘the father of *Ejei* /*ehej*/’), *Sama-ne* (‘the father of *Sama*’).²⁹⁴

§12.1.3 Masculine nominals with singular base form in *-p/*

Nominals with singular BF in *-p/* add *-i/* to obtain the singular FF, while */p/* voices into */b/*. In nasal-harmony contexts, */b/* nasalizes into */m/*. Thus, all these nominals end in *-bi/* (9) or *-mi/* (10) in the

²⁹⁴ On AY teknonyms, see Bertinetto, Ciucci & Pia (2010: 110).

singular FF. The plural BF and FF are obtained by adding *-io/* and *-ode/*, respectively, to the singular BF. In the plural too, the voicing (and possibly nasalization) of */p/* occurs.

- (9) a. gap (3.MS.BF) ‘path’ → gabi (3.MS.FF), gabode (3.MP.FF), gabio (3.MP.BF)
- b. igarup (3.MS.BF) ‘woven belt’ → igarubi (3.MS.FF), igarubode (3.MP.FF), igarubio (3.MP.BF)
- c. hup (MS.BF) ‘fly’ → hubi (MS.FF), hubode (MP.FF), hubio (MP.BF)
- d. turigap (MS.BF) ‘type of bird’ → turigabi (MS.FF), turigabode (MP.FF), turigabio (MP.BF)

- (10) a. atiāp (MS.BF) ‘small, little’ → atiami (MS.FF), atiamone (MP.FF), atiamio (MP.BF)
- b. ĕp (MS.BF) ‘wind’ → emi (MS.FF), emone (MP.FF), emio (MP.BF)
- c. erāp (MS.BF) ‘earth, world’ → erami (MS.FF), eramone (MP.FF), eramio (MP.BF)
- d. ɲup (MS.BF) ‘earth, ground’ → ɲumi (MS.FF), ɲumone (MP.FF), ɲumio (MP.BF)
- e. gapap (MS.BF) ‘outside surface’ → gapami (MS.FF), gapamone (MP.FF), gapamio (MP.BF)

There are no ambiguities in the formation of the singular FF. Nominals with singular FF in *-pi/* have singular BF in *-pi/* (11).

- (11) a. agapi (3.MS.FF) ‘plate, glass’, agapiode (3.MP.FF), agapi (3.MS.BF), agapio (3.MP.BF)
- b. hupi (MS.FF) ‘type of bush’, hupiode (MP.FF), hupi (MS.BF), hupio (MP.BF)

However, given the FF it is not possible to predict the ending of the singular BF (12).

- (12) a. ɬokibi (MS.FF) ‘naked’, ɬokibiode (MP.FF), ɬokibi (MS.BF),

- teokibio (MP.BF)
- b. etabi (3.MS.FF) ‘neck’, etabidode (3.MP.FF), etabit (3.MS.BF),
etabiteo (3.MP.BF)
- c. iṇimi (3.MS.FF) ‘taken out’, iṇiminone (3.MP.FF), iṇimik (3.MS.BF),
iṇimiteo (3.MP.FF)
- d. timi (MS.FF) ‘strong, hard’, timiṇone (MP.FF), timik (MS.BF),
timito (MP.BF)

§12.1.4 Masculine nominals with singular base form in *-t/*

Nominals with singular BF in *-t/* add *-i/* to the BF to obtain the singular FF. As in nominals in *-p/* (§12.1.3), *-t/* voices into */d/* (13) and nasalizes into */n/* (14) in nasal-harmony contexts. Thus, nominals in *-t/* have singular FF in *-di/* or *-ni/*. The change of */t/* into */d/* or */n/* also occurs in the plural FF, when *-ode/* is added (13-14). The MP-BF suffix *-jo/* causes palatalization of BF-final *-t/*, thus yielding *-teo/* (13-14). The same applies to nominals in *-k/* (see §12.1.5). *Neri* ‘uncle’ is a rare exception to the above discussed rules (15) and also its IF is irregular (cf. §12.5.3, ex. 67f).

- (13) a. at (3.MS.BF) ‘body part’ → adi (3.MS.FF), adode (3.MP.FF),
ateo (3.MP.BF)
- b. ahejot (MS.BF) ‘kind, gentle’ → ahejodi (MS.FF),
ahejodode (MP.FF), ahejoteo (MP.BF)
- c. ipogait (3.MS.BF) ‘vomit’ → ipogaidi (3.MS.FF),
ipogaidode (3.MP.FF), ipogaiteo (3.MP.BF)
- d. tihabat (GF.MS.BF) ‘cause of amazement’ → tihabadi (GF.MS.FF),
tihabadode (GF.MP.FF), tihabateo (GF.MP.BF)
- (14) a. ateamit (3.MS.BF) ‘country, region’ → ateamini (3.MS.FF),
ateaminone (3.MP.FF), ateamiteo (3.MP.BF)
- b. gērat (3.MS.BF) ‘gift’ → gerani (3.MS.FF), geranone (3.MP.FF),
gērateo (3.MP.BF)

- c. piṇat (3.MS.BF) ‘voice, mouth’ → piṇani (3.MS.FF),
piṇanone (3.MP.FF), piṇateo (3.MP.BF)
- d. uhūt (3.MS.BF) ‘necktie’ → uhuni (3.MS.FF), uhunone (3.MP.FF),
uhūteo (3.MP.BF)

- (15) nerat (3.MS.BF) ‘uncle, mother’s brother’ → neri (3.MS.FF),
nerione (3.MP.FF), neririk (3.MS.IF), neririṇo (3.MP.IF)

As noted above, nominals with singular BF in *-t/* show singular FF in *-di/*. However, it is not possible to identify the BF given the FF (16).

- (16) a. akadi (3.MS.FF) ‘student’ → akadigode (3.MP.FF),
akadik (3.MS.BF), akaditeo (3.MP.BF)
- b. ududi (3.MS.FF) ‘what is heard’ → ududigode (3.MP.FF),
ududik (3.MS.BF), ududiteo (3.MP.BF)
- c. iṇani (3.MS.FF) ‘torch’ → iṇaniṇone (3.MP.FF), iṇanik (3.MS.BF),
iṇaniteo (3.MP.BF)
- d. irani (3.MS.FF) ‘water jug’ → iraniṇone (3.MP.FF),
iranik (3.MS.BF), iraniteo (3.MP.BF)
- e. ṇani (MS.FF) ‘man’, ṇaniome (MP.FF), ṇani (MS.BF), ṇanio (MP.BF)

In Ayoreo, nominals with FF in *-ti/* do not have BF in *-t/* (17a-c). In Higham *et al.* (2000) one only finds one exception, namely the irregular singular FF *oruti* / *eruti* (d).

- (17) a. gati (MS.FF) ‘red, scarlet’ → gatiode (MP.FF), gati (MS.BF),
gatio (MP.BF)
- b. pati (MS.FF) ‘hard, stubborn’ → patigode (MP.FF), patik (MS.BF),
patiteo (MP.BF)
- c. ṇati (3.MS.FF) ‘expected, awaited’ → ṇatiode (3.MP.FF),
ṇati (3.MS.BF), ṇatio (3.MP.BF)
- d. oruti (3.MS.FF) ‘ridden, climbed’ → orutode (3.MP.FF),
orut (3.MS.BF), oruteo (3.MP.BF) (also: eruti)

§12.1.5 Masculine nominals with singular base form in *-/k/*

Nominals with singular BF in *-/k/* lose this consonant when the MS-FF suffix *-/i/* is added, so that *-/i/* is preceded by a vowel and turns into a glide. If the vowel is */i/* (18g-h), it merges with the singular FF suffix.

In the plural FF, */k/* tends to drop when the suffix *-/ode/* is added. Sometimes */k/* is preserved, voices into */g/* and, where needed, nasalizes into */ŋ/*. There is no rule to establish whether a given nominal shows plural in *-/gode/* or in *-/ode/*. A correlation emerges, however, between the vowel preceding */k/* and the preservation of */k/* in the plural FF. Most nominals in *-/ak/* (18a-b) lose */k/* in the plural FF. Note that nominals in *-/ak/* are the majority of nominals in *-/k/*. When */k/* drops, the root vowel */a/* replaces the first vowel of *-/ode/*, so that the plural FF ends in *-/ade/* (18a). In nominals in *-/ek/*, the dropping of */k/* is pervasive (18c-d). On the other side, the plural in *-/gode/* is more frequent in nominals in *-/ok/* (18e-f), while all nominals in *-/ik/* (18g-h) and *-/uk/* (18i-j) have plural FF in *-/gode/*.

Root-final */k/* is always preserved in the plural BF. */k/* palatalizes before the suffix *-/jo/*, yielding the plural BF in *-/tɕo/*, also to be found in nominals in *-/t/* (§12.1.4).

- (18) a. dehak (MS.BF) ‘night’ → dehaj (MS.FF), dehade (MP.FF),
dehateo (MP.BF)
b. gesak (MS.BF) ‘open, clear’ → gesaj (MS.FF), gesagode (MP.FF),
gesateo (MP.BF)
c. gipek (3.MS.BF) ‘bag’ → gipej (3.MS.FF), gipeode (3.MP.FF),
gipeteo (3.MP.BF)
d. arurek (MS.BF) ‘bread’ → arurej (MS.FF), aruregode (MP.FF),
arureteo (MP.BF)

- e. kaṇok (MS.BF) ‘butterfly’ → kaṇoj (MS.FF), kaṇone (MP.FF),
kaṇoteo (MP.BF)
- f. dipok (MS.BF) ‘shame’ → dipoj (MS.FF), dipogode (MP.FF),
dipoteo (MP.BF)
- g. kik (3.MS.BF) ‘direction, destiny’ → ki (3.MS.FF),
kigode (3.MP.FF), kiteo (3.MP.BF)
- h. timik (MS.BF) ‘strong, hard’ → timi (MS.FF), timiṇone (MP.FF),
timiteo (MP.BF)
- i. serērateuk (MS.BF) ‘soft, weak’ → serērateuj (MS.FF),
serērateugode (MP.FF), serērateuteo (MP.BF)
- j. teṇuk (MS.BF) ‘cold’ → teṇuj (MS.FF), teṇuṇone (MP.FF),
teṇuteo (MP.BF)

§12.1.6 Masculine nominals with singular base form in *-s/*

Nominals with singular BF in *-s/* add the suffix *-i/* in the singular FF. When *-jo/* is added to the root in *-s/*, */j/* does not palatalize, because it is absorbed by */s/* (see Bertinetto 2009: 25), so that the plural BF ends in *-so/*. The plural FF is obtained by adding the suffixes *-o/* and *-ode/* respectively. In (20), *poti* ‘food’ is an exception, because it shows root allomorphy: root-final */s/* corresponds to */t/* in the singular FF.²⁹⁵

- (19) a. ahepis (3.MS.BF) ‘soul, spirit’ → ahepisi (3.MS.FF),
ahepisode (3.MP.FF), ahepiso (3.MP.BF)
- b. apos (3.MS.BF) ‘lamp’ → aposi (3.MS.FF), aposode (3.MP.FF),
aposo (3.MP.BF)
- c. teakas (MS.BF) ‘type of wasp’ → teakasi (MS.FF),
teakasode (MP.FF), teakaso (MP.BF)
- d. dukos (GF.MS.BF) ‘fever, sickness’ → dukosi (GF.MS.FF),

²⁹⁵ On *poti*, see §14.3.11.

dukosode (GF.MP.FF), dukoso (GF.MP.BF)

(20) pos (3.MS.BF) ‘food’ → poti (3.MS.FF), posode (3.MP.FF),
poso (3.MP.BF)

The FF of all nominals in *-s/* ends in *-si/* (19). As one can see in (21), not all nominals with FF in *-si/* have BF in *-s/*. This is further evidence of the morphological priority of the BF over the FF.

- (21) a. *teagesi* (MS.FF) ‘courageous, valiant’ → *teagesi* (MS.BF),
teagesiode (MP.FF), *teagesio* (MP.BF)
b. *disi* (MS.FF) ‘boy, child’ → *disi* (MS.BF), *disiode* (MP.FF),
disio (MP.BF)
c. *pasi* (MS.FF) ‘rubbish’ → *pasik* (MS.BF), *pasigode* (MP.FF),
pasiteo (MP.BF)

§12.1.7 Masculine nominals with singular base form in *-r/*

Nominals with singular BF in *-r/* add *-i/* in the singular FF. In the plural FF the suffix *-ode/* (or its nasal counterpart) is added. In the BF, final *-r/* palatalizes and merges with the suffix *-jo/*, which undergoes nasalization into *-jo/*.²⁹⁶ This is not related to nasal harmony and is to be found in both nasalized and non-nasalized nominals. Most nominals belonging to this group have nasal harmony. However, also non-nasal nominals, such as *diri* ‘day’ (22b) and *iguri* /*igiri*/ ‘birthmark’ (22e), may belong to this class.

²⁹⁶ By saying that */r/* palatalizes into */j/*, I do not imply that it is the actual phonetic process which has occurred. Evidence from O.Z (see below) suggests that at a first stage there was */r/* deletion and subsequently */j/* has turned into */ɲ/*.

In the past, the plural BF in *-/jo/* and *-/ɲo/* were probably related to lack vs. presence of nasal harmony: in O.Z nominals in *-/r/*, the plural BF suffix used is *-/jo/* which turns into *-/ɲo/* in nasal-harmony contexts: “Los acabados en R, hazen yo. *nacar*. mozo. *nacayo*. mozos. y con narigal, ño. *unnâr*. pulga. *unnaño*. Pulgas.” (Chomé 1958: 124)

- (22) a. *kutêr* (MS.BF) ‘honey’ → *kutêri* (MS.FF), *kutêrone* (MP.FF),
 kutêɲo (MP.BF)
 b. *dir* (MS.BF) ‘day’ → *diri* (MS.FF), *dirode* (MS.FF), *dijo* (MP.BF)
 c. *uhûr* (MS.FF) ‘worm’ → *uhûri* (MS.FF), *uhûrone* (MP.FF),
 ujuno (MP.BF)
 d. *ɲakar* (MS.BF) ‘young man’ → *ɲakari* (MS.FF), *ɲakarode* (MP.FF),
 ɲakaɲo (MP.BF)²⁹⁷
 e. *igir* (3.MS.BF) ‘birthmark, mole’ → *igiri* (3.MS.FF),
 igirode (3.MP.FF), *igijo* (3.MP.BF)

All nominals derived by means of the suffixes *-/sôri/*, *-/minori/* and *-/ɲori/* belong to this class (see §12.9).

- (23) a. *katekâraisôr* (GF.MS.BF) ‘speaker’ → *katekâraisôri* (GF.MS.FF),
 katekâraisôrone (GF.MP.FF), *katekâraisoɲo* (GF.MP.BF)
 b. *ehominor* (3.MS.BF) ‘neighbour’ → *ehominori* (3.MS.FF),
 ehominorone (3.MP.FF), *ehominono* (3.MP.BF)
 c. *gateiɲor* (MS.BF) ‘pet owner’ → *gateiɲori* (MP.FF),
 gateiɲorone (MP.FF), *gateiɲono* (MP.BF)

²⁹⁷ In *jnacari* /*ɲakari*/ ‘young man’, owing to /k/ which blocks nasal spread, the plural FF ends in *-/ode/*.

§12.2 Base form and full form in feminine nominals

The following sections describe the morphology of the BF and the FF in feminine nominals. The singular FF suffixes are *-a/*, added to singular BFs in *-i/* or *-u/*, *-ia/*, added to singular BFs in consonants, and *-Ø*, used for the other singular BFs ending in a vowel. In the plural, the suffixes *-die/* and *-i/* are added for FF and BF, respectively. Feminine nominals are very regular. Most of them have singular BF ending in a vowel (§12.2.1). There are also a few feminine nominals with singular BF in *-p/* (§12.2.2), in *-t/* (§12.2.3) and in *-r/* (§12.2.4). Some phenomena of root allomorphy in the FP-FF are discussed in §12.2.5.

§12.2.1 Feminine nominals with vowel-ending base form

In some feminine nominals, the singular FF is marked by null affixation. If the singular BF ends in *-a/* (24a-b), *-e/* (24c-e) or *-o/* (24f-g), *-Ø* is added to the BF, so that the singular BF and FF coincide.²⁹⁸

- (24) a. *tirîta* (FS.BF) ‘hummingbird’ → *tirîta* (FS.FF), *tirîtadie* (FP.FF),
 tirîtaj (FP.BF)
 b. *hotêa* (FS.BF) ‘water hole’ → *hotêa* (FS.FF), *hotêadie* (FP.FF),
 hotêaj (FP.BF)
 c. *abue* (FS.BF) ‘cactus’ → *abue* (FS.FF), *abuedie* (FP.FF),
 abuej (FP.BF)
 d. *ṃane* (3.FS.BF) ‘finger’ → *ṃane* (3.FS.FF), *ṃanenie* (3.FP.FF),
 ṃanej (3.FP.BF)
 e. *ṭeeke* (FS.BF) ‘woman’ → *ṭeeke* (FS.FF), *ṭekedie* (FP.FF),
 ṭeekej (FP.BF)

²⁹⁸ For reasons of simplicity, *-Ø* will not be indicated in the examples.

- f. baho (FS.BF) ‘basin, bowl’ → baho (FS.FF), bahodie (FP.FF),
bahoj (FP.BF)
- g. atapieto (3.FS.BF) ‘helper’ (woman) → atapieto (3.FS.FF),
atapietodie (3.FP.FF), atapietoj (3.FP.BF)

If the BF ends in *-i/* or *-u/*, *-a/* is added in the singular FF. There are no feminine nominals with singular FF in *-i/* or *-u/*. The plural follows the same rule described above. If a nominal has singular BF in *-i/*, the suffix *-i/* merges with it. As a consequence, the singular and plural BF coincide. In (25e) *gatodé* ‘head’ is an exception; it also has the variant *gatoi* /*gatoj*/ with FS-FF in *-i/*.

- (25) a. hiriri (FS.BF) ‘quail’ → hiriria (FS.FF), hiriridie (FP.FF),
hiriri (FP.BF)
- b. tāj (FS.BF) ‘truck, car’ → tāja (FS.FF), tājnie (FP.FF), tāj (FP.BF)
- c. dahu (FS.BF) ‘wild pineapple’ → dahua (FS.FF), dahudie (FP.FF),
dahuj (FP.BF)
- d. gapu (FS.BF) ‘girl’ → gapua (FS.FF), gapudie (FP.FF), gapuj (FP.BF)
- e. gatode (3.FS.BF) ‘head’ → gatoj / gatode (3.FS.FF),
gatoidie / gatodedie (3.FP.FF), gatodej (3.FP.BF)

Although most feminine nominals end in a vowel, some of them have singular BFs in consonants such as */p/* (§12.2.2), */t/* (§12.2.3) or */r/* (§12.1.7).

§12.2.2 Feminine nominals with singular base form in *-p/*

Feminine nominals in *-p/* mostly include feminine diminutive forms, to be analyzed in detail later on (26b). In most cases such singular BFs in *-p/* are epicene, while the rest of the paradigm takes feminine or masculine suffixation. The singular BF of (26a), however, is not epicene. Like masculine nominals in *-p/*, when a suffix is added, the final consonant voices and – when required –

nasalizes. The suffix *-ia/* is added to obtain the FS-FF. In the plural BF, the suffix *-i/* is added, while *-idie/* is the plural FF suffix, also used with all other feminine nominals in consonants. Comparing these data with feminine nominals ending in vowels, in *-idie/* the real morphemes is *-die/* while preceding */i/* was probably an insertion to break a consonantal cluster.

- (26) a. karatep (FS.BF) ‘newborn’ → karatebia (FS.FF), karatebidie (FP.FF),
karatebi (FP.FF)
b. disap (DIM.[M/F]S.BF) ‘girl’ → disabia (DIM.FS.FF),
disabidie (DIM.FP.BF), disabi (DIM.FP.BF)

§12.2.3 Feminine nominals with base form in *-t/*

Feminine nominals with BF in *-t/* (27) can be considered the feminine counterpart of masculine nominals with BF in *-t/* (§12.1.4), with which they share some morphological similarities. When *-ia/* is added to obtain the singular FF, */t/* voices into */d/*. In the plural FF, by contrast, *-idie/* is added and */t/* deletes. In the plural BF, the root-final consonant palatalizes into *-tɕ/* before the plural BF suffix. There are comparative reasons (discussed in §14.2, see in particular ex. 39) to surmise that such palatalization was brought about by the suffix *-ji/*, the feminine counterpart of *-jo/*. *-ji/* is documented in O.Z, where it was added to feminine nominals with root in */t/*, */k/* and */r/*. The nominals in (27) are thus interesting in that they show the relic of the FP-BF allomorph *-ji/*, lost in all other feminine nominals. In (27d) one can insert */i/* before the root-final consonant in the plural BF. This phenomenon is not isolated. */i/* insertion is found for instance in the plural FF of *co /ko/* ‘pitcher’ (27e).

- (27) a. okarat (FS.BF) ‘flame of fire’ → okaradia (FS.FF), okaraidie (FP.FF),

- okarateĩ (FP.BF)
- b. arekuhat (3.FS.BF) ‘statement’ → arekuhadia (3.FS.FF),
arekuhaidie (3.FP.FF), arekuhateĩ (3.FP.BF)
- c. kikuhat (3.FS.BF) ‘ancestor’ → kikuhadia (3.FS.FF),
kikuhateĩ (3.FP.FF), kikuhaidie (3.FP.BF)
- d. piṇakarat (3.FS.BF) ‘loud yell’ → piṇakaradia (3.FS.FF),
piṇakaraidie (3.FP.FF), piṇakaraiteĩ / piṇakarateĩ (FP.BF)
- e. ko (GF.FS.BF) ‘pitcher’ → ko (GF.FS.FF), koidie (GF.FS.FF),
koj (GF.FP.FF)

§12.2.4 Feminine nominals in -/r/

Some feminine nominals have singular BF in -/r/. The suffixes -/ia/ and -/idie/ are added to obtain the singular and plural FF, respectively. The suffix -/i/ is used to form the plural BF.

- (28) a. dor (FS.BF) ‘wild pineapple’ → doria (FS.FF), doridie (FP.FF),
dori (FP.BF)
- b. por (FS.BF) ‘tree’ → poria (FS.FF), poridie (FP.FF), pori (FP.BF)
- c. suar (FS.BF) ‘parrot’ → suaria (FS.FF), suaridie (FP.FF),
suari (FP.BF)

To conclude, about the same groups of nominals with root-final consonant exist for both the masculine and the feminine. Only masculine nominals in -/k/ and -/s/ lack their feminine counterpart. All feminine nominals with consonant-ending singular BF add -/ia/ and -/idie/ to the singular BF. These suffixes correspond to the FF morphemes -/a/ and -/die/. In -/ia/ and -/idie/, -/i/- was originally an insertion.

§12.2.5 Exceptions in the feminine plural full form

As noted above, in feminine nominals in *-/t/* (27) this consonant is replaced by *-/idie/* in the plural FF. This morphological behaviour is anomalous, since in masculine nominals in *-/t/* this consonant is preserved and voices in the plural FF (§12.1.4). Consider the following feminine nominals:

- (29) a. *orotade* (3.FS.BF) ‘shoulder’ → *orotade* (3.FS.FF), *orotadedie* /
orotaidie (3.FP.FF), *orotadej* (3.FP.BF)
 b. *mane* (3.FS.BF) ‘finger’ → *mane* (3.FS.FF), *manenie* /
mainie (3.FP.FF), *manej* (3.FP.BF)

Orotadé and *jmané* /*mane*/ have two alternatives in the plural FF. In the first variant, the plural FF ends in *-/dedie/* and *-/nenie/*, as expected. In the second variant, the syllable *-/de/-* or *-/ne/-* deletes before the suffix *-/die/* or *-/nie/*, giving rise to the suffix *-/idie/*. As seen in *co* /*ko*/ ‘pitcher’ (27e), */i/* might be regarded as an insertion. The same plural FF (characterized by *-/de/* or *-/ne/* deletion and */i/* insertion) is found in other cases, such as: *catadé* /*katade*/ (GF.FS.FF), *cataidie* /*kataidie*/ (GF.FP.FF) ‘knee’; *cosocorodé* /*kosokorode*/ (3.FS.FF), *cosocoroidie* /*kosokoroidie*/ (3.FP.FF) ‘joint, socket’; *angoroné* /*aŋorone*/ (3.FS.FF), *angoronenie* /*aŋoronenie*/ or *angoroinie* /*aŋoroinie*/ (3.FP.FF) ‘ear’. This might suggest that in feminine nominals ending with singular BF in *-/t/*, this consonant originally voiced not only in the singular but also in the plural FF. Supposedly, the original plural ended in **-/didie/*. However, this form is not to be found, because *-/d/-* or *-/n/-* has probably deleted owing to haplology before the suffix *-/die/* or *-/nie/* and only */i/* as vocalic insertion is preserved.

§12.3 Diminutive forms

The diminutive form is used to indicate smallness and endearment (Morarie 1980: 64). The diminutive form inflects as feminine and masculine nominals with singular BF in *-/p/*. The diminutive singular BF consists in the suffix *-/ap/* for both masculine and feminine nominals. This does not mean that all diminutive forms are epicene. Masculine nominals (30a-b) have the suffix *-/i/* in the singular FF and *-/ode/* or *-/one/* in the plural FF, as added to the BF in *-/ap/*. In the plural BF, *-/io/* is added. When a suffix is added, in both masculine and feminine diminutives, *-/p/* voices into */b/* (30a) and nasalizes into */n/* when required by nasal harmony.

- (30) a. *tamokap* (DIM.MS.BF) ‘dog’ → *tamokabi* (DIM.MS.FF),
 tamokabode (DIM.MP.FF), *tamokabio* (DIM.MP.BF)²⁹⁹
 b. *gigiṇap* (GF.DIM.MS.BF) ‘house’ → *gigiṇami* (GF.DIM.MS.FF),
 gigiṇamone (GF.DIM.MP.FF), *gigiṇamio* (GF.DIM.MP.BF)

The feminine diminutives add *-/ia/* for the singular FF and *-/idie/* for the plural FF. The plural BF is obtained by means of the suffix *-/i/*.

- (31) a. *ṭeekap* (DIM.FS.BF) ‘woman’ → *ṭeekabia* (DIM.FS.FF),
 ṭeekabidie (DIM.FS.FF), *ṭeekabi* (DIM.FP.BF)
 b. *eramorap* (DIM.[M/F]S.BF) ‘deer’ → *eramoramia* (DIM.FS.FF),
 eramoraminie (DIM.FP.FF), *eramorami* (DIM.FP.BF)

²⁹⁹ In *tamocap* /*tamokap*/ (30a) a nasal element is present in the root, but it cannot yield the nasalization of the suffix, because */k/* in the root blocks the spread of nasalization.

§12.3.1 Diminutive formation

For both masculine and feminine nominals, the suffix *-ap/* is added to the singular BF. When the BF ends in a vowel, some morphophonological processes can occur. If the BF ends in *-a/*, it merges with the vowel of *-ap/* (32a). If the BF ends in *-e/* or *-o/*, vowel deletion occurs: the deleted vowel can be the root-final one (32b, d) or the diminutive vowel (32c, e). If the BF ends in a high vowel (*-i/* or *-u/*), it is either replaced by the suffix vowel (32f, h) or preserved (32g, i).

- (32) a. *kutea* (GF.MS.BF) ‘thing’ → *kuteap* (GF.DIM.MS.BF),
 kuteabi (GF.DIM.MS.FF)
 b. *teeke* (FS.BF) ‘woman’ → *teekap* (DIM.FS.BF), *teekabia* (DIM.FS.FF)
 c. *kese* (GF.MS.BF) ‘knife’ → *kesep* (GF.DIM.MS.BF),
 kesebi (GF.DIM.MS.FF)
 d. *pororo* (MS.BF) ‘white’ → *pororap* (DIM.[M/F]S.BF),
 pororabi (DIM.MS.FF)
 e. *nosoko* (GF.MS.BF) ‘machete’ → *nosokop* (GF.DIM.MS.BF),
 nosokobi (GF.DIM.MS.FF)
 f. *disi* (MS.BF) ‘boy’ → *disap* (DIM.[M/F]S.BF), *disabi* (DIM.MS.FF)
 g. *perupi* (MS.BF) ‘yellow; green’ → *perupiap* (DIM.MS.BF),
 perupiabi (DIM.MS.FF)
 h. *gapu* (FS.BF) ‘girl, grown girl’ → *gapap* (DIM.FS.BF),
 gapabia (DIM.FS.FF)
 i. *keru* (MS.BF) ‘big, large’ → *keruap* (DIM.[M/F]S.BF),
 keruabi (DIM.MS.FF)

With nominals in *-t/* and *-p/*, these consonants voice (33) and (if necessary) nasalize (34) when *-ap/* is added to the BF. Nominals in *-r/* (35) and *-s/* (36) simply add *-ap/* to the singular BF.

- (33) a. bisit (MS.BF) ‘medicine’ → bisidap (DIM.MS.BF),
bisidabi (DIM.MS.FF)
b. okarat (FS.BF) ‘flame of fire’ → okaradap (DIM.FS.BF),
okaradabia (DIM.FS.FF)
c. ɬɛijap (MS.BF) ‘type of bee’ → ɬɛijabap (DIM.MS.BF),
ɬɛijababi (DIM.MS.BF)
d. gap (3.MS.BF) ‘path’ → gabap (3.DIM.MS.BF),
gababi (3.DIM.MS.FF)
- (34) a. ɲurumit (MS.BF) ‘Ayoreo clan name’ → ɲuruninap (DIM.[M/F]S.BF),
ɲuruminami (DIM.MS.FF)
b. ɲup (MS.BF) ‘earth’ → ɲumap (DIM.MS.BF), ɲumabi (DIM.MS.FF)
- (35) a. aror (MS.BF) ‘hawk’ → arorap (DIM.MS.BF), arorabi (DIM.MS.BF)
b. por (FS.BF) ‘tree’ → porap (DIM.FS.BF), porabi (DIM.FS.FF)
- (36) a. etas (MS.BF) ‘tiny root of plant’ → etasap (DIM.MS.BF),
etasabi (DIM.MS.FF)
b. hes (MS.BF) ‘mist from fog’ → hesap (DIM.MS.BF),
hesabi (DIM.MS.BF)

If the singular BF ends in *-/k/*, this consonant can drop in the diminutive. Although this behaviour is unpredictable, there is a correlation with the plural FF of the non-diminutive nominal. When the plural FF ends in *-/gode/* or *-/ɲone/*, the diminutive is *-/gap/* (37). Final */k/* is often preserved in derived FS-BFs (see §12.4.3), but in diminutive formation this is even more frequent. For instance *acadi* /akadi/ (37) has plural FF in *-/gode/* and preserves */k/* in the diminutive. By contrast, */k/* drops in the FS-BF *acade* /akade/.

- (37) akadi (3.MS.FF) ‘student’, akadi (3.MS.BF) →
akadigap (3.DIM.MS.BF), akadigode (3.MP.FF), akade (3.FS.BF)

The vowel preceding the BF-final consonant can provide morphological indications about diminutive formation. Different cases can be distinguished. Nominals in *-ak/* may have diminutive in *-gap/* if the plural FF is in *-gode/* (38a-b). Otherwise *-k/* drops and *-ap/* is added (38c).

- (38) a. bak (MS.BF) ‘honey hunter’ → bagap (DIM.MS.BF),
 bagabi (DIM.MS.FF), bagode (MP.FF)
 b. dahuṇarāk (MS.BF) ‘skunk’ → dahuṇarāp (DIM.MS.BF),
 dahuṇarami (DIM.MS.FF), dahuṇarane (MP.FF)
 c. oṇak (MS.BF) ‘thorn’ → oṇap (DIM.MS.BF), oṇami (DIM.MS.BF),
 oṇane (MP.FF)

For nominals in *-ek/*, the following possibilities are observed:
 (1) The diminutive can end in *-gap/* if the plural FF is in *-gode/* (39a); (2) *-k/* drops and *-ap/* is added, and either */e/* or */a/* deletes (the variant in *-ep/* is more frequent).

- (39) a. tarek (MS.BF) ‘lazy’ → taregap (DIM.MS.BF),
 taregabi (DIM.[M/F]S.FF), taregode (MP.FF)
 b. tatæk (MS.BF) ‘agouti’ → tatēap (DIM.MS.BF), tatēabi (DIM.MS.FF),
 tatēode (MP.FF)
 c. hubek (GF.MS.BF) ‘woman’s large bag’ → hubep (GF.DIM.MS.BF),
 hubebi (GF.DIM.MS.FF), hubeode (MP.FF)

Nominals in *-ok/* have diminutive in *-gap/* if the plural FF is in *-gode/* (40). Otherwise *-k/* drops and */a/* in the suffix is replaced by */o/* (41).

- (40) a. piok (MS.BF) ‘fire’ → piogap (DIM.MS.BF), piogabi (DIM.MS.FF),
 piogode (MP.FF)
 b. tatok (MS.BF) ‘lame’ → tatogap (DIM.[M/F]S.BF),
 tatogabi (DIM.MS.FF), tatogode (MP.FF)

- (41) a. *coṇok* (MS.BF) ‘someone who is not an Ayoreo’ →
coṇop (DIM.[M/F]S.BF), *coṇomi* (DIM.MS.FF), *coṇone* (MP.FF)
 b. *tarok* (3.MS.BF) ‘brain, top of head’ → *tarop* (3.DIM.MS.BF),
tarobi (3.DIM.MS.FF), *tarode* (3.MP.FF)

As noted above, all nominals in *-ik/* (42b) and *-uk/* (43) have plural FF in *-gode/*, so that the diminutive singular BF ends in *-gap/*. The nominal in (44) is a rare exception.

- (42) a. *ikadik* (3.MS.BF) ‘forgotten’ → *ikadigap* (3.DIM.[M/F]S.BF),
ikadigabi (3.DIM.MS.FF), *ikadigode* (3.MP.FF)
 b. *kik* (3.MS.BF) ‘destiny’ → *kigap* (3.DIM.MS.BF),
kigabi (3.DIM.MS.FF), *kigode* (3.MP.FF)

- (43) a. *abeteuk* (MS.BF) ‘male parent with children’ →
abeteugap (DIM.[M/F]S.BF), *abeteugabi* (DIM.MS.FF),
abeteugode (MP.FF)
 b. *huduk* (MS.BF) ‘dark, black’ → *hudugap* (DIM.[M/F]S.BF),
hudugabi (DIM.MS.FF), *hudugode* (MP.FF)

- (44) *teakik* (3.MS.BF) ‘bottom’ → *teakiap* (3.DIM.MS.BF),
teakiabi (3.DIM.MS.BF), *teakigode* (3.DIM.MS.BF)

§12.4 Gender derivation

The MS-BF will be considered the basis for gender derivation. In some cases the singular BF is epicene. Two FS morphemes are available: *-a/* and *-e/*. These morphemes are usually used in different contexts, but there is a fundamental difference among them: *-a/* is added to epicene BFs and only marks the FS-FF. By contrast, *-e/*, applied to masculine BFs, is used for both FS-BF and FS-FF, so that they coincide.

§12.4.1 Gender derivation from masculine base forms in *-/k/*

For nominals with masculine BF in *-/k/*, the morphology of gender derivation depends on the vowel preceding *-/k/*. Five cases will be distinguished: *-/ak/*, *-/ek/*, *-/ok/*, *-/ik/* and *-/uk/*.

Nominals with BF in *-/ak/* optionally form the feminine by means of the morpheme *-/e/*. If final */k/* is preserved, it voices and nasalizes in nasal-harmony contexts. One can observe a correlation between the MP-FF and the FS-FF: if the MP-FF is in *-/gode/* or *-/ɲone/*, *-/k/* is preserved in the FS-FF (45), otherwise it drops (46).

- (45) a. *aberaj* (MS.FF) ‘sterile’, *abera* (MS.BF), *abere* (FS.BF),
 abere (FS.FF), *aberade* (MP.FF)
 b. *kaniraj* (MS.FF) ‘kind, generous’, *kanirak* (MS.BF), *kanire* (FS.BF),
 kanire (FS.FF), *kanirane* (FP.FF)
- (46) a. *ahegesaj* (MS.FF) ‘empty, vacant’, *ahegesak* (MS.BF),
 ahegesage (FS.BF), *ajege* (FS.FF)
 b. *baj* (MS.FF) ‘honey hunter’, *bak* (MS.BF), *bage* (FS.BF), *bage* (FS.FF)
 bagode (FP.FF)

As one can see in (47), if *-/e/* is not used, final */k/* of the MS-BF drops to form the FS-BF. Most nominals which form the feminine in this way are derived from verbs (47) and will be called ‘verbal nouns’ (see §12.8).

- (47) a. *igajaj* (3.MS.FF) ‘stung’, *igajak* (3.MS.BF), *igaja* (3.FS.BF),
 igaja (3.FS.FF), *igajade* (3.MP.FF);
 from the verb: *teigas* (3) ‘to bite, to sting’
 b. *etiñarāj* (3.MS.FF) ‘tested, tempted’, *etiñarāk* (3.MS.BF),
 etiñarā (3.FS.BF), *etiñarā* (3.FS.FF), *etiñarane* (3.MP.FF);

from the verb: *ȧetiŋare* (3) ‘to try, to prove’

Nominals with BF in *-ek/* and *-ok/* exhibit identical morphological properties in feminine derivation. Three possibilities are reported: (1) The morpheme *-e/* is added to the MS-BF (48a-b); (2) */k/* voices and (if required) nasalizes (48c-d); (3) */k/* drops (49). There is a strict correlation between the presence vs. absence of */k/* in the MP-FF and the process to obtain the feminine. If the MP-FF is in *-gode/* or *-ŋone/*, *-k/* is preserved in the feminine and *-e/* is used (48). If *-k/* drops in the MP-FF, it also drops in the feminine (49).

- (48) a. *arej* (MS.FF) ‘good, well’, *arek* (MS.BF), *arege* (FS.BF),
 arege (FS.FF), *aregode* (MP.FF)
 b. *getej* (3.MS.FF) ‘hated’, *getek* (3.MS.BF),
 getege (3.FS.BF), *getege* (3.FS.FF), *getegode* (3.MP.FF)
 c. *aŋaŋoj* (3.MS.FF) ‘injured, wounded’, *aŋaŋok* (3.MS.BF),
 aŋaŋoŋe (3.FS.BF), *aŋaŋoŋe* (3.FS.FF), *aŋaŋoŋone* (3.MP.FF)
 d. *dosoj* (MS.FF) ‘painful’, *dosok* (MS.BF), *dosoge* (FS.BF),
 dosoge (FS.FF), *dosogode* (MP.FF)
- (49) a. *hururubej* (MS.FF) ‘angry, furious’, *hururubek* (MS.BF),
 hururube (FS.BF), *hururube* (FS.FF), *hururubeode* (MP.FF)
 b. *oŋej* (3.MS.FF) ‘poured out’, *oŋek* (3.MS.BF), *oŋe* (3.FS.BF),
 oŋe (3.FS.FF), *oŋeone* (3.MS.FF)
 c. *aroj* (MS.FF) ‘previous’, *arok* (MS.BF), *aro* (FS.BF), *aro* (FS.FF),
 arode (MP.FF)
 d. *coŋoj* (MS.FF) ‘civilized person’, *coŋok* (MS.BF), *coŋo* (FS.BF),
 coŋo (FS.FF), *coŋone* (MP.FF)

If the masculine BF ends in *-ik/*, the feminine morpheme *-e/* is used and */k/* drops (50) or is preserved in the feminine (51).

- (50) a. akadi (3.MS.FF) ‘student’, akadik (3.MS.BF), akade (3.FS.BF),
akade (3.FS.BF), akadigode (3.MP.FF)
b. ibididi (3.MS.FF) ‘called, summoned’, ibididik (3.MS.BF),
ibidide (3.FS.BF), ibidide (3.FS.BF), ibididigode (3.MP.FF)
- (51) a. ikadi (3.MS.FF) ‘forgotten’, ikadik (3.MS.BF), ikadige (3.FS.BF),
ikadige (3.FS.FF), ikadigode (3.MP.FF)
b. timi (MS.FF) ‘strong, hard’, timik (MS.BF), timiŋe (FS.BF),
timiŋe (FS.FF), timigode (MP.FF)

Nominals with singular BF in *-/uk/* can use the morphemes *-/a/* or *-/e/* to derive the feminine. The former morpheme is not used in the other subgroups of nominals in *-/k/*. There is, however, no correlation with the plural FF in *-/gode/*, since all nominals with BF in *-/uk/* preserve */k/* in the plural FF, while *-/k/* can drop in the feminine BF (52a). Alternatively, *-/e/* is added to the masculine BF, and */k/* voices (52b) and nasalizes in nasal-harmony contexts. In *jurui* /huruj/ (52c), *-/e/* is used, but the first */u/* in the root turns into */o/*: this might be interpreted as assimilation to *-/e/*.

- (52) a. akesuj (3.MS.FF) ‘cut’, akesuk (3.MS.BF), akesu (3.FS.BF),
akesua (3.FS.FF), akesugode (3.MP.FF)
b. abetɛuj (MS.FF) ‘parent’, abetɛuk (MS.BF), abetɛuge (FS.BF),
abetɛuge (FS.FF), abegugode (MP.FF)
c. huruj (3.MS.FF) ‘closed’, huruk (3.MS.BF), hore (3.FS.BF),
hore (3.FS.FF), hurugode (3.MP.FF)

§12.4.2 Gender derivation from masculine or epicene base forms in *-/p/*

Nominals with singular BF in *-/p/* mostly include diminutives; gender derivation is the same as that of diminutive forms (see §12.3). The singular BF in *-/p/* can be masculine or epicene. When

a suffix is added, /p/ voices and, when necessary, nasalizes. The morpheme *-a/* is characteristic of the feminine. Its allomorph *-ia/* is used for the FS-FF of nominals with epicene BF (*abi* vs. *abia*). A few nominals, like the one in (53b), use the morpheme *-e/* to derive both the FS-BF and the FS-FF. Unlike *-a/*, *-e/* is not restricted to the FF, but is also used to form the BF, which is thus different from the masculine. When a feminine nominal derives from a masculine BF in *-p/* by means of *-e/*, *-p/* always voices (and possibly nasalizes).

- (53) a. *abi* (3.MS.FF) ‘baby, child’, *ap* (3.[M/F]S.BF), *abia* (3.FS.FF)
 b. *kuteabi* (MS.FF) ‘great’, *kuteap* (MS.BF), *kuteabe* (FS.BF),
kuteabe (FS.FF)

§12.4.3 Gender derivation from masculine base forms in *-r/*

If the MS-BF ends in *-r/*, *-e/* is added to obtain the feminine. Nominals derived by means of the suffixes *-sõri/*, *-ŋori/* and *-minori/* form the FS-BF by replacing such suffixes with *-to/*.

- (54) a. *caŋori* (MS.FF) ‘dry’, *caŋore* (MS.BF), *caŋopo* (MP.BF),
caŋore (FS.BF), *caŋore* (FS.FF)
 b. *umari* (MS.FF) ‘tall, high’, *umare* (MS.BF), *umapo* (MP.BF),
umare (FS.BF), *umare* (FS.FF)
 c. *akadisõri* (3.MS.FF) ‘teacher’, *akadisõre* (3.MS.BF),
akadito (3.FS.BF), *akadito* (3.FS.FF)
 d. *ipesuŋori* (3.MS.FF) ‘creator’, *ipesuŋore* (3.MS.BF),
ipesuto (3.FS.BF), *ipesuto* (3.FS.FF)
 e. *ikeminori* (3.MS.FF) ‘who/what is in front of’,
ikeminore (3.MS.BF), *ikemito* (3.FS.BF), *ikemito* (3.FS.FF)

§12.4.4 Gender derivation from masculine base forms in *-s/* and *-t/*

Nominals with BF in *-s/* form the feminine by adding *-e/* to the masculine (55a-b). In (55b) the vowel change in the root depends on the fact that the word is a compound consisting of *iroi* /*iroj*/ (55c) plus the vowel-harmony elative suffix *-/pisi/* (MS.FF). With the noun *gosi* ‘someone’ (*gos* in BF) (55e), gender derivation is irregular, because the feminine is *goto*. This extends to nominals derived from *gosi* (55e-f), in particular those which refer to members of a particular Ayoreo tribe, such as the ‘Totobíegosode’ (55f).

- (55) a. *aposi* (3.MS.FF) ‘burned up’, *apos* (3.MS.BF), *apose* (3.FS.BF),
 apose (3.FS.FF)
 b. *irogipisi* (3.MS.FF) ‘commissioned servant’, *irogipis* (3.MS.BF),
 irogepise (3.FS.BF), *irogepise* (3.FS.FF)
 c. *iroj* (3.MS.FF) ‘servant’, *irok* (3.MS.BF), *iroge* (3.FS.BF),
 iroge (3.FS.FF)
 d. *gosi* (MS.FF) ‘someone’, *gos* (MS.BF), *goto* (FS.BF), *goto* (FS.FF)
 e. *igiosi* (3.MS.FF) ‘relative’, *igios* (3.MS.BF), *igioto* (3.FS.BF),
 igioto (3.FS.FF)
 f. *totobiegosi* (MS.FF) ‘member of the group of Totobiegosode’,
 totobiegos (MS.BF), *totobiegoto* (FS.BF), *totobiegoto* (FS.FF)

Masculine nominals with singular BF in *-t/* add *-e/* to the BF, while *-t/* voices and, when necessary, nasalizes.

- (56) a. *todi* (GF.MS.FF) ‘feared’, *tot* (GF.MS.BF), *tode* (GF.FS.BF),
 tode (GF.FS.FF)
 b. *weradi* (MS.FF) ‘nice, good’, *werat* (MS.BF), *werade* (FS.BF),
 werade (FS.FF)
 c. *agutijamani* (3.MS.FF) ‘benefactor’, *agutijamat* (3.MS.BF),

agutijamane (3.FS.BF), agutijamane (FS.FF)

§12.4.5 Gender derivation from epicene base forms in -/V/

Most masculine and feminine nominals have epicene singular BF ending in a vowel. In (57) one finds masculine and feminine nominals with epicene singular BF in -/a/, which coincides with the FS-FF. As noted above, -/i/ is added to obtain the MS-FF.

- (57) a. ebedaj (MS.FF) ‘orphan’, ebeda ([M/F]S.BF), ebeda (FS.FF)
 b. irabaj (3.MS.FF) ‘born at the same time’, iraba (3.[M/F]S.BF),
 iraba (3.FS.FF)

Some exceptions are reported below. In (58a-c) final -/a/ is replaced by the feminine morpheme -/e/. In (58d) and (58e) other changes occur. In (58f) and (58g) one finds nominals used to refer to people belonging to a certain clan.

- (58) a. daiṇaj (MS.FF) ‘shaman’, daiṇa (MS.BF), daiṇe (FS.BF),
 daiṇe (FS.FF)
 b. isagokaj (3.MS.FF) ‘hard worker’, isagoka (3.MS.BF),
 isagoke (3.FS.BF), isagoke (3.FS.FF)
 c. dusaj (MS.FF) ‘one who has a bowel movement’, dusa (MS.BF),
 duse (FS.BF), duse (FS.FF)
 d. edugeṇaj (3.MS.FF) ‘leader, chef’, edugeṇa (3.MS.BF),
 edugehẽ (3.FS.BF), edugehẽ (3.FS.FF)
 e. idahaj (MS.FF) ‘distant, far off’, idaha (MS.BF), idahage (FS.BF),
 idahage (FS.FF)
 f. kutamurahãj (MS.FF) ‘Ayoreo clan name’, kutamurahã (MS.BF),
 kutamiṇoro (FS.BF), kutamiṇoro (FS.FF)
 g. posorahãj (MS.FF) ‘Ayoreo clan name’, posorahã (MS.BF),
 posiṇõro (FS.BF), posiṇõro (FS.FF)

Singular BFs in *-e/* and *-o/* are epicene (59). The MS-FF is derived by adding *-i/* to the BF. The FS-FF coincides with the singular BF. *Chiquenoi* /tɛikenoj/, the name of an AY clan, is an exception (59e).

- (59) a. arupatej (MS.FF) ‘wet, damp’, arupate ([M/F]S.BF),
arupate (FS.FF)
b. subudej (MS.FF) ‘having the stomach full’, subude ([M/F]S.BF),
subude (FS.FF)
c. asikoj (MS.FF) ‘sharp, keen-edged’, asiko ([M/F]S.BF), asiko (FS.FF)
d. pororoj (MS.FF) ‘white’, pororo ([M/F]S.BF), pororo (FS.FF)
e. tɛikenoj (MS.FF) ‘Ayoreo clan name’, tɛikeno (MS.BF),
tɛikenoro (FS.BF), tɛikenoro (FS.FF)

Epicene singular BFs in *-i/* are divided into two groups as to gender derivation. Some nominals (60a-b) use the morpheme *-a/* for the FS-FF. In this case, the BF is epicene. Other nominals (60c-d) use *-e/* as applied to both singular BF and singular FF.³⁰⁰ In (60e) and (60f), one finds two exceptions showing root allomorphy: in the feminine, the morpheme *-e/* replaces BF-final */i/* and the previous root vowel */o/* assimilates to */e/*.

- (60) a. tɛagesi (MS.FF) ‘valiant’, tɛagesi ([M/F]S.BF), tɛagesia (FS.FF)
b. disi (MS.FF) ‘boy, child’, disi ([M/F]S.BF), ‘girl’ disia (FS.FF)
c. uti (3.MS.FF) ‘firstborn child’, uti (3.MS.FF), utie (3.FS.BF),
utie (3.FS.FF)
d. perupi (MS.FF) ‘yellow, green’, perupi (MS.BF), perupie (FS.BF),
perupie (FS.FF)

³⁰⁰ In my corpus, all epicene singular BFs in *-hi/* and *-si/* use the morpheme *-a/* for the FS-FF. By contrast, all MS-BFs in *-bi/*, *-gi/*, *-pi/*, *-ki/* form the FS-FF with the morpheme *-e/*.

- e. *ɬeoki* (MS.FF) ‘animal male’, *ɬeoki* (MS.BF), ‘animal or human female’ *ɬeɛke* (FS.BF), *ɬeɛke* (FS.FF)
- f. *dijoki* (MS.FF) ‘human male’, *dijoki* (MS.BF), ‘human female’ *dijeke* (FS.BF), *dijeke* (FS.FF)

Singular BF in *-/u/* are usually epicene. To obtain the MS-FF, the morpheme *-/i/* is added, while the FS-FF suffix is *-/a/*.

- (61) a. *kabajuj* (MS.FF) ‘bull’, *kabaju* ([M/F]S.BF) ‘bull/cow’,
kabajua (FS.FF) ‘cow’
- b. *keruj* (MS.FF) ‘big’, *keru* ([M/F]S.BF), *kerua* (FS.FF)

In conclusion, the FS-FF morpheme *-/a/* can only be used after the high vowels */i/* and */u/*. It can be applied to epicene BF in *-/i/*, *-/u/* or to some masculine BF in *-/uk/*. Its allomorph *-/ia/*, to be found after consonant, is added to epicene BF in *-/p/* (§12.4.2), but not to masculine BF in *-/k/* (§12.4.1), *-/r/* (§12.4.3), *-/s/* (§12.4.4) and *-/t/* (§12.4.4), which add the morpheme */e/* for feminine derivation (with the exception of some nominals with MS-BF in *-/uk/*).

§12.5 The indeterminate form

In the next sections, the IF will be discussed. The singular BF will be considered the morphological source of the IF. The MS-IF is obtained by means of one of the following suffixes: *-/tik/* (§12.5.1), *-/rik/* (§12.5.2), *-/nik/* (§12.5.3). Although exceptions exist, some general tendencies can be identified. The morphology of feminine IFs will be discussed in §12.5.4.

§12.5.1 The suffix *-/tik/*

Nominals with singular BF in *-/k/*, *-/p/*, *-/s/* and *-/t/* usually take the suffix *-/tik/*, replacing these BF-final consonants. The corresponding plurals take the suffix *-/tigo/*, where no nasalization is possible, for */t/* blocks nasal spread.

- (62) a. akadi (3.MS.FF) ‘pupil’, akadi*k* (3.MS.BF), akadi*tik* (3.MS.IF),
akadi*tigo* (3.MP.IF)
b. pioj (MS.FF) ‘fire’, piok (MS.BF), piotik (MS.IF), piotigo (MP.IF)
c. ahepisi (3.MS.FF) ‘soul’, ahepis (3.MS.BF), ahepitik (3.MS.IF),
ahepitigo (3.MP.IF)
d. dukosi (GF.MS.FF) ‘fever’, dukos (GF.MS.BF), dukotik (GF.MS.IF),
dukotigo (GF.MP.IF)
e. abi (3.MS.FF) ‘child’, ap (3.MS.BF), atik (3.MS.IF), atigo (3.MP.IF.)
f. ahami (MS.FF) ‘small, narrow’, ahāp ([M/F]S.BF), ahātik (MS.IF),
ahātigo (MP.IF)
g. etabi (3.MS.FF) ‘neck’, etabit (3.MS.BF), etabitik (3.MS.IF),
etabitigo (3.MP.IF)
h. pidi (MS.FF) ‘stick’, pit (MS.BF), pitik (MS.IF), pitigo (MP.IF)
i. ugutadi (3.MS.FF) ‘pillow’, ugutat (3.MS.BF), ugutatik (3.MS.IF),
ugutatigo (3.MP.IF)

§12.5.2 The suffix *-/nik/*

The plural counterpart of *-/nik/* is *-/niŋo/*. As one can see in the examples below, the use of these suffixes does not depend on the nasalization of the root. There are three groups of nominals which show *-/nik/* and *-/niŋo/* in the IF:

(1) Nominals with singular BF in *-/aj/*, where final *-/j/* is replaced by the suffix. In *abai /abaj/* ‘husband’ the suffix yields nasalization in and by itself, showing that nasality is intrinsic to it.³⁰¹

- (63) a. *abaj* (3.MS.FF) ‘husband’, *abaj* (3.MS.BF), *amanik* (3.MS.IF),
amaniño (3.MP.IF)
 b. *edogaj* (MS.FF) ‘bank near water’, *edogaj* (MS.BF),
edoganik (MS.IF), *edoganiño* (MP.IF)
 c. *daj / daje* (3.MS.FF) ‘father’, *daj* (3.MS.BF), *danik* (3.MS.IF),
daniño (3.MP.IF)
 d. *garaj* (MS.FF) ‘pampa’, *garaj* (MS.BF), *garanik* (MS.IF),
garaniño (MP.IF)

(2) Nominals whose singular BF ends in *-/r/*, which are replaced by the IF suffix. This group includes the nouns derived by means of the suffixes *-/sōri/*, *-/ɲori/* and *-/minori/*.³⁰²

- (64) a. *diri* (MS.FF) ‘day’, *dir* (MS.BF), *dinik* (MS.IF), *diniño* (MP.IF)
 b. *kuterĩ* (MS.FF) ‘honey’, *kutēr* (MS.BF), *kutēnik* (MS.IF),
kutēniño (MP.IF)
 c. *akadisōri* (3.MS.FF) ‘teacher’, *akadisōr* (3.MS.BF),
akadisonik (3.MS.IF), *akadisoniño* (3.MP.IF)
 d. *akaɲori* (3.MS.FF) ‘sower’, *akaɲor* (3.MS.BF), *akaɲonik* (3.MS.IF),
akaɲoniño (3.MP.IF)
 e. *aheminori* (3.MS.FF) ‘what is inside’, *aheminor* (3.MS.BF),
aheminonik (3.MS.IF), *aheminoniño* (3.MP.IF)

³⁰¹ However, no other examples of this kind are observed for the time being.

³⁰² AY nouns in *-/sōri/* and *-/ɲori/* will be discussed in §12.9. By contrast, AY nouns in *-/minori/* will not be discussed in the present study, because no corresponding O.Z or CH nouns have been found.

(3) Nominals with BF in *-/he/*. This is a very small group. The suffix is simply added to the singular BF.

- (65) a. *ahej* (3.MS.FF) ‘stomach’, *ahe* (3.MS.BF), *ahenik* (3.MS.IF),
 aheniŋo (3.MP.IF)
 b. *pahej* (3.MS.FF) ‘waist’, *pahe* (3.MS.BF), *pahenik* (3.MS.IF),
 paheniŋo (3.MP.IF)

§12.5.3 The suffix *-/rik/*

This suffix has two forms in the plural: *-/rigo/* and *-/riŋo/*, whose choice depends on nasal harmony. The suffix *-/rik/* is generally used with nominals with singular BF in *-/V/*, which also take the suffix *-/nik/* (see §12.5.2). The use of *-/rik/* or *-/nik/* is idiosyncratic. *-V* may correspond to any vowel, including */e/* (66e). *-/rik/* and its plural allomorphs are the only masculine IF suffixes which never involve deletion of the final elements of the BF. The suffix *-/rik/* is also used with a few nominals whose singular BF ends in a vocalic sequence, such as *-/ao/* (66h), *-/io/* (66i), *-/oj/* (66j) etc. (except *-/aj/*). The last vowel of the sequence is generally preserved.

- (66) a. *kuteaj* (GF.MS.FF) ‘thing’, *kutea* (GF.MS.BF), *kutearik* (GF.MS.IF),
 kutearigo (GF.MP.IF)
 b. *teoki* (MS.FF) ‘male of animal’, *teoki* (MS.BF), *teokirik* (MS.IF),
 teokirigo (MP.IF)
 c. *gigiŋaj* (GF.MS.FF) ‘house’, *gigiŋa* (GF.MS.BF), *gigiŋarik* (GF.MS.IF),
 gigiŋariŋo (GF.MP.IF)
 d. *oraŋuj* (3.MS.FF) ‘kind of bag’, *oraŋu* (3.MS.BF), *oraŋurik* (3.MS.IF),
 oraŋuriŋo (3.MP.IF)
 e. *parariŋej* (MS.FF) ‘valley’, *parariŋe* (MS.BF), *parariŋerik* (MS.IF),
 parariŋeriŋo (MP.IF)
 f. *piogeŋaj* (MS.FF) ‘bonfire’, *piogeŋa* (MS.BF), *piogeŋarik* (MS.IF),
 piogeŋariŋo (MP.IF)

- g. pihoj (MS.FF) ‘animal trail’, piho (MS.BF), pihorik (MS.IF),
pihorigo (MP.IF)
- h. gebekaoj (MS.FF) ‘can, tin’, gebekao (MS.BF), gebekaorik (MS.IF),
gebekaorigo (MP.IF)
- i. homioj (MS.FF) ‘water hole’, homio (MS.BF), homiorik (MS.IF),
homioriño (MP.IF)
- j. opoj (MS.FF) ‘dark, black’, opoj (MS.BF), oporik (MS.IF),
oporigo (MP.IF)

Example (67) lists some exceptions. For some nominals, such as *iringoi* /iriñoj/ (67d), two alternatives may be used. *Neri* (67f) is an exception, not only in the IF but also in the FF formation, given the singular BF *nerat*.

- (67) a. aniri (3.MS.FF) ‘problem’, aniri (3.MS.BF), anitik (3.MS.IF),
anitigo (3.MP.IF)
- b. dakerã (3.MS.FF) ‘uncle, father’s brother’, dakerã (3.MS.BF),
dakerãtik (3.MS.IF), dakerãtigo (3.MP.IF)
- c. derokoj (MS.FF) ‘dull’, derokok (MS.BF) derokorik (MS.IF),
derokorigo (MP.IF)
- d. iriñoj (MS.FF) ‘bitter’, iriñok (MS.BF), iriñoric/iriñotik (MS.IF),
iriñoriño/iriñotigo (MP.IF)
- e. ñanaj (3.MS.FF) ‘hand’, ñanai (3.MS.FF), ñanarik (3.MS.IF),
ñanariño (3.MP.IF)
- f. neri (3.MS.FF) ‘uncle, mother’s brother’, nerat (3.MS.BF),
neririk (3.MS.IF), neririño (3.MP.IF)

§12.5.4 The feminine indeterminate form

In the feminine IF, the inflectional mechanism is usually fairly simple. In most nominals the singular IF is *-rak/* (68), with the plural counterpart *-rigi/* which can nasalize as *-riñi/*. In *caratébia* /karatebia/ (68), /p/ in the BF is replaced by the suffix *-rak/*.

- (68) a. *tæke* (FS.FF) ‘female’, *tæke* (FS.BF), *tækerak* (FS.IF),
tækerigi (FP.IF)
 b. *disia* (FS.FF) ‘girl’, *disi* (FS.BF), *disirak* (FS.IF), *disirigi* (FP.IF)
 c. *edo* (3.FS.FF) ‘eye’, *edo* (3.FS.BF), *edorak* (3.FS.IF), *edorigi* (3.FP.IF)
 d. *gapua* (FS.FF) ‘teenage girl’, *gapu* (FS.BF), *gapurak* (FS.IF),
gapurigi (FP.IF)
 e. *koṇa* (GF.FS.FF) ‘jar’, *koṇa* (GF.FS.BF), *koṇarak* (GF.FS.IF),
koṇariṇi (GF.FS.IF)
 f. *aṇorone* (3.FS.FF) ‘ear’, *aṇorone* (3.FS.BF), *aṇoronerak* (3.FS.IF),
aṇoroneriṇi (3.FP.IF)
 g. *karatebia* (FS.FF) ‘newborn’, *karatep* (FS.BF), *karaterak* (FS.IF),
karaterigi (FP.IF)

There are two small groups which take different suffixes. Some feminine nominals whose singular BF ends in *-t/* take *-tak/* (69), with *-t/* replaced by the suffix, as in masculine nouns with MS.IF suffix *-tik/*. The corresponding plural is *-tigi/*.

- (69) a. *arekuhadia* (3.FS.FF) ‘statement’, *arekuhat* (3.FS.BF),
arekuhatak (3.FS.IF), *arekuhatigi* (3.FS.IF)
 b. *okaradia* (FS.FF) ‘flame’, *okarat* (FS.BF), *okaratake* (FS.IF),
okaratigi (FP.IF)
 c. *piṇakaradia* (3.FS.FF) ‘yell’, *piṇakarat* (3.FS.BF),
piṇakaratak (3.FS.IF), *piṇacaratigi* (3.FP.IF)
 d. *kikuhadia* (3.FS.FF) ‘ancestor’, *kikuhak* (3.FS.BF),
kikuhatak (3.FS.IF), *kikuhatigi* (3.FP.IF)³⁰³

³⁰³ As Higham *et al.* (2000) note, this word is feminine but is also used to refer to male ancestors. This is not surprising, because AY society was traditionally matriarchal.

The second group takes the suffix *-/nak/* with */n/* possibly devoicing into */ŋ/*. The plural suffix is *-/niŋi/* or *-/ŋiŋi/*. Apart from *agúpurayá* /agupuraja/, the singular BF of the following nominals ends in *-/r/*. This feature is also shared by the masculine nominals which take the suffix *-/nik/* as singular IF.

- (70) a. agupuraja (3.FS.FF) ‘one who is ignorant, untaught’,
 agupuraj (3.FS.BF), agupuranak (3.FS.IF), agupuraniŋi (3.FP.IF)
 b. doria (FS.IF) ‘wild pineapple’, dor (FS.BF), doŋak (FS.IF),
 doŋiŋi (FP.IF)
 c. poria (FS.FF) ‘tree’, por (FS.BF), poŋak (FS.IF), poŋiŋi (FP.IF)
 d. suaria (FS.FF) ‘parrot’, suar (FS.BF), suanak (FS.IF), suaniŋi (FP.IF)

To sum up, in the feminine IFs the suffix *-/rak/* is dominant. A set of three suffixes is used: *-/rak/*, *-/tak/*, *-/nak/* (or *-/ŋak/*), corresponding to the masculine suffixes *-/rik/*, *-/tik/* and *-/nik/*. The feminine suffixes undergo rules very similar to their masculine counterparts. The difference between masculine and feminine IF suffixes is marked by */i/* (M) vs. */a/* (F); a similar vocalic contrast is found, for instance, in CH *-/tik/* (MS.IF) vs. *-/tāk/* (FS.IF), see §14.4.2.

There is also direct correspondence between FP- and MP-IF suffixes: *-/tigo/* (MP.IF) vs. *-/tigi/* (FP.IF); *-/rigo/* or *-/riŋo/* (MP.IF) vs. *-/rigi/* or *-/riŋi/* (FP.IF); *-/niŋo/* (MP.IF) vs. *-/niŋui/* (FP.IF). In the IF plural suffixes, the gender distinction is marked on the last vowel, which is exactly the same vowel as that used to form the plural of the BF (*/o/* for masculine and */i/* for feminine). This looks like a trace of agglutination.

§12.5.5 The indeterminate form of the diminutive

The IF suffix also attaches to diminutives, following the rules provided above. Since the starting point is the epicene singular BF in *-ap/*, the last consonant is replaced by the prefixes *-tik/* (MS.IF) or *-tigo/* (MP.IF) for the masculine (71a) and *-tak/* (FS.IF) or *-tigi/* (FP.IF) for the feminine (71b). These suffixes are generally used with BFs ending in a consonant. *-tak/* is rare among feminine nominals, because few of them have singular BF ending in a consonant. Since *-p/* is replaced by the IF suffix, */a/* is the only remaining element of the diminutive suffix.

- (71) a. *tamokoj* (MS.FF) ‘dog’, *tamoko* (MS.BF), *tamokorik* (MS.IF),
tamokorigo (MP.IF); *tamokabi* (DIM.MS.BF), *tamokap* (DIM.MS.BF),
tamokatik (DIM.MS.BF), *tamokatigo* (DIM.MP.BF)
- b. *igide* (3.FS.FF) ‘shirt’, *igide* (3.FS.BF), *igiderak* (3.FS.IF),
igiderigi (3.FP.IF); *igidabia* (3.DIM.FS.FF),
igidap (3.DIM.[M/F]S.BF.), *igidatak* (3.DIM.FS.IF),
igidatigi (3.DIM.FS.IF)³⁰⁴
- c. *akadi* (3.MS.FF) ‘student’, *akadik* (3.MS.BF), *akaditik* (3.MS.IF),
akaditigo (3.MP.IF); *akadigabi* (3.DIM.MS.FF),
akadigap (3.DIM.MS.BF), *akadigatik* (3.DIM.MS.IF),
akadigatigo (3.DIM.MS.FF)

§12.6 Morphosyntax of the Ayoreo base form, full form and indeterminate form

The morphosyntax of AY forms has been described by Bertinetto (2009). In this section the main points will be summarized. The BF

³⁰⁴ *Iguidap* /*igidap*/ is also the diminutive BF of *iguidi* /*igidi*/ (3.MS.FF) ‘blanket, sheet’.

is used for nominal predication (Bertinetto 2009: 40), while argumental noun phrases show up in FF or IF.³⁰⁵ Thus, the subjects *cucoi* /kukoj/ and *cojñoi* /koñoj/ in (72a) and *caratai* /karataj/ in (73) are in FF.

- (72) a. Cuco-i ajam-ap. Cojño-i querú-pis.
 /kuko-j aham-ap koño-j keru-pis/
 boat-MS.FF small-DIM.MS.BF stranger-MS.FF big-ELAT.FS.BF
 ‘The boat was small and the stranger very big.’
 (QCCB, I: 4; cit. in Bertinetto 2009: 40)

- b. ¡Carataque que, don Pedro a!
 /karatake ke don pedro a/
 jaguar.MS.BF PST don Pedro MOD
 ‘It was a jaguar, don Pedro!’
 (QCCB, II: 35; cit. in Bertinetto 2009: 40)

- (73) Ch-uninga mu carata-i t-ōraja guesi.
 /tc-uniña mu karata-j t-ōraha gesi/
 3-be_surprised but jaguar-MS.FF 3-throw_into outside
 ‘He was surprised when the jaguar came out.’ (QCCB, II: 36)

The difference between FF and IF is semantic rather than syntactic, for they have the same morphosyntactic use. The IF is used when the argumental noun phrase has non-specific reference (Bertinetto 2009: 46-47). In (74c) one finds a non-specific referent in an affirmative clause. In (74b) there is uncertainty about the referent; one wonders whether the subjects are chasing an armadillo or a brocket, while in (74c) the IF after the negation expresses the absence of referent in that specific context.

³⁰⁵ From now onwards, ‘argumental NP’ will also be used to refer to adjuncts.

- (74) a. Jĩraque ch-ise ojojo-bu-rique.
 /hĩrake tẽ-ise ohoho-bu-rike/
 Suddenly 3-meet monkey-group-MS.IF
 ‘Suddenly he met a group of monkeys.’ (QCCB, II: 45)

- b. A ore ch-ajna ajaramẽ-tique. Aramoro-raque
 /a ore tẽ-aŋa aharamẽ-tike aramoro-rake/
 MOD 3P 3-follow armadillo-MS.IF brown_brocket-FS.IF
 a deji.
 /a dehi/
 MOD 3.EXIST
 ‘They are following an armadillo, or perhaps a brocket.’
 (QCCB, II: 28)

- c. Que i-boca-raque cuse enga ch-ijna d-ojo-die.
 /ke i-boka-rake kuse eŋa tẽ-iŋa d-oho-die/
 NEG 3-gun-FS.IF EXIST and 3-bring RFL-arrow-FP.FF
 ‘He does not have his gun, but he brings his arrows.’
 (QCCB, II: 45)

The BF’s predicative function can be seen in the use of the word for ‘alligator’, which appears without copula in the first occurrence in (75) and with a locative copula in the second occurrence. In the first case, the noun phrase itself expresses the predication and appears in BF, while in the second case it is the argument of the verb *deji* /dehi/ and shows up in FF (Bertinetto 2009: 40-41). In (76) the BF is used after a negation, which does not imply the use of the IF, because there is no copula. As a consequence, the noun phrase has predicative role and is inflected in BF.

- (75) ¡Cajire to! ¡Arócojna-quedejna! ¡Arócojna-quedejna-i
 /kahire to arokoña-kedeña arokoña-kedeña-j/
 look too alligator-different.MS.BF alligator-different-MS.FF
 deji ne!
 /dehi ne/
 3.EXIST there

‘Look there! It is an alligator! There is an alligator right there!’

(QCCB, I: 24; cit. in Bertinetto 2009: 41)

- (76) Que yame go. Que cuchiso go.
 /ke jame go ke kutɛiso go/
 NEG monkey.FS.BF POL NEG animal.MS.BF POL
 Que uñec u=po go.
 /ke upɛk u=po go/
 NEG other COP=also POL

‘It was no monkey, no animal, nothing of the sort.’

(QCCB, I: 44; cit. in Bertinetto 2009: 48)

Number and form are only marked once at the right periphery of the noun phrase. Adjectives usually follow the noun they refer to and thus the (last) adjective takes number and form as required by the syntactic and semantic context, while all preceding elements appear in singular BF (77). In addition, the adjective agrees in gender with the noun it refers to, as in (77) and (78). To exemplify: in (77c-d) the referent is plural, but the plural FF only appears in the final element of the phrase, while the other elements are in singular BF. In (78) the noun phrase appears in singular IF, marked on the adjective, while the preceding noun shows up in singular BF.

- (77) a. Enga oriechoquí ch-ayója tié enga
 /ɛŋa orietɕoki tɕ-ajoha tie ɛŋa/
 CONJ thief.MS.FF 3-run_to river.FS CONJ

basá-ja pararingué cucháb-i.
 /basa-ha parariŋe kuteab-i/
 3.fall_into ravine.MS.BF big-MS.FF

‘The thief ran to the river and fell into a deep ravine.’ (QCCB, I: 11)

b. I-guijna queru-i deji Tumichucua
 /i-giŋa keru-j dehi tumiteukua/
 3-house.MS.BF big-MS.FF 3.EXIST Tumichucua
 ome d-achid-ode cuchabasu-cho.³⁰⁶
 /ome d-atcid-ode kuteabasu-teo/
 PREP RFL-instrument-MP.FF airplane-MP.BF

‘In Tumichucua there is a hangar for the airplanes.’
 (QCCB, II: 15)

c. Ore ch-udute dara quedéjn-ane.
 /ore tɛ-udute dara kedetɛ-ane/
 3P 3-hear voice.MS.BF different-MP.FF

‘They heard strange voices.’
 (QCCB, I: 44; cit. in Bertinetto 2009: 41)

d. Ch-imo carataque gare querújn-ane iji ta.
 /tɛ-imo karatake gare keruŋ-ane ihi ta/
 3-see jaguar.MS.BF two.BF very_big-MP.FF LOC there

‘He saw two big jaguars right there.’
 (QCCB, I: 31; cit. in Bertinetto 2009: 41)

(78) Ijos eti tacheque queru-rique deji.
 /ihos eti tatæeke keru-rike dehi/
 1S.think COMP agouti.MS.BF big-MS.IF 3.EXIST

‘I thought that there was a big agouti.’ (QCCB, II: 1)

³⁰⁶ In this example *cuchabasui* /kuteabasuj/ ‘airplane’ appears in plural BF, because it follows the possessive classifier *gachidi* /gateidi/ (see §9.1).

As Bertinetto notes, this is a “compound-like construction” (2009: 41). Indeed, when the first element of a compound is a noun, it appears in singular BF, “the starting point of any inflectional and derivational operation” (Bertinetto 2009: 17).

(79) a. *ajoreñuñori* ‘killer’

(< FF *ajorej*, BF *ajore* ‘person’ + *ñuñori* ‘killer’)

b. *kukarãtedo* ‘cave, crevice in a rock’

(< FF *kukarani*, BF *kukarãt* ‘mountain, hill’ + *edo* ‘eye’)

c. *utẽakepie* ‘toilet’

(< FF *utẽaj*, BF *utẽak* ‘excrement’ + *pie* ‘container’)³⁰⁷

In the genitival construction in (80a), by contrast, both the possessor and the possessee (always in this order) appear in FF (see Bertinetto 2009: 44-45). The form of the possessee depends on the context, but the possessor always shows up in FF. In (80b) the same construction with determinant in FF expresses partitivity (*caratade chojmárai* /karatade tẽom̩araj/ ‘one of the jaguars’). This is functional to distinguish a genitival or partitive construction from

³⁰⁷ AY *pie* (FS.FF) ‘container’ corresponds to *pita* (FS.FF) ‘box’ in Chamacoco. Both *pie* and *pita* are non-possessable nouns. One can observe a compositional mechanism similar to that of *uchaquepie* /utẽakepie/ ‘toilet’ in the corresponding CH word *dichipita* /dĩtẽipita/: *dichipita* (FS.FF) ‘toilet, latrine’ → *dichi-t* /dĩtẽit/ (GF.MS.FF) ‘dung’ + *pita* (FS.FF) ‘box’. Note that in Chamacoco the GF of *ichit* /ĩtẽit/ (3.MS.FF) ‘dung’ is used, while AY *uchai* /utẽaj/ ‘excrement’ is a 3-person. The BF of *uchai*, *uchac* /utẽak/ corresponds to the BF of *ichit*, *ichak* /ĩtẽak/. A difference between *uchaquepie* and *dichipita* is that in Ayoreo the first element of the compound is the BF (coinciding with the root), while in Chamacoco the first element is the root, which in this case does not coincide with the BF. On *uchaquepie* /utẽakepie/ ‘toilet’, see (Bertinetto 2009: 18).

a noun followed by an adjective. In (80b) the FF on ‘jaguar’ indicates that the talk is about ‘one of the jaguars’, while in (80c) ‘jaguar’ appears in BF followed by the inflected numeral adjective ‘two’ (i.e., ‘two jaguars’).

- (80) a. Sérgio ch-ingo carata-i aro-i tome Ramón.
 /serxjo tɛ-iŋo karata-j aro-j tome ramon/
 Sérgio 3-show jaguar-MS.FF skin-MS.FF PREP Ramón
 ‘Sérgio showed the jaguar’s skin to Ramón.’
 (QCCB, I: 37; cit. in Bertinetto 2009: 45)

- b. Sérgio ch-ujé carata-de chojmára-i,
 /serxjo tɛ-uhe karata-de tɛomara-j/
 Sérgio 3-hit jaguar-MP.FF one-MS.FF
 enga uña-i jno.
 /eŋa uŋa-j ŋo/
 CONJ another-MS.FF 3.go
 ‘Sérgio hits one of the jaguars and another goes away.’
 (QCCB, I: 33)

- c. Carata-que gáre-ode ore ch-ajna, mu
 /karata-ke gare-ode ore tɛ-aŋa mu/
 Tiger-MS.BF two-MP.FF 3P 3-follow but
 Sérgio que ch-unínga ore go.
 /serxjo ke tɛ-uniŋa ore go/
 Sergio NEG 3-notice 3P POL
 ‘Two jaguars followed, but Sergio didn’t notice them.’
 (QCCB, I: 31)

Figure 12.1 summarizes the uses of BF, FF and IF.

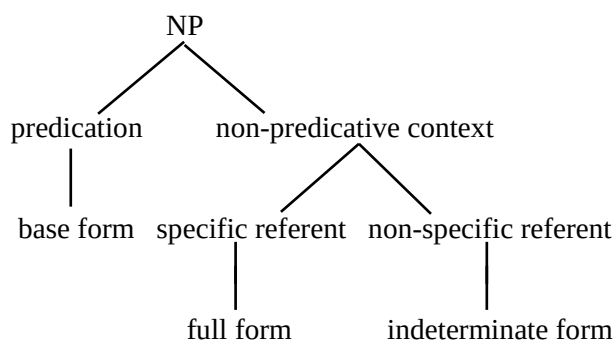


Figure 12.1

§12.7 Ayoreo abstract nouns

In this section the morphological structure of some groups of abstract nouns will be discussed. This is not part of AY inflectional morphology, but it is interesting to observe the interaction between the derivational suffixes used for abstract noun formation and inflectional morphology.

AY abstract nouns can be formed by means of derivational suffixes: *-niñaj/*, *-riñaj/*, *-tigaj/* and *-tijej/*. The similarity with the IF suffixes *-nik/*, *-rik/* and *-tik/* is straightforward. The suffixes *-tigaj/* and *-tijej/* correspond to *-tik/*, just like many nouns in *-niñaj/*, *-riñaj/*, *-tigaj/* and *-tijej/* derive from nominals with singular IF *-nik/*, *-rik/* and *-tik/*, respectively. This might lead one to conclude that there is no need to talk about suffixes for abstract nouns, as though these were derived by adding *-aj/* or *-ej/* to the singular IF. Anticipating data to be shown below, there are three counter-arguments to this hypothesis. First, there is no strict correspondence between the IF suffixes and the suffixes used for abstract nouns. Second, the correspondence could follow from the interaction between the BF and the abstract suffixes. Third, there

are abstract nouns which directly derive from verbs: in this case there is no IF to add *-aj/* or *-ej/* to. For these reasons it is preferable to argue that *-niñaj/*, *-riñaj/*, *-tigaj/* and *-tijej/* should be considered derivational suffixes on their own.

In the following examples, abstract nouns will always be cited in the singular FF. The abstract nouns in the following examples will be provided in 3-person or in GF. No attention will be paid to prefixation, which expresses the possessor and follows its own rules (see §9).

The inflection of abstract nouns is very regular and predictable. The BF, FF and IF follow the above described rules, as one can see in the following examples. Abstract nouns have identical inflection, depending on the suffix.

- (81) a. *tajipietigaj* (GF.MS.FF) ‘foolishness’, *tajipietigade* (GF.MP.FF),
tajipietiga (GF.MS.BF), *tajipietiga* (GF.MP.FF),
tajipietigarik (GF.MS.IF), *tajipietigarigo* (GF.MP.IF)
- b. *ejutigej* (3.MS.FF) ‘tiredness’, *ejutigeode* (3.MP.FF),
ejutige (3.MS.BF), *ejutigeo* (3.MP.IF), *ejutigerik* (3.MS.IF),
ejutigerigo (3.MP.IF)
- c. *ikeraniñaj* (3.MS.FF) ‘growth’, *ikeraniñane* (3.MP.FF),
ikeraniña (3.MS.BF), *ikeraniña* (3.MP.BF), *ikeraniñarik* (3.MS.IF),
ikeraniñarigo (3.MP.IF)
- d. *teñuriñaj* (MS.FF) ‘cold, coldness’, *teñuriñane* (MP.FF),
teñuriña (MS.BF), *teñuriña* (MP.BF), *teñuriñarik* (MS.IF),
teñuriñarigo (MP.IF)

The nouns obtained by means of these derivational mechanisms are also used to refer to places related to the nominal they derive from (82). These are not, properly speaking, abstract referents, although they may be used to suggest a meaning of this sort.

- (82) a. *apariñaj* (3.MS.FF), *apariña* (3.MS.BF) ‘place where one resides for a short time’ → *apari* (3.MS.FF), *aparik* (3.MS.BF), *apartik* (3.MS.IF) ‘what is temporarily used’
 b. *gesariñaj* (MS.FF), *gesariña* (MS.BF) ‘open place’
 → *gesaj* (MS.FF), *gesak* (MS.BF), *gesatik* (MS.IF) ‘open, clear’

The derivational mechanism of abstract nouns will be analyzed suffix by suffix. The following section deals with the derivational suffix *-tigaj/* (§12.7.1). The suffix *-tijej/* and *-niñaj/* are discussed in (§12.7.2) and (§12.7.3), respectively. Finally, *-riñaj/* is addressed in (§12.7.4).

§12.7.1 The suffix *-tigaj/*

The suffix *-tigaj/* is applied to BFs ending in a consonant (/k/ (83a-b), /p/ (83c) or /t/ (83d-e)). The derivational process is the same as that of the IF suffix *-tik/*.³⁰⁸ However, nominals with BF ending in a consonant do not necessarily form an abstract noun by means of *-tigaj/* (or *-tijej/*, see below).

- (83) a. *akaditigaj* (3.MS.FF), *akaditiga* (3.MS.BF) ‘teaching’
 → *acadi* (3.MS.FF), *acadik* (3.MS.BF), *acaditik* (3.MS.IF) ‘student’
 b. *aretigaj* (MS.FF), *aretiga* (MS.BF) ‘that which is good’
 → *arej* (MS.FF), *arek* (MS.BF), *aretigo* (MS.IF) ‘good, well’
 c. *ahâtigaj* (MS.FF), *ahâtiga* (MS.BF) ‘narrowness’
 → *ahami* (MS.FF), *ahâp* ([M/F]S.BF), *ahâtik* (MS.IF) ‘small, narrow’
 d. *añuretigaj* (3.MS.FF), *añuretiga* (3.MS.BF) ‘faith, belief’
 → *añureni* (3.MS.FF), *añuret* (3.MS.BF), *añuretik* (3.MS.IF.)
 ‘believed-in-thing, trusted one’

³⁰⁸ The only difference is that no abstract noun derived from a BF in *-s/* is reported, but there are nouns derived from a verb root in *-s/* (see ex. 85c).

- e. weratigaj (3.MS.FF), weratiga (3.MS.BF) ‘beauty, prettiness’
 → weradi (MS.FF), werat (MS.BF), weratik (MS.IF) ‘beautiful, pretty’

In some derived nouns, haplology occurs, as in (84a), where *-/ta/-* deletes. *Omitigai* /omitigaj/ (85b) is an exception, but this is no surprise since a morphological irregularity is also to be found in the inflection of the nominal it derives from.

- (84) a. ajuguebatigaj (3.MS.FF), ajuguebatiga (3.MS.BF) ‘preoccupation’
 → ajuguebataj (MS.FF), ajuguebatak (MS.BF),
 ajuguebatatik (MS.IF) ‘worried, concerned’
 b. omitigaj (3.MS.FF), omitiga (3.MS.BF) ‘what is good’
 → omi (MS.FF), wom (MS.BF), onik (MS.IF) ‘good’

Although the abstract suffixes are mainly applied to nominals, they can also be applied to verbs. Examples with *-/tigaj/* are shown in (85). Given the few examples available, it is difficult to establish a general rule. Both *atigai* /atigaj/ and *iriguitigai* /irigitigaj/ derive from verb roots ending in /k/ replaced by *-/tigaj/*. This is consistent with the morphological behaviour of the suffix *-/tigaj/* with nominals. *Batigai* /batigaj/ (85c) derives from the verb root *-/ibas/* which ends in /s/.³⁰⁹ In this case, unlike *atigai* /atigaj/ and *iriguitigai* /irigitigaj/, the possessive inflection of the abstract noun follows the verb inflection. In *casitigai* /kasitigaj/ (85d) the verb does not end in a consonant, but *casitigai* /kasitigaj/ could derive from *casidi* /kasidi/, although it seems semantically closer to *casi* /kasi/.

³⁰⁹ Strikingly, for the time being no abstract noun in *-/tigaj/* derived from a BF in /s/ is reported.

- (85) a. atigaj (3.MS.FF), atiga (3.MS.BF) ‘act of eating’
 → t-a-k (3) ‘to eat’
 b. irigitigaj (3.MS.FF), irigitiga (3.MS.BF) ‘act of travelling’
 → Ø-Ø-dik (3), j-i-rik (1S), b-a-rik (2S) ‘to walk’
 c. batigaj (3.MS.FF), batiga (3.MS.BF) ‘birth; stopping place’³¹⁰
 cf. j-a-batigaj (1S.MS.FF), b-a-batigaj (2S.MS.FF)
 → Ø-Ø-bas (3), j-i-bas (1S), b-a-bas (2S) ‘to be born;
 to fall down; to stop when traveling’ (also: base)
 d. kasitigaj (3.MS.FF), kasitiga (3.MS.BF) ‘courage, fearlessness’
 → Ø-Ø-kasi (3) ‘to have the courage to do something’;
 ikasidi (3.MS.FF), ikasit (3.MS.BF), ikasitik (3.MS.IF) ‘one who
 is not feared’

§12.7.2 The suffix *-tigej/*

The suffix *-tigej/* is less used than *-tigaj/*, although no regularity has been found to determine which one has to be used. Both suffixes follow the same morphological rules. As with *-tigaj/*, the singular BF of the nominal must end in a consonant, replaced by the derivational suffix (86).

- (86) a. etotigej (3.MS.FF), etotige (3.MS.BF) ‘strenght’
 → etoj (MS.FF) ‘strong’, etok (MS.BF), etotik (MS.IF)
 b. ejutigej (3.MS.FF), ejutige (3.MS.BF) ‘tiredness, emptiness’
 → ejuj (MS.FF) ‘tired, empty’, ejuk (MS.BF), ejutik (MS.IF)
 c. ikaniratigej (3.MS.FF), ikaniratige (3.MS.BF) ‘kindness, generosity’

³¹⁰ *Batigai /batigaj/* has many other meanings such as ‘number’, ‘sum of what is counted’. It could be doubtful whether the meaning ‘stopping place’ could be considered abstract, but in this case one has to consider its first meaning (‘birth’) and the derivational mechanism. Furthermore, after the encounter with the ‘Western world’, this word also indicates the landing place of an airplane.

- kaniraj (MS.FF) ‘kind, generous’, kanirak (MS.BF),
kaniratik (MS.IF)
- d. wahatigej (3.MS.FF), wahatige (3.MS.BF) ‘strength’
→ wahadi (MS.FF) ‘strong’, wahat (MS.BF), wahatik (MS.IF)

§12.7.3 The suffix *-/niŋaj/*

The suffix *-/niŋaj/* is applied to nominals whose singular BF ends in *-/r/* substituted by the suffix itself (87a-b). The same mechanism is found with the IF suffix *-/nik/*. All nominals taking *-/nik/* in the singular IF take *-/niŋaj/* to form the abstract noun. Although less frequently, also nominals with BF not ending in *-/r/* may take this suffix, as in (87c), where the BF ends in *-/t/*. In (87d-f) one finds deverbal abstract nouns. *Putáningai* /putaniŋaj/ (87d) comes from a verb which ends in *-/re/*, replaced by the suffix. By contrast, *quéraningai* /keraniŋaj/ (87e) *-/niŋaj/* is simply added to the verb root. *Nijíningai* /nihiniŋaj/ (87f) also has the variant *nijíringai* /nihiriŋaj/.

- (87) a. kaŋoniŋaj (MS.FF) kaŋoniŋa (MS.BF) ‘dryness, dry place’
→ kaŋori (MS.FF), kaŋor (MS.BF), kaŋonik (MS.IF) ‘dry’
- b. umaniŋaj (MS.FF), umaniŋa (MS.BF) ‘length’
→ umari (MS.FF), umar (MS.BF), umanik (MS.IF) ‘tall, high, large’
- c. hokaniŋaj (3.MS.FF), hokaniŋa (3.MS.BF) ‘war, fighting, persecution’
→ hokāraj (3.MS.FF), hokārat (3.MS.BF), hokāratik (3.MS.IF) ‘one who is driven out, expelled, kicked out’
- d. putaniŋaj (MS.FF), putaniŋa (MS.BF) ‘time of planting, planting season’
→ tɛ-u-tāre (3) ‘to prepare ground for planting’
- e. ikeraniŋaj (3.MS.FF), ikeraniŋa (3.MS.BF) ‘growth’
→ j-i-kerā (1S), b-a-kerā (2S), Ø-Ø-kerā (3) ‘to grow, to get bigger’

- f. *nihiniñaj* / *nihiriñaj* (GF.MS.FF), *nihiniña* / *nihiriña* (GF.MS.BF)
 ‘rising act, act of waking up’
 → *j-ĩ-rihi* (1S), *b-ã-rihi* (2S), *Ø-Ø-nihi* (3) ‘to wake up’

§12.7.4 The suffix *-/riñaj/*

The suffix *-/riñaj/* may follow the same morphological rules of the IF suffix *-/rik/* and in this case it applies to nominals with singular BF in *-/V/*. *-/riñaj/* is simply added to the singular BF.

- (88) a. *ahesereriñaj* (3.MS.FF), *ahesereriña* (3.MS.BF) ‘peace, absence of fear’
 → *ahekesej* (MS.FF), *ahekese* (MS.BF), *ahekeseo* (MP.BF), *ahekeserik* (MS.IF) ‘peaceable, peaceful’
 b. *isadoderiñaj* (3.MS.FF), *isadoderiña* (3.MS.BF) ‘fear, cowardice’
 → *sadodej* (MS.FF), *sadode* (MS.BF), *sadoderik* (MS.IF) ‘afraid, fearful’
 c. *perupiriñaj* (MS.FF), *perupiriña* (MS.BF) ‘yellowness, greenness’
 → *perupi* (MS.FF), *perupi* (MS.BF), *perupirik* (MS.IF) ‘yellow, green’
 d. *uturutureriñaj* (3.MS.FF), *uturutureriña* (3.MS.BF) ‘foolishness’
 → *turuturej* (MS.FF), *turuture* (MS.BF), *turuturerik* (MS.IF) ‘fool’

Although nominals with singular BF in *-V* generally form their abstract noun with *-/riñaj/*, most nouns in *-/riñaj/* derive from BFs ending in consonant, mostly */k/*, sometimes */t/* (89).

- (89) a. *iserẽrateuriñaj* (3.MS.FF), *iserẽrateuriña* (3.MS.BF) ‘weakness’
 → *serẽrateuj* (MS.FF), *serẽrateuk* (MS.BF), *serẽrateutik* (MS.IF) ‘weak, without strenght’
 b. *hũruateuriñaj* (MS.FF), *hũruateuriña* (MS.BF) ‘heat, hotness’
 → *hũruateuj* (MS.FF), *hũruateuk* (MS.BF), *hũruateutik* (MS.IF) ‘hot’
 c. *subuderiñaj* (GF.MS.FF), *subuderiña* (GF.MS.BF)

‘state of being replete with food’

→ subudej (MS.FF), subude (MS.BF), subudetik (MS.IF) ‘satisfied (appetite)’

d. tetariņaj (3.MS.FF), tetariņa (3.MS.BF) ‘wetness’

→ tetaj (MS.FF), tetak (MS.BF), tetatik (MS.IF) ‘wet’

Among abstract nouns in *-/riņaj/*, there are two nouns derived from nominals with singular BF in *-/t/*. *Itrabajandoringai* /itrabahandoriņaj/ ‘work’ (90a) is a very interesting example, because, being a Spanish loan, it proves that this derivational mechanism is still productive, although the meaning of *trabajádi* /trabahadi/ and *trabajándoringai* /trabahandoriņaj/ is the same and the latter might look redundant. *Jopidíringai* /hopidiriņaj/ derives from *jopidi* /hopidi/ ‘glass, water trough’, but could also derive from its feminine form *jopidé* /hopide/ ‘well, cistern’ which is semantically closer, but this would be the only abstract noun derived from a feminine form and for this reason one should exclude the latter hypothesis.

(90) a. itrabahandoriņaj (3.MS.FF), itrabahandoriņa (3.MS.BF)

‘work, labor’

→ trabahadi (3.MS.FF), trabahat (3.MS.BF), trahatik (3.MS.IF)

‘work, labor’

b. hopidiriņaj (3.MS.FF), hopidiriņa (3.MS.BF)

‘place where there is water for drinking’

→ hopidi (3.MS.FF), hopit (3.MS.BF), hopitik (3.MS.IF)

‘glass, water trough’; cf. hopide (GF.FS.FF) ‘well, cistern’

The suffix *-/riņaj/* can also be added to verb roots, as in *urungúringai* /uruņuriņaj/ (91a). *Ūringai* /uriņaj/ (91b) is derived from the copula *u*. The derivational process is not always obvious. For example, in *itoringai* /itoririņaj/ (91c) ‘death’, one wonders whether the noun comes from the verb *toi* /toj/ ‘die’ or from the BF

of the corresponding nominal *toi* /toj/ ‘dead’. *Guedéjningái* /gedəɲoriŋaj/ ‘sunset’ (91d) derives from a phrasal compound.

- (91) a. *uruɲuriŋaj* (3.MS.FF), *uruɲuriŋaj* (3.MS.BF) ‘demonstration of fury, rage’
 → *j-u-ruɲu* (1S), *b-a-ruɲu* (2S), *ɬe-u-gu* (3) ‘to become angry’
 b. *uriŋaj* (3.MS.FF), *uriŋa* (3.MS.BF) ‘state of being’
 → *u* ‘to be’ (copula)
 c. *itoriŋaj* (3.MS.FF), *itoriŋa* (3.MS.BF) ‘death’
 → *j-i-toj* (1S), *b-a-toj* (2S), *Ø-Ø-toj* (3) ‘to die’; *toj* (MS.FF), *tok* (MS.BF), *totik* (MS.IF) ‘dead’
 d. *gedəɲoriŋaj* (MS.FF), *gedəɲoriŋa* (MS.BF) ‘sunset’
 → *gede* (MS.FF) ‘sun’ + *ɲo* (3) ‘to go, to leave’
 (lit. ‘the sun leaves’)
 e. *koriŋaj* / *doriŋaj* (3.MS.FF), *koriŋa* / *doriŋa* (3.MS.BF) ‘departure’
 → *ɲo* (3) ‘to go, to leave’

In (93e) the derivational mechanism is opaque, but it was transparent in Old Zamuco (92), where the suffix *-rigatie* (MS.FF) / *-riga* (MS.BF) was used to derive abstract nouns. Compare also (93) with (91c).

- (92) O.Z. *yinoriga* (1S.MS.BF), *anoriga* (2S.MS.BF), *noriga* (3.MS.BF),
pinoriga (GF.MS.BF) ‘departure, outward journey’
 → *no* (3) ‘to go’

- (93) O.Z. *yitorigatie* (1S.MS.FF) ‘death’ → *Ø-Ø-toi* (3) ‘to die, to be dead’

§12.8 Ayoreo verbal nouns

‘Verbal nouns’, as they are called in Bertinetto (2009: 38-39), are nouns with passive meaning derived from verbs. They refer to the recipient of the action and could be thus considered the opposite of

the *nomina agentis* in *-/sõri/* or *-/ɲori/* (see §12.9). Verbal nouns can be used instead of inflected verbs, as in interrogative clauses (Bertinetto 2009: 38), where they are the preferred but not obligatory option (Bertinetto 2009: 39).

- (94) a. ¿Ore imó-rique gotique e?
 /ore imo-rike gotike e/
 3P 3.see-MS.IF IGNOR MOD

‘What did they see?’ (QCCB; cit. in Bertinetto 2009: 38)

- b. ¿Je isa-tique a?
 /he isa-tike a/
 INT 3.grasp-MS.IF MOD

‘What did he/she/they take/find?’ (QCCB; cit. in Bertinetto 2009: 38)

- c. ¿Ajiri-tique e?
 /ahiri-tike e/
 3.observe-MS.IF MOD

‘What did he observe?’ (QCCB; cit. in Bertinetto 2009: 38)

- d. ¿Gos-ode dayé icho-de?
 /gos-ode daje iteo-de/
 who-MP.FF father.MS 3.shoot-MP.FF

‘Which animals did the father hit?’ (QCCB; cit. in Bertinetto 2009: 38)

The derivational mechanism of verbal nouns does not seem to be entirely productive in Ayoreo according to Bertinetto (2009: 38). Verbal nouns are usually obtained by adding a suffix to the verb root. The most frequently used suffixes are *-/k/*, *-/t/* and *-/mat/* or *-/mait/*, as added to the verb root in order to obtain the MS-BF of verbal nouns. Possessive inflection, gender, number and form are the same as with the other nominals. In (95) one finds verbal nouns derived by means of the suffix *-/t/*. In the MS-FF the suffix *-/i/* is

added to the BF and /t/ voices into /d/. The singular FF of *orut*, *oruti* (95g), is an exception, because /t/ does not voice. In (95a) and (95e) there is insertion of /e/ and /i/ before -/t/.

- (95) a. t-i-bagi (3) ‘to go/come to a person’
 → i-bagiet (3.MS.BF), i-bagiedi (3.MS.FF) ‘person one comes to;
 person one goes to’
 b. Ø-Ø-teñaj (3) ‘to answer, to reply’
 → i-teñajt (3.MS.BF), i-teñajni (3.MS.FF) ‘whom/what is
 answered/replied’
 c. te-i-gi (3) ‘to get dressed, to put on clothes’
 → i-git (3.MS.BF), i-gidi (3.MS.FF) ‘blanket, sheet, what is used
 for a cover’
 d. Ø-Ø-pesu (3) ‘to make, to do’
 → i-pesut (3.MS.BF), i-pesudi (3.MS.FF) ‘what is made/done’
 e. Ø-Ø-poña (3) ‘to bawl out, to scold’
 → i-poñait (3.MS.BF), i-poñaini (3.MS.FF) ‘one who is bawled
 out/scolded’
 f. t-o-ri / t-o-ria (3) ‘to rob, to steal’
 → o-rit (3.MS.BF), o-ridi (3.MS.FF) ‘stolen item’
 g. te-o-ru (3) ‘to climb, to mount, to ride’
 → o-rut (3.MS.BF), o-ruti (3.MS.FF) ‘what is climbed, mounted,
 ridden’

As shown in the above examples, verbal nouns can be derived from verbs belonging to all inflectional classes. They are generally thematic nouns: the thematic vowel of the verb is preserved in the corresponding verbal noun. If the noun derives from a radical verb, in the 3-person it adds a vowel corresponding to the one used in the 1-person of the verb. Such a vowel is usually /i/, sometimes /u/.³¹¹

³¹¹ In (95d) the thematic vowel is not present in the 3-person, but /u/ is to be

In (96) the suffix *-/mat/* or *-/mait/* is used to derive the verbal noun. This suffix is rare. Note that in (96b) and (96e) the lexical suffixes *-/ha/* and *-/me/* are not preserved in the verbal noun.

- (96) a. Ø-Ø-dehena (3) ‘to invite, to welcome’
→ i-dehenamat (3.MS.BF), i-dehenamani (3.MS.FF) ‘one who is invited, welcomed’ i-neheramait (3.MS.BF), i-neheramaini (3.MS.FF)
- b. Ø-Ø-doŋoŋaha (3) ‘to protest again, to show contempt’
j-i-doŋo-ho-ha (1P), wak-a-doŋõ-ŋeo-ha (2P)
→ i-doŋoŋamait (3.MS.BF), i-doŋoŋamaini (3.MS.FF) ‘who/what is shown contempt for’
- c. Ø-Ø-nina (3) ‘to rejoice over, to welcome’;
→ i-ninamat (3.MS.BF), i-ninamani (3.MS.FF) ‘reason for rejoicing’
- d. Ø-Ø-ŋusina (3) ‘to remember’
→ Ø-Ø-ŋusinamat (3.MS.BF), Ø-Ø-ŋusinamani (3.MS.FF) ‘who/what is remembered’, also: Ø-Ø-ŋusnamait (3.MS.BF), Ø-Ø-ŋusnamaini (3.MS.FF)
- e. ʔ-a-gutipame (3) ‘to receive help from’, j-a-gutipna-ŋo-me (1P), wak-a-gutipna-ŋo-me (2P)
→ a-gutipnamait (3.MS.BF), a-gutipnamani (3.MS.FF) ‘one who grants a benefit’, also: a-gutipnamait (3.MS.BF) / a-gutipnamaini (3.MS.FF)
- f. Ø-Ø-dejena (3) ‘to invite, to welcome’
→ i-dejenamat (3.MS.BF), i-dejenamani (3.MS.FF) ‘one who is invited, welcomed’, also: i-nejeramait (3.MS.BF), i-nejeramaini (3.MS.FF)

The most frequently used suffix to obtain the MS-BF of a verbal noun is *-/k/*, as added to the verb (97). The inflection follows the

rules described in §12.5.1. In the FF, *-/k/* drops when the singular FF suffix *-/j/* is added.

- (97) a. *te-i-bero* (3) ‘to break; to crush’
 → *i-berok* (3.MS.BF), *i-beroj* (3.MS.FF) ‘what is broken’
 b. *te-i-bika* (3) ‘to scratch’
 → *i-bikak* (3.MS.BF), *i-bikaj* (3.MS.FF) ‘who/what is scratched’
 c. *te-i-ka* (3) ‘to carve, as with a knife; to cut superficially’
 → *i-kak* (3.MS.BF), *i-kaj* (3.MS.FF) ‘who/what is cut’
 d. *te-i-kota* (3) ‘to praise, to compliment’
 → *i-kotak* (3.MS.BF), *i-kotaj* (3.MS.FF) ‘one who is praised, complimented’
 e. *te-i-teaha* (3) ‘to roast’
 → *i-tehak* (3.MS.BF), *i-tehaj* (3.MS.FF) ‘what is roasted’
 f. *te-i-teo* (3) ‘to shoot (at with)’
 → *i-teok* (3.MS.BF), *i-teoj* (3.MS.FF) ‘who/what is shot at’
 g. *te-i-dasu* (3) ‘to thresh; to shell’
 → *i-dasuk* (3.MS.BF), *i-dasuj* (3.MS.FF) ‘what is shelled / threshed’
 h. *te-i-haro* (3) ‘to grind; to pound’
 → *i-harok* (3.MS.BF), *i-haraj* (3.MS.FF) ‘what is ground, pounded’
 i. *te-o-ŋe* (3) ‘to pour out, to spill’
 → *o-ŋek* (3.MS.BF), *o-ŋej* (3.MS.FF) ‘what is poured out, spilled’
 j. *te-u-butɛu* (3) ‘to blow’
 → *u-butɛuk* (3.MS.BF), *u-butɛuj* (3.MS.FF) ‘trumpet; horn; what is blown’
 k. *te-u-kue* ‘to look for; to search for’
 → *u-kuek* (3.MS.BF), *u-kuej* (3.MS.FF) ‘who/what is looked for, searched for’

While in (97) the suffix *-/k/* is simply added to the verb root, in (98) the verb ends in *-/re/*, where */e/* is in most cases a euphonic vocoid. For this reason, *-/ak/* (98a-c) or *-/ik/* (98d) are added in the

BF with /a/ and /i/ as epenthetic vowels.³¹² In (99) too, there is /i/ insertion and in (99a) it substitutes the last vowel of the verb.³¹³ In (99c), according to the process described in §12.1.4, root-final /t/ voices into /d/ when /ik/ is added. As already seen, masculine nominals with singular BF in /-ik/ lose /k/ in the FF, so that the FF suffix /-i/ merges with the last root-vowel. In such cases, the FF is phonologically lighter than the BF.

- (98) a. *te-e-kare* (3) ‘to change; to replace’
 → *e-karak* (3.MS.BF), *e-karaj* (3.MS.FF) ‘who/what is changed;
 who/what is replaced’
 b. *te-i-kare* (3) ‘to mention’
 → *i-karak* (3.MS.BF), *i-karaj* (3.MS.FF) ‘who/what is sworn’
 c. *te-o-sore* (3) ‘to feel sorry for by helping’
 → *o-sorak* (3.MS.BF), *o-soraj* (3.MS.FF) ‘one who is shown
 compassion’
 d. *te-i-bore* (3) ‘to cook meat on fire, in flames’
 → *i-borik* (3.MS.BF), *i-bori* (3.MS.FF) ‘what is burned directly in
 the fire’
- (99) a. *te-i-garu* (3) ‘to tie, to bind’ *j-i-ga-ko* (1P), *wak-a-ga-teo* (2P)
 → *i-garik* (3.MS.BF), *i-gari* (3.MS.FF) ‘who/what is tied, bound’
 b. *te-i-rase* (3) ‘to be pleased with, to be happy about’ *j-i-ra-ko* (1P),
 wak-a-ra-so (2P)
 → *i-rasik* (3.MS.BF), *i-rasi* (3.MS.FF) ‘liking, what one likes’
 c. *te-a-kate* (3) ‘to teach; to instruct’
 → *a-kadik* (3.MS.BF), *a-kadi* (3.MS.FF) ‘one who is taught; pupil;
 student; disciple’

³¹² Note that AY /-ak/ corresponds to CH /-ak/, a MS-BF suffix.

³¹³ In (99b-c) /e/ is probably a vocoid inserted to re-create the preferred syllable structure CV.

In (100) one finds some irregularities. The verbal noun of *tibidi* (100a) has a regular BF, but two FFs are reported, the regular *ibidi* and *ibididi*, which derive from a different BF obtained by adding *-t/* to the verb. Equally, the verb in (100b) has two verbal nouns: in *icadigiet* /ikadigiet/ the MS-BF suffix *-t/* is added and there is */e/* insertion before the suffix, as in (100b). In the alternative form *icadic* /ikadik/, *-k/* is added to the verb root with deletion of the last syllable *-gi/*. This is probably due to deletion of the reduced lexical suffix (*-i/* instead of *-hi/*), which causes merging of the root-final consonant with the derivational suffix. In (100c), root-final */g/* reduces to */h/* in the verbal noun.³¹⁴ Finally, in (100d) the last syllable *-se/* deletes in the verbal noun, but in this case there is */j/* insertion.

- (100) a. t-i-bidi (3) ‘to call; to summon’
 → i-bidik (3.MS.BF), i-bidi / i-bididi (3.MS.FF) ‘one who is called, who is summoned’
- b. t*ɛ*-i-kadigi (3) ‘to forget’ j-i-kadi-ho-i (1P), wak-a-kadi-t*ɛ*-j (2P)
 → i-kadigiet (3.MS.BF), i-kadigiedi (3.MS.FF) ‘who/what is forgotten’ i-kadik (3.MS.BF), i-kadi (3.MS.FF) ‘who/what is forgotten’
- c. t*ɛ*-i-t*ɛ*agu (3) ‘to pierce; to stab’, j-i-t*ɛ*a-ho (1P),
 wak-a-t*ɛ*a-t*ɛ*o (2P)
 → i-t*ɛ*ahuk (3.MS.BF), i-t*ɛ*ahuj (3.MS.FF) ‘who/what is pierced, stabbed’
- d. t*ɛ*-o-tigase (3) ‘to doubt’ j-o-tiga-ko (1P), wak-o-tiga-so (2P)
 → o-tigajak (3.MS.BF), o-tigajaj (3.MS.FF) ‘who/what is doubted’

³¹⁴ There could be a correlation with the presence of the suffix *-ho/* in the 1P-person, because this suffix results from the fricativization of *-ko/*.

In (101a-c), the BF of the verbal noun corresponds to the verb root, while in (101d) *-/pi/* is added.

- (101) a. *te-i-teagaha (-juj)* (3) to promise (to)
→ *i-teagaha* (3.MS.BF), *i-teagahaj* (3.MS.FF) ‘recipient of a promise, one who is promised something’
b. *te-i-mo* (3) ‘to see, to realize’
→ *i-mo* (3.MS.BF), *i-moj* (3.MS.FF) ‘who/what is seen’
c. *te-o-ŋiŋa* (3) ‘to say’
→ *o-ŋiŋa* (3.MS.BF), *o-ŋiŋaj* (3.MS.FF) ‘telling, who/what is told’
d. *Ø-Ø-moŋaraha* (3) ‘to threaten with evil/harm’
j-i-moŋa-ko-ha (1P), *wak-a-moŋa-teo-ha* (2P)
→ *i-moŋarapi* (3.MS.BF), *i-moŋarapi* (3.MS.FF) ‘who/what is threatened’

§12.9 Nouns in *-/sõri/* or *-/ŋori/*

Verbal nouns generally convey passive meaning. An alternative derivational mechanism refers to the entity which performs the action expressed by a verb. These *nomina agentis* are derived by means of the suffixes *-/sõri/* (MS.FF) or *-/ŋori/* (MS.FF).³¹⁵ Not all such nouns derive from verbs and are *nomina agentis*, although this is true in most of them. The inflection of these nouns is very regular and was discussed in (§12.1.7), while the shape of their feminine counterparts is irregular (see §12.4.3),³¹⁶ although it is the same in all cases. The suffixes *-/sõri/* and *-/ŋori/* convey the same meaning, indeed *-/ŋori/* is only observed when *-/sõri/* is found. For

³¹⁵ About the derivational suffix *-/sõri/*, see also Bertinetto (2009: 17-18).

³¹⁶ Since the inflection is easily predictable, in the following examples only the MS-FF will be provided.

this reason, these nominals will be referred to as ‘nouns in *-sōri*’. There is no general rule to exactly predict the formation of such nouns. Not all of them have possessive inflection. Possessable nouns in *-sōri* follow the same rules as in verbal nouns. In (102) and (103) one finds nouns in *-sōri* derived from verbs. They can be derived from verbs belonging to any inflectional class. In (102) the formation is regular, because the suffix *-sōri* (or *-ŋori*) is added to the unchanged verb root. This occurs in the majority of these nouns, although in many verbs various subregularities or irregularities are to be observed (103).

- (102) a. *te-i-bero* (3) ‘to break; to crush’
 → *i-berosōri* (3.MS.FF) ‘one who breaks something’
 b. *t-i-bidi* (3) ‘to call; to summon’
 → *i-bidisōri* (3.MS.FF) ‘one who calls / summons’
 c. *te-i-gi* (3) ‘to get dressed, to put on clothes’
 → *i-gisōri* (MS.FF) ‘one who is clothed with something’
 d. *te-i-mo* (3) ‘to see, to realize’
 → *i-mosōri* (3.MS.FF) ‘one who sees, who knows’
 e. *Ø-Ø-moŋaraha* (3) ‘to threaten with evil/harm’,
 j-i-moŋa-ko-ha (1P), *wak-a-moŋa-teo-ha* (2P)
 → *i-moŋarahasōri* (3.MS.FF) ‘one who threatens with evil/harm’
 f. *Ø-Ø-pesu* (3) ‘to make, to do’
 → *i-pesuŋori* (3.MS.FF) ‘doer; maker; creator’
 → *i-pesusōri* (3.MS.FF) ‘doer; maker; creator’
 g. *te-o-ru* (3) ‘to climb, to mount, to ride’
 → *o-rusōri* (MS.FF) ‘climber; vines that climb’
 h. *te-u-buteu* (3) ‘to blow’
 → *u-buteuŋori* (MS.FF) ‘blower; player of a wind instrument’
 → *u-buteusōri* (MS.FF) ‘blower; player of a wind instrument’
 i. *te-u-kue* (3) ‘to look for; to search for’
 → *u-kuesōri* (3.MS.FF) ‘one who looks for, one who searches’

The irregularities or subregularities of the nouns in *-/sõri/* in (103) will not be discussed in detail, because they are the same as those reported in the verbal noun derived from the same verb (when the verbal noun exists). In (103h) the verb-root ends in a mobile syllable and is followed by a lexical suffix, but these elements are not preserved in the *nomen agentis*.

- (103) a. *t-i-bagi* (3) ‘to go/come to a person’
 → *i-bagiet* (3.MS.BF), *i-bagiedi* (3.MS.FF) ‘person one comes to; person one goes to’
 → *i-bagiesõri* (3.MS.FF) ‘one who comes to a person’
 b. *te-i-garu* (3) ‘to tie, to bind’, *j-i-ga-ko* (1P), *wak-a-ga-teo* (2P)
 → *i-garisõri* (3.MS.FF) ‘one who ties / binds’
 → *i-garik* (3.MS.BF), *i-gari* (3.MS.FF) ‘who/what is tied, bound’
 c. *te-i-rase* (3) ‘to be pleased with, to be happy about’,
 j-i-ra-ko (1P), *wak-a-ra-so* (2P)
 → *i-rasiñori* (3.MS.FF) ‘one who likes someone/something’
 → *i-rasisõri* (3.MS.FF) ‘one who likes someone/something’
 → *i-rasik* (3.MS.BF), *i-rasi* (3.MS.FF) ‘liking, what one likes’
 d. *te-a-kate* (3) ‘to teach; to instruct’
 → *a-kadik* (3.MS.BF), *a-kadi* (3.MS.FF) ‘one who is taught; pupil; student; disciple’
 → *a-kadisõri* (3.MS.FF) ‘teacher; instructor’
 e. *te-i-teagu* (3) ‘to pierce; to stab’, *j-i-tea-ho* (1P),
 wak-a-tea-teo (2P)
 → *i-teahuk* (3.MS.BF), *i-teahuj* (3.MS.FF) ‘who/what is pierced, stabbed’
 → *i-teahusõri* (3.MS.FF) ‘one who pierces, stabs’
 f. *te-o-sore* (3) ‘to feel sorry for by helping’, *j-o-so-ko* (1P),
 wak-o-se-teo (2P)
 → *o-sorak* (3.MS.BF), *o-soraj* (3.MS.FF) ‘one who is shown compassion’

- o-sōrasōri (3.MS.FF) ‘one who is merciful’
- o-sōrañori (3.MS.FF) ‘one who is merciful’
- g. tɛ-o-tigase (3) ‘to doubt’, j-o-tiga-ko (1P), wak-o-tiga-so (2P)
 - o-tigajasōri (3.MS.FF) ‘one who doubts’
 - o-tigajak (3.MS.BF), o-tigajaj (3.MS.FF) ‘who/what is doubted’
- h. tɛ-u-kañarome (3) ‘to pursue, to chase’, j-u-kañaja-ko-me (1P), wak-a-kañaja-tɛo-me (2P)
 - u-kañajasōri (3.MS.FF) ‘one who pursues, chases’

Nouns in *-/sōri/* do not only derive from verbs, but also from nominals, as in (104), needless to say, from the singular BF. In (104a) the root-final consonant drops in *gachingōri* /gateñori/, *gachisōri* /gateisōri/. In many cases, the suffix *-/sōri/* refers to the owner of a certain entity.

- (104) a. g-a-tɛidi (3.MS.FF), g-a-tɛit (3.MS.BF) ‘pet; domesticated animal; vehicle’ (possessive classifier)
- g-a-tɛñori (MS.FF) ‘owner of a pet / domesticated animal / vehicle’
 - g-a-tɛisōri (MS.FF) ‘owner of a pet / domesticated animal / vehicle’
- b. i-daj (3.MS.FF), i-daj (3.MS.BF) ‘village, town’
- i-dajsōri (MS.FF) ‘resident of a town, citizen’
- c. i-garube (3.FS.FF), i-garube (3.FS.BF) ‘belt; sash’
- i-garubesōri (MS.FF) ‘owner of a belt; wearer of a belt’
- d. i-giñaj (3.MS.FF), i-giña (3.MS.BF) ‘house; dwelling’
- i-giñasōri (MS.FF) ‘occupant of a house’
- e. o-raj (3.MS.FF), o-rak (3.MS.BF) ‘woven article’
- o-rasōri (MS.FF) ‘one who weaves, one who’
 - o-rañori (MS.FF) ‘one who weaves, one who’

§12.10 Verbal nouns in Old Zamuco

Verbal nouns were also present in Old Zamuco, where the derivational process was very similar. The derivational mechanism of these elements, referred to as *participios passivos* in Chomé, is not specifically described in his grammar, but one can infer it from the data provided by Chomé while describing their possessive inflection (Chomé 1958: 140-141). Verbal nouns in Old Zamuco had a specific 1S-prefix,³¹⁷ while the AY possessive inflection is the same for both deverbal and non-deverbal nouns. In Old Zamuco there were two ways to obtain the MS-BF of verbal nouns from the verb root:

- (i) by adding the suffix *-/k/* (105a-f);
- (ii) by adding the suffix *-/t/* (105g-h).

Both suffixes were added to the verb theme. The suffixes *-/k/* and *-/t/* correspond to the most frequently used devices in Ayoreo; *-/k/* is the most frequent one in both Ayoreo and Old Zamuco.

- (105) a. Ay. *i-meserāk* (3.MS.BF) ‘who/what is wanted, preferred’
 → *ɬe-i-mesêre* (3) ‘to want, to prefer’
 O.Z. *i-mecêrac* (3.MS.BF) ‘what is loved’ → *ch-i-mecêre* (3)
 ‘to love’

³¹⁷ The prefix used for the 1S-person is usually *y-* (*/j/-*) in Old Zamuco. However, verbal nouns derived from */ɬe/-* verbs take the prefix */ɬe/-* in the 1S-person, while verbal nouns derived from thematic and radical verbs take the prefix */j/-*. Verbal nouns derived from */t/-* verbs can take */ɬe/-* or */j/-*, depending on the verb (Chomé 1958: 140-141). About the comparison between O.Z and AY verbal nouns, see also Kelm (1964: 496-497).

- b. Ay. e-kârak (3.MS.BF) ‘what is changed / replaced’;
→ *te-e-kâre* (3) ‘to change, to replace’
O.Z. e-caric (3.MS.BF) ‘what is followed’ → *ch-e-câre* (3)
‘to follow’
- c. O.Z. o-irac (3.MS.BF) ‘what is added’ → *ch-o-ire* (3) ‘to add’
- d. Ay. i-manik (3.MS.BF) ‘what is finished’ → *te-i-mate* (3)
‘to finish’
O.Z. u-manic (3.MS.BF) ‘what is finished’ → *ch-u-mate* (3)
‘to finish’
- e. Ay. a-kak (3.MS.BF) ‘plant’ → *te-a-ka* (3) ‘to plant’
O.Z. a-cac (3.MS.BF) ‘what is planted’ → *ch-a-ca* (3) ‘to plant’
- f. Ay. i-jak (3) ‘what is given up/ quit’
→ *Ø-Ø-tea* (3) ‘to stop, to quit’
O.Z. i-yauc (3) ‘what is quit’ → *i-yau* (3) ‘to stop, to quit’
- g. Ay. o-it (3.MS.BF) ‘what is carried/brought’ → *doj* (3) ‘to bring’
O.Z. o-it (3.MS.BF) ‘who/what is brought’
→ *t-o-râ* (3) ‘to bring’³¹⁸
- h. Ay. i-bidik (3.MS.BF) ‘one who is called/summoned’
→ *t-i-bidi* (3) ‘to call, to summon’
O.Z. y-i-bidit (1S), a-bidit (2S), *Ø-Ø-pidit* (3), p-i-bidit (GF)
‘who/what is called’ → *t-i-bidi* (3) ‘to call’

In (105a) there is /a/ insertion in both Old Zamuco and Ayoreo, while in (105b) the AY noun takes epenthetic /a/ and the O.Z noun /i/.³¹⁹ In (105f) the 3-person of the verb *cha* /tea/ is irregular, but the verbal noun preserves /j/ as in the rest of the verb paradigm. Although the suffixes usually correspond to each other in both languages, the verbal nouns from *tibidi* (105h) take the suffix -/t/ in

³¹⁸ According to Chomé (1958: 141) *oit* would derive from *t-orâ*, which has been reported in the example but this is probably a mistake.

³¹⁹ In (105a-e), final /e/ is probably an epenthetic vocoid.

Old Zamuco and *-/k/* in Ayoreo. Nevertheless, in Ayoreo the FF *tibididi*, derived from a BF in *-/t/*, is also found (100a). In this case, the O.Z verbal noun is radical (and thus irregular), while the AY one is thematic. Regularization from Old Zamuco to Ayoreo is also observable in AY *ibidic* /*ibidik*/, both because it takes *-/k/* (the most frequently used suffix) and because it is thematic.

§12.11 Old Zamuco nouns in *-zore* (*-/sore/*)

The AY derivational suffixes *-/sõri/* (MS.FF), *-/sõre/* (MS.BF) and *-/ɲori/* (MS.FF), *-/ɲore/* (MS.BF) correspond to O.Z *-zore* (*-/sore/*) (MS.BF) and *-gore* (MS.BF). The last vowel of *-gore* and *-zore* was probably a euphonic vocoid. In the FF, it is replaced by epenthetic */i/*, giving rise to *-zoritie* (*-/soritie/*) (MS.FF) and *-goritie* (MS.BF) (Chomé 1958: 133). Chomé cites this suffix in the BF *-zore*, reporting no more than a few examples, where *-zore* seems to be more frequent than *-gore*. The feminine BF is *-/to/* (106). When *-zore* is added to the verb root, it forms a *nomen agentis* (106).³²⁰

- (106) a. Ay. *i-meserasõri* / *i-meseraɲori* (3.MS.FF) ‘one who prefers’
 → *ɬe-i-mesẽre* (3) ‘to prefer, to want’;
 O.Z. *p-i-mecêrazore* (GF.MS.BF), *ch-i-mecêrazori-tie* (1S.MS.FF)
 ‘one who loves’; → *ch-i-mecêre* (3) ‘to love’
 b. Ay. *a-kadisõri* (3.MS.FF) ‘teacher; instructor’;
 → *ɬe-a-kate* (3) ‘to teach; to instruct’
 O.Z. *p-a-cadizore* (GF.MS.BF) ‘teacher’; *p-a-cadito* (GF.FS.BF)
 ‘teacher’

³²⁰ The verbs from which the nouns in *-zore* (*-/sore/*) derive are not always found. The data about the possessive inflection of the O.Z nominals in (106) and (107) are thus incomplete.

- c. Ay. j-u-sõri / j-u-ɲori (3.MS.FF) ‘killer’ → ɬe-u-he (3) ‘to kill’
 O.Z. chugore (MS.BF), chugoritie (MS.FF) ‘killer’;
 chuto (FS.BF) ‘killer’ → ch-u-he (3) ‘to pound, to hurt’³²¹

When *-zore* (*-/sore/*) is applied to a noun, it refers to the owner of the entity indicated by the noun: “*Zore*. Con substantivo, y relativo de 3a persona, dueño, *iquizezore*, dueño del cuchillo. *iohizore*, dueño del arco. se dexan la *c*, la *p*, la *t*, la *r* toma una *i* antes, f. *to*.” (Chomé 1958: 167). This is shown in (107).

- (107) a. Ay. i-giɲa (3.MS.BF) ‘house’ + -sõri
 → iɣiɲasõri (MS.FF) ‘occupant of a house’
 O.Z. i-gueda (3.MS.BF) ‘house’ + -zore
 → iguedazore (MS.BF) ‘owner of the house’ (Chomé 1958: 142)
 b. Ay. g-a-ɲek (3.MS.BF), g-a-ɲe (3.FS.FF)³²² ‘belonging, possession’ + -ɲori / -sõri → g-a-ɲeɲori / g-a-ɲesõri (3.MS.FF) ‘owner’
 O.Z. g-a-nec (3.MS.BF) ‘its, his, hers’ + -zore ‘owner’
 → ganezore (Chomé 1958: 142)

In Chamacoco, no mechanism to derive verbal nouns is to be observed, but there are nouns in *-/sĩrtɛ/*, which correspond to AY nouns in *-/sõri/* and O.Z nouns in *-zore* (*-/sore/*). CH nouns in *-/sĩrtɛ/* are discussed in (§13.1.12). In Chamacoco, the suffix is no longer productive and the derivational mechanism is not always transparent. However, the existence of nouns in *-/sĩrtɛ/* suggests that verbal nouns probably existed in Chamacoco too.

³²¹ In both Old Zamuco and Ayoreo the derivation of this word is irregular.

³²² *Gajnei* /gaɲej/ (3.MS.FF), *gajnec* /gaɲek/ (3.MS.BF) is a semantically non-specific possessive classifier (Fabre 2007b, Bertinetto 2009: 16), cf. O.Z *ganec* /ganek/ (3) ‘her/his/their’ (Chomé 1958: 142).

§12.12 Conclusions

This chapter has described the nominal suffixation of Ayoreo. The singular BF is the starting point of any morphological operation in Ayoreo. The morphology of the FF and the BF is fairly regular, but there are some facts which are unpredictable, such as the preservation of final *-/k/* in the MP-FF or the morpheme used to form the feminine, which can be *-/a/* or *-/e/*. The feminine exhibits less variability than the masculine in the BF plural. The diminutive is obtained via the suffix *-/ap/* and has regular nominal inflection. Three series of suffixes can be used to form the masculine IF. There are selection rules, but exceptions occur very frequently. The feminine also has three series of IF suffixes, but one series predominates. Ayoreo abstract nouns make use of derivational suffixes correlated with the MS-IF suffixes. The selection rules are the same for both types of suffix. Finally, the derivational mechanisms of verbal nouns and *nomina agentis*, also to be found in Old Zamuco, have been analyzed. The following chapter will describe the nominal suffixation of Chamacoco.

§13 Chamacoco nominal suffixation

This chapter discusses CH nominal suffixation. Section §13.1 is concerned with the BF and FF of masculine nominals. Feminine nominals are addressed in section §13.2. Gender derivation exhibits traces of agglutination (§13.3). Some defective nominals are discussed in (§13.4). Section §13.5 and §13.6 deal with the diminutive and the IF, respectively. Section §13.7 describes the uses of BF, FF and IF. Finally, the suffixation of the possessive classifier *uhut* (§13.8) and the numerals are discussed, with special regard to the number ‘one’, which has a very rich inflection (§13.9).

The grammatical gender of human beings coincides with their natural gender. The same applies to animals when their gender is clearly distinguishable. In the case of animals whose gender is indistinguishable, the masculine or feminine gender may be assigned according to the speaker’s assumption. All plant names are feminine (§13.2). There are no semantic rules to determine the grammatical gender of the remaining nouns.

The contrast between BF and FF in Chamacoco is limited to the singular, because no such a distinction is to be found in the plural. For this reason, the common plural of BF and FF will be referred to as ‘plural’ (P), in contrast to the plural IF.³²³ In addition, the singular BF is not observed for all nominals (see below, in particular §13.1.11, ex. 28). In these cases the BF coincides with the FF. At least in some cases, this is probably due to the fact that the BF vs. FF opposition tends to disappear in Chamacoco, so that the FF tends to be used in typical BF contexts. In particular, the

³²³ There are only a few exceptions in which the plural suffix cannot be used as plural FF suffix, see §13.7.1, ex. (118-119).

MS-BF appears to be no longer productive. For this reason the FF will be the citation form of nominals. This is also the predominant tendency in the CH dictionary by Ulrich & Ulrich (2000b), although there is no coherent lemmatization criterion with respect to nominal morphology.³²⁴

As already seen, the BF could often be considered the starting point of any morphological operation. The BF originally coincided with the root, but in many nominals this is no longer the case, because some root-final segments have been reinterpreted, thus yielding the masculine BF suffix *-/k/* (or *-/ak/*) and other epicene or feminine BF suffixes (§13.2.4). The MP suffix *-/e/* also derives from the reinterpretation of the root. The comparison with the other Zamucoan languages confirms that such suffixes were originally part of the root (§14). However, in most feminine nominals and in some masculine nominals, the BF and the root coincide.

§13.1 Masculine nominals

This section briefly introduces the most common morphological devices to be found in the BF and the FF of masculine nominals. Masculine nominals can be divided into two classes according to the suffixes used to form the FF, i.e. *-/t/* or *-/tɛ/*. The former is the most frequently used. This section discusses nominals with FF ending in *-/it/*, while the following sections will deal with nominals ending in: *-/it/* (§13.1.1), *-/ut/* (§13.1.2), *-/ot/* (§13.1.3), *-/at/* (§13.1.4), *-/ɛt/* (§13.1.5), *-/ehet/* (§13.1.6), *-/ut/* (§13.1.7), *-/rt/* (§13.1.8), *-/Ct/* (§13.1.9 and §13.1.10), *-/tɛ/* (§13.1.11) and *-/rtɛ/*

³²⁴ In the case of the few nominals which have no FF, the citation form will be the BF.

(§13.1.12). The following sections will discuss in detail each group of nominals.

The most common suffix for MP is *-o/*, used for both classes.³²⁵ The nominals in (1) have FF in *-it/* and are the most representative masculine nominals with regard to the FF and the plural. Their BF is obtained by adding *-k/* to the root. Pre-final */i/* is present in the BF and in the FF, but not in the plural. One can suppose that */i/* belongs to the root and is deleted by the plural suffix *-o/*.³²⁶

- (1) a. *aṃurmit* (MS.FF) ‘armadillo’, *aṃurmo* (MP), *aṃurmik* (MS.BF)
 b. *ṭeepit* (MS.FF) ‘a little, half’, *ṭeepo* (MP), *ṭeepik* (MS.BF)
 c. *dihipit* (MS.FF) ‘foreigner’, *dihipo* (MP), *dihipik* (MS.BF)
 d. *dohobit* (MS.FF) ‘ceramic object’, *dohobo* (MP), *dohobik* (MS.BF)
 e. *kasit* (MS.FF) ‘fearful’, *kasō* (MP), *kasik* (MS.BF)
 f. *kobit* (MS.FF) ‘jar’, *kobo* (MP), *kobik* (MS.BF)
 g. *kotsirbit* (3.MS.FF) ‘bag’, *kotsirbo* (3.MP), *kotsirbik* (3.MS.BF)
 h. *nermit* (3.MS.FF) ‘cheat / someone who cheats’, *nermo* (MP),
nermik (3.MS.BF)
 i. *olibit* (MS.FF) ‘blind’, *olibō* (MP), *olibik* (MS.BF)
 l. *pemit* (MS.FF) ‘type of ostrich’, *pemo* (MP), *pemik* (MS.BF)
 m. *pihīpit* (MS.FF) ‘person who doesn’t speak’, *pihīpo* (MP),
pihīpik (MS.BF)
 n. *pohirpit* (MS.FF) ‘bow’, *pohirpo* (MP), *pohirpik* (MS.BF)
 o. *porsilibit* (MS.FF) ‘net’, *porsilibō* (MP), *porsilibik* (MS.BF)
 p. *pīt* (MS.FF) ‘piece’, *pō* (MP), *pik* (MS.BF)
 q. *topit* (MS.FF) ‘dead’, *topo* (MP), *topik* (sm.BF)
 r. *ilxa:bit* (MS.FF) ‘evil’, *ilxa:bo* (MP), *ilxa:bik* (MS.BF)

³²⁵ In nominals where *-o/* drops, it merges with the last root-vowel or is replaced. As shown below, one consequence of this is that in some nominals the BF and the plural only differ in the presence vs. absence of final glottalization. See, for instance, ex. (2f).

³²⁶ Alternatively, one might surmise that */i/* is an epenthetic vowel.

In (2) one finds masculine nominals with FF in *-/it/*, but with partly different characteristics. In (2a) pre-final */i/* is present in the FF, but not in the BF. One can either suppose that */i/* has deleted in the BF or that it is inserted in the FF. The noun *dihirbit* (2b) has two BFs: in *dihirbik* the suffix *-/k/* is added, while in *dihirbak* the suffix *-/ak/* is added. Since *-/ak/* is a variant of *-/k/*, the suffix seems to replace */i/*. Labiovelar */w/* corresponds to */k/* in the BF of *towit* (2c), where */i/* is probably an epenthetic vowel to avoid the sequence **/wt/*, never to be found in Chamacoco.³²⁷ The suffix *-/k/* or *-/ak/* is the most widely used for the masculine BF. The BF can be expressed by the root showing word-final glottalization, as in (2d) and (2e). Since glottalization can only occur in word-final position (see §2.3), it is not observed when affixes or clitics are added to the root or the BF.³²⁸ One wonders whether final glottalization should be considered an inherent feature of the root or a single morpheme for the BF. Here the first hypothesis will be preferred. *Shepikit* */ʕepikit/* (2f) and *ihnaapsit* */iɲa:psit/* (2h) have BF with final glottalization, but there is root allomorphy in BF vs. FF, because */o/* and */a/* reduce to */i/* in the FF. As in the nominals in (1) and (2), in (2f-h), the plural suffix *-/o/* replaces the last root-vowel. Since in *shepikit* */ʕepikit/* (2f) the last root-vowel and the plural suffix *-/o/* coincide, the BF *shekipo* */ʕekipoʔ/* and its plural *shekipo* */ʕekipo/* only differ in the presence vs. absence of final

³²⁷ On this nominal, see below (ex. 9k-l) and §14.3.1, ex. (62).

³²⁸ Final glottalization is not represented in the orthography of Chamacoco. It is generally present in all BFs ending in vowel or approximant. In this work final glottalization is only indicated when it helps to distinguish two forms of the same paradigm or two different words: e.g. *kechine* */keteine/* (FP) vs. *kechine* */keteineʔ/* (FS.BF) ‘Paraguayan woman’.

glottalization. The metathesis to be found in *shepikit* /*ɛpikit*/ does not involve nominal suffixation. Some BFs are common to both masculine and feminine, such as *ihnaapsa* /*ɪ̃na:psaʔ*/.³²⁹

- (2)a. *dukuterit* (MS.FF) ‘greedy’, *dukutero* (MP), *dukuterk* (MS.BF)
- b. *dihirbit* (MS.FF) ‘morning’, *dihirbo* (MP), *dihirbik* / *dihirbak* (MS.BF)
- c. *towit* (MS.FF) ‘idle’, *towo* (MP), *tok* (MS.BF)
- d. *eteikit* (MS.FF) ‘thief’, *eteiko* (MP), *eteikiʔ* ([M/F]S.BF)
- e. *mejkit* (3.MS.FF) ‘arm’, *mejko* (3.MP), *mejkiʔ* (3.MS.BF)
- f. *ɛpikit* / *ɛekipit* (MS.FF) ‘cloth’, *ɛepiko* / *ɛekipo* (MP),
ɛekipoʔ (MS.BF)
- h. *ɪ̃na:psit* (3.MS.FF) ‘countryman, someone of the same country’,
ɪ̃na:pso (3.MP), *ɪ̃na:psaʔ* ([M/F]S.BF)

The nominals in (3) have BF in *-p/*, coinciding with the root. In (3a-b) the BF is common to both masculine and feminine. Epenthetic */i/* is added in the singular FF before the suffix *-t/*. In intervocalic position, that is in the FF and in the plural, root-final */p/* voices into */b/* (and nasalizes into */m/* when required). In such cases, there is no doubt that the BF coincides with the root. The fact that masculine nominals with BF in *-p/* have FF in *-bit/* does not imply that the contrary is true: very often, nominals with FF in *-bit/* do not have BF in *-p/*, such as *dohobit* (1d) and *iljaabit* /*ilxa:bit*/ (1r).

- (3)a. *ixa:bit* (MS.FF) ‘little’, *ixa:bo* (MP), *ixa:p* ([M/F]S.BF)³³⁰
- b. *kosa:bit* (MS.FF) ‘type of bird’ (*garcita azulada*), *kosa:bo* (MP),

³²⁹ These forms will be glossed as ([M/F]S) and will be discussed in detail in the section on gender (§13.3).

³³⁰ This adjective derives from the diminutive of *ijit* /*ixit*/ ‘boy’, which is a Spanish loan (4b).

kosa:p ([M/F]S.BF)

c. paha:bit (MS.FF), paha:bo (3.MP), paha:p (MS.BF) ‘a little bit, little’

The FF suffix *-/t/* and the plural suffix *-/o/* belong to a still productive morphological mechanism, as one can see in the Spanish loans in (4). In this case, the CH adaptation of the Spanish term ends in *-/it/* in the masculine FF. The fact that with these loanwords the BF is not always found indicates that it is no longer productive. As in (2h), in *kabiyuhwit* /kabijuʷit/ the last root-vowel is */i/* in the FF and */a/* in the BF. The gender of the loanwords generally corresponds to the gender in Spanish. *Karpit* (4d) is an exception, because it is masculine, while its Spanish counterpart is feminine. The non-adapted version of *karpit*, *karpa*, is also found and used as an uninflected form in all contexts (including plural ones). The use of non-adapted forms is also to be observed in other loanwords.

(4)a. kabijuʷit (MS.FF) ‘horse’, kabijuʷo (MP), kabiyuʷa ([M/F]S.BF)

(Spanish: caballo)

b. ixit (3.MS.FF) ‘son’, ixo (3.MP) (Spanish: hijo)

c. pwertit / pwert (MS.FF) ‘house’, pwerto (MP)

(from Spanish: puerto ‘port’)

d. karpit (MS.FF) ‘tent’, karpō (MP) karpa (MS/MP), karpik (MS.BF)

(Spanish: carpa)

More than one plural suffix is possible. In (5) *-/o/* alternates with *-/e/*. As shown below, *-/e/* is the typical FP suffix, but is also used for the MP, as in (5c) and (5e), while *-/o/* is always masculine.³³¹ All nominals in (5) take the suffix *-/ak/* in the singular BF, so that a tendential correlation between MP in *-/e/* and BF in *-/ak/* emerges.

³³¹ The masculine and feminine forms will be compared in §13.3.

In this case, one wonders whether /i/ in the singular FF is part of the root or is an epenthetic vowel preceding the suffix *-/t/*. The noun *wechekit* /wetæekit/ (5e) has both a masculine BF *wecheke(k)* /wetæeka(k)/ and an epicene form *wecheke* /wetæeke?/.³³²

- (5) a. *xotsit* (MS.FF) ‘well, hole’, *xotso* / *xotse* (MP), *xotsak* (MS.BF)
- b. *ṇakirbitit* (MS.FF) ‘young man’, *ṇakirbito* / *ṇakirbite* (MP),
 ṇakirbitak (MS.BF)
- c. *ṇinanait* (MS.FF) ‘male of goose’, *ṇinanə* (MP) *ṇinanə* ([M/F]P),
 ṇinanək (MS.BF)
- d. *obitit* (MS.FF) ‘flute, whistle’, *obito* / *obite* (MP), *obitak* (MS.BF)
- e. *wetæekit* (MS.FF) ‘he-goat; ram’, *wetæeko* (MP), *wetæeke* ([M/F]P),
 wetæeke? ([M/F]S.BF), *wetæeka(k)* (MS.BF)
- f. *itëit* (3.MS.FF) ‘dung’, *itëo* / *itëe* (3.MP), *itëak* (3.MS.BF)
- g. *itë:tit* (MS.FF) ‘male’, *itë:to* / *itë:te* (MP), *itë:tak* (MS.BF)

The plural suffix *-/e/*, as used in the MP, is preferred to *-/o/* in some nominals. In (6), *-/e/* is the only plural suffix to be observed.

- (6) *kutëit* (MS.FF) ‘thing’, *kutëe* (MP)

Alternative MP suffixes will be discussed in more detail later on. In (7a) the most used plural suffix is *-/o/*, but the plural *loship-tso* /*loëip-tso*/ is also found. *-/tso/* is a rare MP suffix, also to be found, for instance, in *hnentitso* /*ṇentitso*/ (7b). Another MP suffix is *-/lo/* (7c-e). This is the same element to be found in the greater plural of free pronouns (§3.2) and in verb morphology (§5.1), where it is a 2P-person or a greater plural suffix.^{333, 334} *-/lo/* occurs in a few

³³² In the case of *wechekit*, /i/ is part of the root, as shown in the BF *wecheke?*. This form was reported, because it is the one recorded in the field, but in this context /i/ and /e/ are free variants as last vowel of the root (see §13.2.2).

³³³ The greater plural suffix attaches to the 1PI-person. This can be interpreted

nominals and no semantic difference with respect to *-o/* emerges in (7c-d). The noun *irmit* can take the suffix *-no/*, the nasalized counterpart of *-lo/*, although the nasalization mechanism is no longer productive: it never occurs with the suffix *-lo/* in verb morphology and is not observed in all nominals. The noun *ormit* (7d), for instance, has a nasal element in the root, but its plural suffix *-lo/* does not nasalize. In *irmit* there is also a plural in *-o/* which conveys a different meaning (‘world’). The nominals in (7) have roots ending in *-i/*, which deletes when *-o/* is added, but is preserved in (7b-e) when the suffixes *-tso/*, *-lo/* and *-no/* are added.

- (7) a. *loɛpɪt* (MS.FF) ‘animal’, *loɛipo* / *loɛiptso* (MP), *loɛipɪk* (MS.BF)
 b. *ɲentit* (MS.FF) ‘type of bird’, *ɲento* / *ɲentitso* (MP), *ɲentak* (MS.BF)
 c. *omtsit* (3.MS.FF) ‘bed’, *omtso* / *omtsilo* (3.MP).
 d. *ormit* (MS.FF) ‘woods’, *ormo* / *ormilo* (MP), *ormɪk* (MS.BF)³³⁵

typologically. In most cases the 1PE-person can be regarded as the plural of the 1S-person, whereas the 1PI-person tends to be regarded as a person on its own and sometimes shows further distinctions, such as plural vs. dual. In Chamacoco, the greater plural seems to play the role of a sort of plural of the 1PI-person (see §3.2).

³³⁴ According to Comrie *et al.* (2010: 99), an areal feature of Chaco languages is the presence of a plural suffix consisting in a lateral consonant optionally followed by a vowel, *C_{lat}(V)*. Compare the CH plural suffix *-lo* with *-l* in Pilagá, *-l(V)(m)* in Vilela, *-lh ~ -l* and *-lis* in Wichí (Comrie *et al.*, *ibidem*). As one can see from the data provided in Campbell & Grondona (2012b: 645), this type of plural suffix is also present in other Chaco languages, such as Chorote (*-VI /-l*) and Lule (*-l, -el, -le, -il, -yl*). Nivaclé has the suffix *-k* (<*kl* <*l*) and a plural suffix *-el* used for pronouns and verbs, while Toba and Mocoví have a paucal in *-l* (*ibidem*). On this suffix, see also Ciucci (2014b: 25-26).

³³⁵ *Ormit* is the original CH word for ‘woods’. Nowadays this word tends to be

- e. *irmit* (MS.FF) ‘edge’, *irmino* (MP) ‘edge’, *irmo* (MP) ‘world’,
irmik (MS.BF)

The use of *-/e/*, *-/tso/* and *-/lo/* is lexically idiosyncratic. In nominals with FF in *-/it/*, the plural suffix *-/o/* generally replaces the last root-vowel. This does not occur in the nominals in (8), where such a vowel is preserved and there is */j/* insertion before *-/o/*.³³⁶ Root-final */i/* has assimilated to */j/* and turns into */i/*, however, *-/jo/* should not be considered a suffix, because the insertion of a semiconsonant before the plural suffix is frequent in masculine forms, as shown below. This is the same kind of plural to be found in masculine nominals in *-/it/* (see §13.1.1). These should be considered exceptions, for this could be due to the fact that the original root-vowel was */i/*, which turned into */i/* in the FF. The lack of the BF is not very frequent among autochthonous nominals in *-/t/*.³³⁷

- (8) a. *loɛit* (MS.FF) ‘fish’, *loɛijo* (MP)
 b. *etɛit* (3.MS.FF) ‘pet’, *etɛo* (3.MP), *etɛijo* (3.MP)

In (9a-j), one finds nominals in *-/it/* characterized by */w/* insertion in the plural. The nominals in (9a-j) show alternation between */i/* and */u/* as last root-vowel. The former vowel is present in the FF and in most BFs. The plural is the same as that of nominals with */u/* as last root-vowel. This vowel (like */i/*) is usually not deleted by the plural suffix. Labiovelar */w/* is added before the

replaced by the loanword *hmont* /m̥ont/, stemming from Spanish *monte* ‘mount; woods’.

³³⁶ For reasons of simplicity, epenthetic vowels and semivowels in the plural will not be indicated when a text or parts of text are reported.

³³⁷ It is more frequent among masculine nominals in *-/tɛ/*.

plural suffix *-/o/*. The insertion of */w/*, rather than */j/* (as in (8) and (10)), depends of course on */u/*. In *kasit* (9c) the suffixes *-/tɕo/* or *-/tso/* (two variants of the same suffix) are also used. In this case, the last root-vowel is */i/*. In *porotit* (9h) two plurals are observed, one in *-/o/* (which has replaced */i/*) and another in *-/wo/* (after */u/*). In *ukutit* (9i) the plural in *-/lo/* is also found, while in *ijit* */ixit/* (9e) the plural suffixes *-/o/* and *-/e/* alternate. This vocalic alternation is probably due to the fact that in some nominals */u/* has reduced to */i/* in the singular FF. In *dit* (9a) and *ijit* */ixit/* (9j) */u/* is still to be found in a variant of the FF. The loanword *kanshit* */kanɕit/* is masculine in Chamacoco, but derives from a feminine Spanish word. In (9k-l) final */k/* in the BF is part of the root which has been reinterpreted as */w/* in the rest of the paradigm. In (9k) the second */o/* turns into */u/* in the plural and in the FF *poruwit*, probably owing to assimilation to */w/*.³³⁸

- (9)a. *dit* / *dut* (MS.FF) ‘village’, *duwo* (MP)
- b. *kanɕit* (MS.FF) ‘court, field’, *kanɕuwo* (MP), *kanɕik* (MS.BF)
(Spanish: *cancha* ‘field, ground’)
- c. *kasit* (MS.FF) ‘old Chamacoco game’, *kasuwo* / *kasitɕo* /
kasitso (MP), *kasik* (MS.BF)³³⁹
- d. *kotit* (MS.FF) ‘type of snake, *yararé*’, *kotuwo* (MP), *kotik* (MS.BF)
(*Bothrops jararaca*)

³³⁸ The alternative FF *poorc* */po:rtɕ/* is probably the result of the reinterpretation of the root.

³³⁹ *Kasit* is an archaic word. It is similar to *kasit* (MS.FF) / *kasik* (MS.BF) ‘fearful’, but *kasit* ‘old Chamacoco game’ seems to have the accent on the first syllable, while *kasit* ‘fearful’ on the second syllable (see also: Ulrich & Ulrich 1994a: 42). There is also a difference in the plural suffix, because *kasit* ‘old Chamacoco game’ has the plurals *kasuwo*, *kasicho* */kasitɕo/* and *kasitso*, while *kasit* ‘fearful’ has the MP *kasu*.

- e. *ɲetɛit* (MS.FF) ‘thanks’, *ɲetɛuwo* (MP), *ɲetɛik* (MS.BF)
- f. *miɲit* (MS.FF) ‘bad, evil’, *miɲuwo* (MP), *miɲik* (MS.BF)
- g. *polit* (MS.FF) ‘widower’, *poluwo* (MP), *polik* (MS.BF)
- h. *porotit* (MS.FF) ‘bean’, *poroto* / *porotuwo* (MP), *porotik* (MS.BF)
(Spanish: *poroto*)
- i. *ukutit* (3.MS.FF) ‘fire’, *ukutuwo* / *ukutulo* (3.MP), *ukutak* (3.MS.BF)
- j. *ixit* / *uxut* (3.MS.FF) ‘side’, *ixuwo* / *ixuwe* / *uxuwo* / *uxuwe* (3.MP)
- k. *poruwit* / *po:rte* (MS.FF) ‘ancestor’, *poruwo* (MP), *porok* (MS.BF)
- l. *towit* (MS.FF) ‘lazy, idle’, *towo* (MP), *tok* (MS.BF)

§13.1.1 Masculine nominals in *-it*/

The masculine nominals in (10) have root in *-i(?)*/, as one can see in the BF, where */i/* is usually preserved. In the singular FF *-t/* is added. The BF is generally obtained by means of the suffix *-k/* or *-ak/*. In (10c) and (10g) the BF in *-ak/* alternates with a BF coinciding with the root. This BF is often common to both masculine and feminine (10g), but the suffixes *-k/* and *-ak/* are only used to form the masculine BF. When the suffix *-ak/* is added, */j/* is inserted between root and suffix (10c, g, i-m). There is no rule to predict the shape of the masculine BF. */j/* is also added before the plural suffix *-o/*, which in some cases alternates with *-e/* (10c, h-i, l). Apocope of the last vowel may sometimes occur in the plural, as in *kochiit* /*kotɛi:t*/ (10g), which besides the MP *kochiiyo* /*kotɛi:jo*/ also has the form *kochii* /*kotɛi:/*, common to both masculine and feminine. The sequence */ij/* can reduce in the BF (10f, h, p) and the plural (10a, d, f, h, n, p). In most cases */i/* drops and occasionally */j/* devoices (10h). In (10p) */j/* drops and */ĩ:/* assimilates to */a/*. The FF suffix *-t/* alternates with *-tɛ/* in (10a, n-o).

- (10) a. *debihit* / *debihitɛ* (3.MS.FF) ‘nephew’, *debijo* (3.MP),
debihik (3.MS.BF) (also: *debuhtɛ*)

- b. demonit (MS.FF) ‘demon’, demonjo (MP) (Spanish: demonio)
- c. ditei:t (MS.FF) ‘ant’, ditei:jo / ditei:je (MP), ditei:ʔ / ditei:jak (MS.BF)
- d. dosiri:t (MS.FF) ‘suffering’, dosiri:jō / dosirjō (MP)
- e. diteikĩri:t (MS.FF) ‘type of bird’, diteikĩri:jak (MS.BF),
diteikĩri:jo (MP) (*Caracara plancus*)
- f. ihīt (3.MS.FF) ‘wing; leaf’, ijō (3.MP), ijāk (3.MS.BF) (also: ijīt)
- g. kotei:t (MS.FF) ‘black howler’, kotei:jo (MP) / kotei: ([M/F]P),
kotei:ʔ ([M/F]S.BF), kotei:jak (MS.BF) (*Alouatta caraya*)
- h. mojhīt (MS.FF) ‘pipe’, mojjō / mojjē (MP), mojhāk (MS.BF)
- i. perīt (MS.FF) ‘flour of manioc’, perījo / perīje (MP), perījak (MS.BF)
- j. torīt (3.MS.FF) ‘faint’, torī:jo (3.MP), torī:jak (3.MS.BF)
- k. wĩri:t (MS.FF) ‘other side, Brazil’, wĩri:jo (MP), wĩri:jak (MS.BF)
- l. wĩrīt (MS.FF) ‘hill’, wĩrī:jo / wĩrī:je (MP), wĩrī:jak (MS.BF)
- m. joni:t (3.MS.FF) ‘ghost, spirit’, joni:jo (3.MP), joni:jak (3.MS.BF)
- n. ibihite / ibihit (3.MS.FF) ‘cry, shout’, ibijo (3.MP)
- o. ikiřīt / ikiřite (3.MS.FF) ‘life’, ikiřjo (3.MP), ikiřk (3.MS.BF)
- p. ieĩrīt (MS.FF) ‘season, date’, ieĩrī:jo / ieĩrjo (MP), ieĩrā:k (MS.BF)

§13.1.2 Masculine nominals in -ut/

In (11) one finds nominals with /u/ as last root-vowel. Some of these nominals display the vocalic alternation between /i/ and /u/ in the root and have thus already been analyzed as nominals in -/it/ (9). The BF is not observed for all nominals in (11). In *bahlut* /baɭut/ (11a) and *wuput* (11h) the BFs *bahlu* /baɭuʔ/ and *wupu*² coincide with the root. In (11c, f) the suffix -/k/ is used for the BF. In the plural, /w/ is inserted before -/o/, which can alternate with -/e/ (10d, g). In the plural of *iikut* /i:kut/ (11c), one finds syncope of the plural suffix, while the sequence /uw/ simplifies in the plural of (11e). *Kenuut* /kenu:t/ (10d) is a Spanish loan and also displays a non-adapted form *kenuuwa* /kenu:wa/, only used in the singular. The FF *uut* /u:t/ ‘under, below; nest, house of animals’ conveys two meanings with different BF and plural (11f). In the meaning ‘under,

below', the plural is *uulo* /u:lo/ and no BF is reported. When *uut* /u:t/ means 'nest, house of animals', the plural is *uuwo* /u:wo/ and the BF is *uuk* /u:k/.

- (11) a. *bałut* (MS.FF) 'chief; big', *bałuwu* (MP), *bału*² / *bałuwu* (MS.BF)
 b. *du* / *dit* (MS.FF) 'village', *duwo* (MP)
 c. *i:kut* / *ihikut* / *ihikit* (3.MS.FF) 'top of head, skullcap', *i:ku* (3.MP),
ihikik (3.MS.BF)
 d. *kenu:t* (MS.FF) 'boat, canoe', *kenuwo* / *kenuwe* (MP),
 (also *kenuwa*, used in the singular; Spanish: *canoa* 'canoe')
 e. *oruhut* (MS.FF) 'precious', *oruwo* (MP)
 f. *u:t* (3.MS.FF), *u:lo* (3.MP) 'under, below'
u:t (3.MS.FF), *u:wo* (3.MP), *u:k* (3.MS.BF) 'nest, house of animals'
 g. *uxut* / *ixit* (3.MS.FF) 'side', *uxuwo* / *uxuwe* (3.MP)
 h. *wuput* (MS.FF) 'black vulture', *wupuwo* (MP), *wupu*² ([M/F]S.BF)
 (*Coragyps atratus*)

§13.1.3 Masculine nominals in -/ot/

The nominals in (12) have /o/ as last root-vowel, sometimes reducing to /i/ in the FF (12c, f). The singular BF can end in -/o/, thus coinciding with the root (12c, f-g), or can take the suffix -/k/ (12a, d). In the plural, -/o/ is added and merges with the root vowel -/o/. In this process, final glottalization is lost. This is confirmed in the nominals where the plural suffix -/e/ is also reported (12d, f). As a result, when the BF ends in -/o²/ and the plural takes the suffix -/o/, these forms only differ in the presence vs. absence of final glottalization. In (12b) and (12f), variants of the lemmatized form are observed. *Keshit* /keɕit/ and *keshuwut* /keɕuwut/ are variants of *keshiwot* /keɕiwot/ (12b). The plural of *keshiwot* /keɕiwot/ and

keshit /keɪt/ is the same, but *keshuwut* /keɪuwut/ has the plural *keshuwo* /keɪuwo/, in which the suffix -/o/ replaces /u/.³⁴⁰ In (12f) intervocalic /k/ deletes in *tarot*.³⁴¹ In this case, the suffix -/o/ or -/e/ is added and there is /w/ insertion. An alternative hypothesis is that here /k/ has been reinterpreted as /w/. These examples show that, although the plural in -/o/ seems to derive from the mere loss of final glottalization, this happens because the suffix is actually added to the root.

- (12) a. *alokot* (3.MS.FF) ‘nickname’, *aloko* (3.MP), *alokok* (3.MS.BF)
 b. *keɪiwot* / *keɪt* / *keɪuwut* (MS.FF) ‘log canoe’, *keɪiwo* / *keɪuwo* (MP)³⁴²
 c. *kokot* / *kokit* (MS.FF) ‘rooster’, *koko* (MP), *kokoʔ* (3.MS.BF)³⁴³
 d. *o:ɛijot* (MS.FF) ‘hole in the ground’ (archaic), *o:ɛijo* / *o:ɛije* (MP), *o:ɛijok* (MS.BF)
 e. *o:t* (3.MS.FF) ‘weapon’, *o:lo* (3.MP), *o:k* (3.MS.BF)
 f. *tarokot* / *tarot* / *tarikit* (MS.FF) ‘year’, *taroko* (MP) / *tarowo* / *tarowe* (MP), *tarokoʔ* (MS.BF)
 g. *ɪlpijot* (MS.FF) ‘jaguar’, *ɪlpijo* (MP), *ɪlpijoʔ* (MS.BF)

§13.1.4 Masculine nominals in -/at/

Masculine nominals with FF in -/at/ usually have BF in -/aʔ/, coinciding with the root. An alternating BF in -/k/ is occasionally

³⁴⁰ /w/ insertion is not possible here, because /w/ is already present in the last syllable of the root.

³⁴¹ /k/ deletion occurs fairly frequently between two identical vowels in Chamacoco.

³⁴² The word *keshiwot* /keɪiwot/ is archaic: it is the original word for ‘canoe’. Nowadays this word is replaced by the Spanish loan *kenuut* /kenu:t/ or *kenuwa* (11d).

³⁴³ This word is probably of onomatopoeic origin.

possible. In the plural, *-o/* is generally added and it replaces the root vowel */a/*, unless deleted by */a/* itself. In both cases, root-final glottalization is lost. As a result, in most nominals of (13) the difference between BF and plural is the presence vs. absence of final glottalization. Alternation between plurals in *-a/* and *-o/* is to be observed in (13b), (13d) and (13h). *Kabahat* (13e) is an exception in the plural. *Aat* */a:t/* (13a) takes the plural suffix *-lo/*.

- (13) a. *a:t* (3.MS.FF) ‘smell; body’, *a:lo* (3.MP), *a:ʔ* (3.MS.BF)
 b. *bahat* (3.MS.FF) ‘price’, *baho* / *baha* (3.MP), *bahaʔ* / *bahak* (3.MS.BF)
 c. *ɰa:t* (MS.FF) ‘jaguar’, *ɰa:* (MP), *ɰa:ʔ* (MS.BF)
 d. *ijakat* (3.MS.FF) ‘crying’, *ijako* / *ijaka* (3.MP), *ijakaʔ* (MS.BF)
 e. *kabahat* / *kabehet* (MS.FF) ‘horse’, *kabijuho* (MP), *kabahaʔ* ([M/F]S.BF) (Spanish: *caballo*)
 f. *kasa:t* (MS.FF) ‘ant’, *kasa:* (MP), *kasa:ʔ* / *kasa:k* (MS.BF)
 g. *ojajuwat* / *ojojuwat* (MS.FF) ‘giant anaconda’, *ojajuwa* (MP), *ojajuwaʔ* (MS.BF)
 h. *irahat* (MS.FF) ‘climbing plant, branch’, *iraho* / *iraha* (MP), *irahaʔ* / *irahak* (MS.BF)

§13.1.5 Masculine nominals in *-êt/*

The BF suffix and the plural suffix of nominals in *-êt/* are preceded by */r/*, not present in the FF. One wonders whether this consonant should be considered a part of the root or an insertion. In this section the first option will be adopted. Nominals in *-êt/* take the suffix *-ak/* in the BF. In the plural, both *-o/* and *-e/* are usually used. In (14c) only the plural in *-e/* is reported. The plural in *-e/* is often common to both masculine and feminine (14a-b, f-h). The data in (14) confirm the correlation between the plural suffix *-e/* in

the MP and the BF suffix *-/ak/*. *Losēt* (10d) shows the rare suffixes *-/lo/* and *-/no/* in the plural.

- (14) a. *etē:t* (MS.FF) ‘snake’, *etēire* ([M/F]P) / *etēiro* (MP), *etēirāk* (MS.BF)
 b. *ijēt* (3.MS.FF) ‘friend, companion’, *ijēre* (3.[M/F]P) / *ijēro* (3.MP),
ijērak (3.MS.BF)
 c. *lasēt* / *dasēt* (3.MS.FF) ‘son-in-law’, *lasēre* / *dasēre* (3.MP),
lasērak / *lasīrak* (3.MS.BF) (also: *lasē:t*)
 d. *losēt* / *dosēt* (3.MS.FF) ‘charity, gift’, *losēlo* / *losēno* (3.MP),
losērak (MS.BF) (also: *losē:t*)³⁴⁴
 e. *lukuņe:t* (GF.MS.FF) ‘song’, *lukuņe:ro* / *lukuņe:re* (GF.MP),
lukuņe:rak (GF.MS.BF)
 f. *oļē:t* (MS.FF) ‘dog’, *oļē:ro* (MP), *oļē:re* ([M/F]P), *oļē:rak* (MS.BF)
 (archaic word for ‘dog’)
 g. *pohikēt* (MS.FF) ‘fallen leaves’, *pohikēre* / *pohikēro* (MP),
pohikērak (MS.BF)
 h. *potēt* / *potē:t* (3.MS.FF) ‘tooth’, *potēro* / *potēre* (3.MP),
potērak (MS.BF)
 i. *wetē:t* (MS.FF) ‘young initiate’, *wetē:ro* / *wetē:re* (MP),
wetē:rak (MS.BF)

§13.1.6 Masculine nominals in *-/ehet/*

Masculine nominals in *-/ehet/* are characterized by vowel changes in the root. They have the plural ending *-/aho/*, where only final *-/o/* should be regarded as the actual suffix. In *kinaho*, the plural of *kinehet* (15d), final */o/* optionally turns into */u/*. Most BFs end in *-/ahaʔ/* and coincide with the root, to which the plural suffix *-/o/* is added. This is evident in *imehet* (15k), which also has plural in *-/tso/*; in this case, the suffix is added to the root in *-/ahaʔ/*. When

³⁴⁴ The plural form *losēno* is preferred.

the BF in *-/ahaʔ/* is reported, */a/* turns into */e/* in the FF. *Dehet* has the BF *dehek* with the suffix *-/k/* and with the sequence *-/ehe/-* in the root, rather than *-/aha/-*, to be found in the other nominals in *-/ehet/*.

- (15) a. *dehet* (MS.FF) ‘path’, *daho* (MP), *dehek* (MS.BF)
 b. *ehet* (3.MS.FF) ‘inside’, *aho* (3.MP)
 c. *konsehet* (MS.BF) ‘shaman’, *konsaho* (MP), *konsahaʔ* (MS.BF)
 d. *kinahet* (MS.FF) ‘different’, *kinaho* / *kinahu* (MP),
kinahaʔ ([M/F]S.BF)
 e. *kiskirehet* (MS.FF) ‘knife, machete’, *kiskiraho* (MP),
kiskirahaʔ ([M/F]S.BF)³⁴⁵
 f. *kutimrehet* (MS.FF) ‘Chamacoco clan name’, *kutimraho* (MP),
kutirahaʔ ([M/F]S.BF) (also: *kutumrehet*)
 g. *pehet* (MS.FF) ‘piece, part (half-part)’, *paho* (MP)
 h. *porpehet* (MS.FF) ‘wasp’, *porpaho* (MP), *porpahaʔ* (MS.BF)
 i. *poëirêhet* (MS.FF) ‘dragonfly’, *poëirâho* (MP), *poëirâhaʔ* (MS.BF)
 j. *pojarêhet* (MS.FF) ‘iguana’, *pojarâho* (MP), *pojarâhaʔ* /
pojarâhak (MS.BF)
 k. *imehet* (3.MS.FF) ‘enemy’, *imaho* / *imahatso* (3.MP),
imahaʔ (3.[M/F]S.BF)
 l. *ilehet* (3.MS.FF) ‘face’, *ilaho* (3.MP)

§13.1.7 Masculine nominals in *-/et/*

The following examples list nominals with FF in *-/et/* (16-18). When the BF is reported, it ends in *-/s/* (16-17) and coincides with the root. The suffix *-/o/* is added to obtain the plural. Root-final */s/* turns into */e/* when the FF suffix *-/t/* is added. The nominals in (17) derive from *osht* /*oet*/ ‘person’ (17a). The nominals in (18a-c) have

³⁴⁵ This form coincides with the BF of *kiskirahata*.

no BF, and their root does not end in *-s/*, because pre-final */ɛ/* is also preserved in the plural, obtained by means of the suffix *-o/*. In *imishiyo* /imieijo/ (18a) */j/* is inserted after the root vowel */i/*. Alternatively, */i/* drops in the FF. *Boshesht* /boœet/ is a very frequent loanword. *Iisit* /i:sit/ ‘relative’ (18d) has root in *-s/*, thus coinciding with the BF (like the nominals in (16-17)), but */s/* is also preserved in the FF, with */i/* insertion before the suffix *-t/*.

- (16) a. *awœt* (3.MS.FF) ‘word’, *awoso* (3.MP), *awos* (3.MS.BF)
 b. *bortiet* (MS.FF) ‘clothing’, *bortiso* (MP), *bortis* (MS.BF)
 c. *kuskuœt* (MS.BF) ‘type of bird’, *kuskuœo* (MP), *kuskus* (MS.BF)
 d. *poœt* (3.MS.FF) ‘food’, *poso* (3.MP) / *posilo* (3.MP), *pos* (3.MS.BF)³⁴⁶
 e. *utuœt* (3.MS.FF) ‘root, vein’, *utuso* (3.MP), *utus* (3.MS.BF)
 (also: *itiet*)
 f. *ihiiœœt* (MS.FF) ‘belt’, *ihiiœœso* (MP), *ihiiœœs* (MS.BF)
- (17) a. *oœt* (MS.FF) ‘person’, *oso* (MP), *os* (MS.BF)
 b. *oœrptoœt* (MS.FF) ‘soldier’, *oœrptos* (MP), *oœrptos* (MS.BF)
 c. *po:iiœœt* (MS.FF) ‘God’, *po:iiœœso* (MP) ‘gods’, *po:iiœœs* (MS.BF)
 d. *uhiiœœt* (MS.FF) ‘last’, *uhiiœœso* (MP), *uhiiœœs* (MS.BF)
 e. *ibitoœt* (MS.FF) ‘Ebitoso’, *ibitoso* (MP), *ibitos* (MS.BF)
- (18) a. *imiet* (3.MS.FF) ‘medicine’, *imieijo* (3.MP)
 b. *boœœt* (MS.FF) ‘boy’, *boœœo* (MP) (Spanish: *muchacho*)
 c. *polaœt* (MS.FF) ‘rattle used by shamans’, *polaœo* (MP)
 d. *i:sit* (3.MS.FF) ‘relative’, *i:so* (3.MP), *i:s* (3.MS.BF)

³⁴⁶ The plural form *posilo* is rare.

§13.1.8 Masculine nominals in *-/rt/*

The nominals in (19) and (20a-c) have FF in *-/rt/*. The BF idiosyncratically takes the suffix *-/k/* or *-/ak/*. Some BFs in *-/rʔ/* are observed (19c, e, i; 20c). These coincide with the root and occasionally alternate with the BF in *-/ak/*. As already mentioned, the BF with final glottalization is often epicene, while the BF in *-/ak/* is only masculine. Also the loan *tambort* ‘drum’ has a glottalized BF. In the plural *-/o/* is added. The plural suffix *-/e/* in some cases alternates with *-/o/* (19a, f, g). In (19a) the plural in *-/e/* is epicene. The plural of *irürt* (19m) is an exception, because */r/* drops and there is */w/* insertion. *Dosdart* is very rare as compared with its BF *dosdarak*. In (20a-b) the plural suffix is *-/tso/*, while in (20c) *-/o/* alternates with the rare masculine variants *-/tso/* and *-/tso/*, to be observed for instance in *loshipit* /*loɕipit*/ (7a) and *hnentit* /*ɲentit*/ (7b).

- (19) a. *ahĩrt* (2S.MS.FF) ‘companion, friend’, *ahĩre* (2S.[M/F]P)
 / *ahĩro* (2S.MP), *ahĩrak* (2S.MS.BF)
 b. *dosdart* (MS.FF) ‘sad’, *dosdaro* (MP), *dosdarak* (MS.BF)
 c. *diteãeirt* / *diteãeirtɛ* (MS.FF) ‘fly’, *diteãeiro* (MP), *diteãeirak* (MS.BF)
 / *diteãeirʔ* ([M/F]S.BF)
 d. *ebirt* (MS.FF) ‘sterile’, *ebi-ro* (MP), *ebirak* (MS.BF)
 e. *hutkejkẽrt* (MS.FF) ‘manguruju fish’, *hutkejkẽro* (MP),
 hutkejkẽrak (MS.BF) / *hutkejkẽrʔ* (MS/FS.BF),
 f. *ijokõrt* (3.MS.FF) ‘noise’, *ijokõro* / *ijokõre* (3.MP),
 ijokorãk (3.MS.BF)
 g. *ɱart* (MS.FF) ‘egg’, *ɱaro* / *ɱare* (MP), *ɱarak* (MS.BF)
 h. *ɱort* (MS.FF) ‘Ayoreo’, *ɱoro* (MP), *ɱorʔ* / *ɱork* (MS.BF)
 i. *tambort* (MS.FF) ‘drum’, *tamboro* (MP), *tamborʔ* (MS.BF)
 (Spanish: *tambor*)
 j. *tĩpert* (MS.FF) ‘virgin soil’, *tĩpero* (MP), *tĩperk* (MS.BF)
 k. *jokĩrt* (MS.FF) ‘light’, *jokĩro* (MP), *jokĩrak* (MS.BF)

- l. juwĩrt / juwĩrtɛ (MS.FF) ‘killer’, juwĩro (MP), juwĩrk (MS.BF)
 m. irũrt / irũrtɛ (MS.FF) ‘tooth’, irũwo (MP), irũrk (MS.BF)³⁴⁷
 (also: urũrtɛ)

- (20) a. wihĩrt (MS.FF) ‘red’, wihĩrtso (MP), wihĩrk (MS.BF)
 b. ihĩrt (MS.FF) ‘beautiful’, ihĩrtso (MP)
 c. leeĩrt (MS.FF) ‘fisherman’, leeĩro / leeĩrtso / leeĩrteo (MP),
 leeĩrʔ ([M/F]S.BF), leeĩrak (MS.BF)

§13.1.9 Masculine nominals in -/Ct/

The masculine nominals in (21), (22) and (23) have FF ending in a consonant followed by /l/ or /ɭ/ (21), /n/ (22) or /tɛ/ (23).³⁴⁸ The BF generally shows the suffix -/ak/. The plural usually takes the suffix -/o/. In some cases (21a-b, d; 22a-b) also the plural in -/e/ is found. This is epicene and generally correlates with the suffix -/ak/ in the BF (with the exception of (21a)). The nominals in (21a, d, g) and (22c) have BFs ending in -/Vʔ/: *ahle* /aɭeʔ/ (21a), *poohla* /po:ɭaʔ/ (21d), *woloʔ* (21g), *nohmihna* /noɱɪɳaʔ/ (22c). This vowel is not present in the FF: one wonders whether -/Vʔ/ is a part of the root which dropped in the FF or is a BF suffix. All these forms are epicene and will be analyzed in more detail in the section on feminine nominals (see §13.2.4).

³⁴⁷ According to the informants, this word is archaic and *potēt* (14h) is nowadays more frequent. The plural *irũro* is also found, but is not accepted by all speakers.

³⁴⁸ The digraph <rz> represents the sounds [ɭɹ] or [ɹɭ]. When the phoneme /ɹ/ is followed by /tɛ/ they are usually pronounced [ɭɹ]. When the sequence of /ɹ/ and /tɛ/ is followed by /t/, /ɹtɛ/ is generally pronounced [ɹɭ].

- (21) a. ahilt / ałt (MS.FF) ‘new’, ało / a:ło (MP), ałe / a:łe ([M/F]P),
ałe’ ([M/F]S.BF)
b. akilt (3.MS.FF) ‘companion, friend’, akile (3.[M/F]P) / akilo (3.MP),
akilak (3.MS.BF)³⁴⁹
c. dilt (3.MS.FF) ‘leg’, dile / dilo (3.MP), dilak (3.MS.BF) /
pirt (1S.MS.FF), pırak (1S.MS.BF)
d. po:łt (MS.FF) ‘pig’, po:łe ([M/F]P) / po:ło (MP), po:ła’ ([M/F]S.BF) /
po:łak (MS.BF) (also: połt)
e. pułt (MS.FF) ‘nasal bridge’, puło (MP)
f. jilt (3.MS.FF) ‘slave, servant’, jilo (3.MP), jilak (3.MS.BF)
g. wolt (3.MS.FF) ‘cap’, wolo (3.MP), wolo’ (3.MS.BF)³⁵⁰
- (22) a. keteint (MS.FF) ‘Paraguayan person’, keteine ([M/F]P) /
keteino (MP), keteinak (MS.BF)
b. komant (MS.FF) ‘piranha’, komano (MP) / komane ([M/F]P),
komanak (MS.BF)
c. nomınt (MS.FF) ‘horse’, nomıno (MP), nomına’ ([M/F]S.BF)
- (23) berzt (MS.FF) ‘high, tall’, berzo (MP), berzak (MS.BF)

In (24) one finds loans with root ending in *-l/* (24a, d), *-n/* (24c, e) and *-s/* (24b). As most loanwords, these nominals do not have the masculine BF, which is no longer productive. The MP suffix is *-o/*. Masculine loanwords usually take the suffix *-t/* in the FF: this shows that the FF in *-t/* is still productive, while the masculine FF suffix *-te/* is unusual for Spanish loans (and is probably no longer productive). In *nemest* and *silt* the CH gender does not correspond to the Spanish one. A form ending in *-a/*, corresponding to the non-adapted ending of the Spanish source (*mesa*, *silla*), is to be

³⁴⁹ The plural form *akile* is preferred.

³⁵⁰ This form coincides with the BF of *wolta* ‘hat’.

observed and can be used in all contexts.³⁵¹ This also occurs in *latrilt*, which has the alternative *latrila*, although this does not directly correspond to the Spanish form *ladrillo*.

- (24) a. *latrilt* (MS.FF) ‘brick’, *latrilo* (MP), *latrila* (MS/MP)
(Spanish: ladrillo)
b. *nemest* (MS.FF) ‘table’, *nemeso* (MP), *nemesa* (MS/MP)
(Spanish: mesa)
c. *pikiñint* (MS.FF) ‘boy, child’, *pikiñino* (MP) (Spanish: pequeño)
d. *silt* (MS.FF) ‘chair’, *silo* (MP), *sila* (MS/MP) (Spanish: silla)
e. *wint* (MS.FF) ‘wine’, *wino* (MP) (Spanish: vino)

§13.1.10 Other masculine nominals in *-t/*

In (25) one finds loanwords with the FF suffix *-t/* which do not fall into the groups discussed above. In (25a-b) the suffix *-t/* is preceded by */j/*. In (25b) a BF in *-/jʔ/* is reported. The plural in *-/o/*, *weyo* */wejo/*, alternates with *wey* */wej/*, which differs from the BF owing to the lack of final glottalization. In (25c) the singular in *-/it/* alternates with the reduced form *keyet* */kejet/*. In the plural, both *-/e/* and *-/o/* are to be found. The masculine noun *keyet* */kejet/* comes from the Spanish feminine *galleta* */ga'leta/*, also found by the uninflected form *kejeta* */kejeta/*.

- (25) a. *äj̣t* (MS.FF) ‘year’, *äj̣o* (MP) (Spanish: año)
b. *wejt* (MS.FF) ‘ox’, *wej* / *wejo*, *wejʔ* (MS.BF) (Spanish: buey)
c. *kejet* / *kejetit* (MS.FF) ‘cookie, biscuit’, *kejeto* / *kejete* (MP),
kejeta (MS/MP) (Spanish: galleta)

³⁵¹ For this reason, it has been glossed as MS/MP.

§13.1.11 Masculine nominals in *-/tɛ/*³⁵²

This group includes all masculine nominals with FF ending in *-/tɛ/*. The orthography might look ambiguous, because */tɛ/* is generally represented as <ch>, but is transcribed as <c> after */r/* in word-final position (see 13.1.12).

The nominals in (26) have FF in *-/itɛ/*. The BF ends in *-/p/* and coincides with the root. When a suffix is added, final */p/* voices into */b/* and possibly nasalizes into */m/* (26a, f, h). As one can see comparing BF and FF, */i/* in the FF is not part of the root but rather an epenthetic vowel. Epenthetic */i/* is also added in masculine nominals in *-/t/* with root ending in *-/p/* (3). As one can see in examples (27-28), this does not imply that all nominals ending in *-/bitɛ/* or *-/mitɛ/* have BF in *-/p/*. In the MP, *-/o/* is added. In the BF, final *-/p/* is preceded by */a/*, which usually deletes or reduces to */i/* (26a, e) in the FF and in the plural.³⁵³

- (26) a. *aɲimite* (3.MS.FF) ‘grandson’, *aɲimo* (3.MP), *aɲap* (3.[M/F]S.BF)
 b. *dehebite* (3.MS.FF) ‘brother, of a woman’, *dahabo* (3.MP),
dahap (3.MS.BF)
 c. *ɲakirbite* (MS.FF) ‘man’, *ɲakirbo* (MP), *ɲakirap* (MS.BF)
 d. *ki:bite* (MS.FF) ‘smoke’, *ki:bo* (MP), *ki:jap* (MS.BF)
 e. *lecibite* (3.MS.FF) ‘brother’, *lecibo* (3.MP), *lecap* (MS.BF)
 f. *nermite* (3.MS.FF) ‘uncle’, *nermo* (3.MP), *nerap* (MS.BF)
 g. *ihirbite* (3.MS.FF) ‘urine’, *ihirbo* (3.MP), *ihirap* (3.MS.BF)
 h. *ikĩrmite* (3.MS.FF) ‘uncle’, *ikĩrmo* (3.MP), *ikĩrãp* (3.MS.BF)

³⁵² This section does not discuss nominals in *-/tɛ/*, which are the subject of the next section.

³⁵³ The only exception is *dehebach* /*dehebite*/, which will be discussed in (33c).

In (27) one finds nominals with BF in *-ik/* or *-ik/*. The BF takes the suffix *-k/*, while */i/* or */i/* is the last root vowel. In the plural there is */j/* insertion before the MP-suffix *-o/*, and */i/*, when present, turns into */i/* (27a, d, g-h). In (27a, f) one finds the alternation between *-tɛ/* and *-t/* in the FF. Nominals in *-itɛ/* generally have their plural in *-ijo/*, like nominals in *-it/* (10), which have root in *-i(?)/*. This suggests that the last root-vowel is probably */i/* in all nominals in (27), possibly reducing to */i/* in the BF before the suffix *-k/*. This process does not occur with masculine nominals in *-it/*, because they usually take the suffix *-ak/* in the BF (10). This suffix is not used in (27) and is extremely rare among nominals in *-tɛ/*. The same is true of the plural suffix *-e/*, often correlated with *-ak/*.

- (27) a. ahamitɛ (3.MS.FF) ‘feast’, ahamijo (3.MP), ahamik (3.MS.BF)
 b. debihitɛ / debihit (3.MS.FF) ‘nephew’, debijo (3.MP),
 debihik (3.MS.BF)³⁵⁴
 c. i:tɛ (3.MS.FF) ‘name’, i:jo (3.MP), i:k (3.MS.BF)³⁵⁵
 d. ibitɛ (3.MS.FF) ‘work / servant, employee’, ibijo (3.MP),
 ibik (3.MS.BF)³⁵⁶
 e. iħirmitɛ (3.MS.FF) ‘crying’, iħirmijo (3.MP), iħirmik (3.MS.BF)
 f. iħirītɛ / iħirīt (3.MS.FF) ‘life’, iħirījo (3.MP), iħirīk (MS.BF)
 g. ixitɛ (3.MS.FF) ‘path’, ixijo (3.MP), ixik (3.MS.BF)
 h. irmitɛ (3.MS.FF) ‘jaw’, irmijo (3.MP), irmik (3.MS.BF)

The BF is less frequent among nominals in *-tɛ/* than among those in *-t/*. In (28) one finds nominals ending in *-itɛ/*, for which

³⁵⁴ In this nominal the last root-vowel */i/* drops in the plural.

³⁵⁵ The singular FF *iich /i:tɛ/* is the same for ‘name’ and for ‘thirst’, which has different plural: *iich /i:tɛ/* (3.MS.FF) ‘name, thirst’, *iiyo /i:jo/* (3.MP) ‘name’, *iilo /i:lo/* (3.MP) ‘thirst’, *iik /i:k/* (3.MS.BF) ‘name’.

³⁵⁶ Note that this form coincides with *ibik* ‘it rains’.

no BF is reported. In this case one can assume that the last root-vowel is /i/, preserved in the plural. The plural is the same as that of the nominals in (27), with /j/ insertion before -/o/.

- (28) a. aꞥibite (3.MS.FF) ‘rib’, aꞥibijo (3.MP)
 b. debite (MS.FF) ‘bone’, debijo (MP)
 c. dite / dite (MS.FF) ‘big, large, great’, dejo (MP)
 d. di:te (MS.FF) ‘root’, di:jo (MP)
 e. dikiteibite / dikiteibi:te (GF.MS.FF) ‘ghost’, dikiteibijo (GF.MP)
 f. e:jte (3.MS.FF) ‘on, over, surface, roof’, e:jo (3.MP)
 g. pite (MS.FF) ‘stick, firewood, wood’, pijo (MP)
 h. tobite (MS.FF) ‘camp’, tobijo (MP)
 i. jirmite (3.MS.FF) ‘back’ (anatomy), jirmijo (3.MP)
 j. ibihite (3.MS.FF) ‘shout’, ibijo (3.MP)³⁵⁷
 k. iteibite (3.MS.FF) ‘spirit, image’, iteibijo (3.MP)
 l. inemite (3.MS.FF) ‘grass’, inemijo (3.MP)
 m. inimite (3.MS.FF) ‘gesture’, inimijo (3.MP)
 n. ikite (MS.FF) ‘front, in front of’, ikijo (MP) ‘body’³⁵⁸

In (29a-c) the singular FF ends in -/ite/ and the BF in -/ik/. In the plural, the final vowel of the root is replaced by the suffix -/o/. One can suppose that the last root-vowel is /i/ which turns into /i/ before -/te/, since /i/ is very rare before this suffix. In (29b) the suffix -/t/ is also found and in this case it is preceded by /i/. In masculine nominals in -/it/, the vowel is replaced by the plural suffix. *Yikich* /jikite/ (29d) has BF in -/i?/ replaced by the plural suffix. In this case -/o/ alternates with -/e/, which is very rare with nominals in -/te/. In some cases /i/ is preserved before -/te/. The nominals in

³⁵⁷ As in (27b), in this nominal the last root-vowel /i/ also drops in the plural.

³⁵⁸ This word is used as a locative postposition in the singular and means ‘body’ in the plural.

(29e-g) have no BF, but /i/ preceding -/tɛ/ in the FF is not preserved in the plural, as in (28). This suggests that /i/ is not part of the root.

- (29) a. aṛmite (3.MS.FF) ‘shoulder’, aṛmijo (3.MP), aṛmik (3.MS.BF)
 b. kihimite / kihimit (MS.FF) ‘news; trap’, kihimo (MP),
 kihimik (MS.BF)
 c. kutuhirmite (MS.FF) ‘honey wax’, kutuhirmo (MP),
 kutuhirmik (MS.BF)
 d. jikite / jikite (MS.FF) ‘alcoholic beverage’, jiko / jike (MP),
 jikiʔ (MS.BF)
 e. ŋimite (MS.FF) ‘land, ground’, ŋimo (MP)
 f. ospibite (MS.FF) ‘hive; honey’, ospibo (MP)
 g. iṛite (MS.FF) ‘master, employer’, iṛō (MP)

Some inflected forms of the nominals in (30) coincide. *Pich* /pitɛ/ ‘box, container’ (30a) and *pit* (30c) ‘piece’ have *piʔ* and *pik* respectively as BFs. In both cases the last root-vowel is /i/, replaced by the suffix -/o/, so that both nouns have the same plural *po*. Since /i/ in the BF *piʔ* (30a) tends to become /i/ before the suffix -/tɛ/, the FF *pich* /pitɛ/ coincides with the FF of ‘wood’ (30b). Occasionally /i/ is preserved in the FF of ‘box, container’ (30a). For *pich* /pitɛ/ ‘wood’ (30b) no BF is reported, but /i/ is part of the root, as one can see from the MP in -/ijo/, as the nominals in (28).

- (30) a. pitɛ/pitɛ (MS.FF) ‘box, container’, po (MP), piʔ (MS.BF)
 b. pitɛ (MS.FF) ‘wood’, pijo (MP)
 c. pit (MS.FF) ‘piece’, po (MP), pik (MS.BF)

In (31a), /ej/ in the BF corresponds to /i/ in the FF and in the plural, while in (31) the suffixes -/tɛ/ and -/o/ directly follow /j/, which belongs to the root.

- (31) a. abite (3.MS.FF) ‘husband’, abijo (3.MP), abejʔ (3.MS.BF)

b. *dejte* (3.MS.FF) ‘father’, *dejo* (3.MP), *dejʔ* (3.MS.BF)

Example (32) lists nominals in *-ite/* which take *-lo/* in the plural. This suffix can alternate with *-o/*. These nominals show alternation between */i/* and */i/* root-finally. The nominals in (32a-b, f) have FF in *-it/* and BF in *-ik/*. In (32b, e-g) the variant FF in *-it/* is to be observed. The suffix *-lo/* is generally preceded by root-final */i/*, but in the plurals *kurkulo* (32b) and *kutulo* (32c) the last root-vowel harmonizes to the previous vowel.

- (32) a. *arpite* (3.MS.FF) ‘bed’, *arpo* / *arpilo* (3.MP), *arpiḱ* (3.MS.BF)
 b. *kurkite* / *kurkit* (GF.MS.FF) ‘hammock’, *kurko* / *kurkulo* (GF.MP),
kurkiḱ (GF.BF)
 c. *kutite* (MS.FF) ‘beam’, *kutulo* (MP)³⁵⁹
 d. *i:te* (3.MS.FF) ‘thirst’, *i:lo* (3.MP) ‘thirst’
 e. *obite* / *obit* (MS.FF) ‘injury, wound’, *obiḱlo* (MP)³⁶⁰
 f. *otite* / *otit* (MS.FF) ‘liquid, juice’, *otiḱlo* (MP), *otiḱ*³⁶¹ (MS.BF)
 g. *owite* / *owit* (3.MS.FF) ‘place’, *owiḱlo* (3.MP)³⁶²
 h. *itite* (3.MS.FF) ‘pillow’, *itilo* (3.MP)

In (33) one finds some irregular forms. *Disich* /*disite/* (33a) has a plural in *-ijo/* and a plural obtained by means of *-teo/*.³⁶³ In (33b)

³⁵⁹ The alternation between */u/* and */i/* is relatively frequent in Chamacoco (for instance, in the thematic vowel of possessable nouns).

³⁶⁰ The FF *obich* /*obite/* ‘injury, wound’ coincides with the GF of *ibich* /*ibite/* ‘work / servant, employee’. The words have different plural, because *obich* ‘injury, wound’ takes the suffix *-lo/*, while the plural of the GF of *ibich* (27d) is *obiyo* /*obijo/*.

³⁶¹ This BF is very rare and coincides with the indeterminate pronoun *otik*.

³⁶² In *otich* /*otite/* and *owich* /*owite/*, according to the speakers, the FF in *-ite/* is far more frequent.

³⁶³ In this case an alternative FF *disit* is observed, although less frequent. It ends

/e:/ in the FF turns into /a:/ in the plural while /j/, preceding the suffix in the FF, is not found in the plural. In (33b) too, a vowel change in the root is observed: the FF sequence /ehe/ turns into /aha/ in the BF. In *dihlich* /di_hli_{tɕ}/ (33d) the plural takes the suffix -/e/, and the BF the suffix -/ak/. This confirms the frequent correlation between these two elements and it is particularly significant, because the suffixes -/ak/ and -/e/ are usually not used in masculine nominals in -/tɕ/.

- (33) a. *disite* / *disit* (MS.FF) ‘canyon’, *disiteo* / *disijo* (MP)
 b. *de:jte* (MS.FF) ‘day’, *da:lo* (MP)
 c. *dehebite* (3.MS.FF) ‘brother, of a woman’, *dahabo* (3.MP),
 dahap (3.MS.BF)
 d. *di_hli_{tɕ}* (MS.FF) ‘night’, *di_hle* (MP), *di_hlak* (MS.BF)

The nominals in (34) are characterized by nasality and by the plural suffix -/no/. They are among those having the last root-vowel different from /i/ and /i/: /a/ in (34a-b) and (36b), /e/ in (34d) and /u/ in (35e). In (34a) and (34d) -/no/ alternates with -/lo/ in the plural. In (36c) -/e/ and -/o/ alternate with -/no/. /i/ in the FF *imir̃ch* /im̃ir̃itɕ/ is probably an insertion: if it belonged to the root, /j/ would show up before the plural suffixes -/e/ or -/o/. In (34d) the BF takes the suffix -/k/. In (35a) the FF root does not coincide with the plural root. In *aach* /a:tɕ/ (35b) the approximant /r/ is present in the plural, but not in the singular and the presence of /j/ before -/o/ is unexpected. The approximant /r/ is also present in the BF and the plural of *baach* /ba:tɕ/ (35c), as opposed to the FF, but this is not the only irregularity: /b/ in the FF corresponds to /m/ in the BF and

in -/it/, which is unexpected, but this could depend on vowel reduction, a frequent phenomenon in Chamacoco.

in the plural. /a/ in the BF and in the plural lengthens in the FF. In the BF there is /ij/ insertion before -/ak/ (where /k/ can drop), but this is not the case in the plural. In (35c) the BF and the plural do not have the same root, but share some characteristics not present in the FF. When the BF is reported and a change in the root occurs, the BF and the plural always share the same characteristics as opposed to the FF. This can be noted in examples (14), (15), (16), (17) and (33b-c) and suggests that the FF has undergone phonetic change. In (35d) *irãch* /irãtɛ/ takes the plural -/o/, but the root vowel /a/ is also preserved, so that the result is the sequence /ao/, not to be found in other nominals with /a/ as last root-vowel (cf. example (13)). Nominals with root in -/u/ are less frequent among nominals in -/tɛ/ than among nominals in -/t/: in *ihyuch* /ijutɛ/ epenthetic /w/ is added before the suffix /o/, which alternates with -/lo/. In (34d) and (35d-e) the BF suffix is -/k/.

- (34) a. *amate* (3.MS.FF) ‘anus, ass’, *amalo* / *amano* (3.MP)
 b. *koxãtɛ* / *koxãt* (MS.FF) ‘mountain, stone’, *koxãno* (MP)³⁶⁴
 c. *imirĩtɛ* (3.MS.FF) ‘order’, *imire* / *imiro* / *imirno* (3.MP)
 d. *itẽ:tɛ* (3.MS.FF) ‘bed, mattress’, *itẽ:lo* / *itẽ:no* (3.MP),
 itẽ:k (3.MS.BF)
- (35) a. *pohotɛ* / *pohitɛ* (MS.FF) ‘dog’, *pojto* (MP)
 b. *a:tɛ* (MS.FF) ‘field’, *a:rjo* (MP)
 c. *ba:tɛ* (MS.FF) ‘Paraguayan’, *maro* (MP), *marija(k)* (MS.BF)
 d. *irãtɛ* (3.MS.FF) ‘cooked food’, *irão* (3.MP), *irãk* (3.MS.BF)
 e. *ijutɛ* / *ijut* (3.MS.FF) ‘house’, *ijuwo* / *ijulo* (3.MP), *ijuk* (3.MS.BF)

³⁶⁴ The form *kojãt* /*koxãt*/ is reported, but is very rare. The plural of this word is also used for ‘hail’.

§13.1.12 Masculine nominals in *-/rte/*

The nominals in (36) and (37) have root in *-/rʔ/*. No epenthetic vowel shows up between the root and the suffix *-/tɛ/* (orthographically <c>). It is possible to predict the FF given the BF, but not the contrary. The BF may consist in the root or may be formed by adding *-/k/*. The suffix *-/ak/* is unusual, except for a few exceptions (36c, f; 37d). The plural is easily predictable, because *-/o/* is usually added. When the BF consists of the mere root, it can be epicene.

- (36) a. ahārte (3.MS.FF) ‘tongue’, ahāro (3.MP), ahārḱ (3.MS.BF)
 b. dueurte (3.MS.FF) ‘nail, claw, hoof’, dueuro (3.MP), dueurḱ /
 dueurʔ (3.MS.BF)
 c. dīteāēirt / dīteāēirte (MS.FF), dīteāēiro (MP), dīteāēirak (MS.BF) /
 dīteāēir ([M/F]S.BF) ‘fly’ (insect)
 d. kurmurte (MS.FF) ‘Ayoreo’, kurmuro (MP), kurmurʔ /
 kurmurḱ (MS.BF)
 f. ṁuxurte (MS.FF) ‘Chacoan peccary, tagua’, ṁuxuro (MP),
 ṁuxurak (MS.BF), ṁuxurʔ ([M/F]S.BF) (*Catagonus wagneri*)
 g. ijerte (3.MS.FF) ‘breath, breathing’, ijero (3.MP)
 h. kabaterte (MS.FF) ‘pacú fish’, kabatero (MP) kabaterḱ /
 kabaterʔ (MS.BF) (*Piaractus mesopotamicus*)
 i. pukūēirte (MS.FF) ‘black vulture’, pukūēiro (MP), pukūēirʔ (MS.BF)
 (*Coragyps atratus*)
 j. urte (3.MS.FF) ‘piece of wood’, uro (3.MP), urḱ (3.MS.BF)
 k. wīrte (MS.FF) ‘side, perimeter, shore’, wīro (MP), wīrḱ (MS.BF)
 l. irmturte (MS.FF) ‘maned wolf’, irmturo (MP), irmturʔ (MS.BF)
 m. iēirte (MS.FF) ‘indigenous man’, iēiro (MP), iēirʔ ([M/F]S.BF)
 n. iterte (3.MS.FF) ‘thigh’, itero (3.MP), iterḱ (3.MS.BF)

- (37) a. aṇapsĩrte (MS.FF) ‘demon-man’, aṇapsĩro (MP), aṇapsĩrʔ (MS.BF)³⁶⁵
 b. asipsĩrte (3.MS.FF) ‘opponent in combat’, asipsĩro (3.MP),
 asipsĩrʔ (3.[M/F]S.BF)
 c. ṇahakāĩrte (MS.FF) ‘voyager’, ṇahakāĩro (MP), ṇahakāĩrʔ (MS.BF)
 d. iṇosĩrte (3.MS.FF) ‘creator’, iṇosĩro (3.MP), iṇosĩr(a)k /
 iṇosĩrʔ (3.MS.BF)
 e. po(r)sĩrte (MS.FF) ‘predator’, posĩro (MP), po(r)sĩrʔ ([M/F]S.BF),
 po(r)sĩrk (MS.BF)³⁶⁶
 f. wonĩrte (MS.FF) ‘driver’, wonĩro (MP), wonĩrk (MS.BF),
 wonĩrʔ ([M/F]S.BF)
 g. josĩrsĩrte (sm.FF) ‘liberator, merciful person’, josĩrsĩro (MP),
 josĩrsĩrk / yosĩrsĩrʔ (MS.BF)
 h. juwĩrte / juwĩrt (MS.FF) ‘killer’, juwĩro (MP), juwĩrʔ ([M/F]S.BF) /
 juwĩrk (MS.BF)
 i. jĩnsĩrte (3.MS.FF) ‘master/ owner / employer’, jĩnsĩro (3.MP),
 jĩnsĩrk / jĩnsĩrʔ (3.MS.BF)
 j. imĩsĩrte (3.MS.FF) ‘godfather’, imĩsĩro (3.MP), imĩsĩrʔ /
 imĩsĩrk (3.MS.BF)
 k. iṇesĩrte (3.MS.FF) ‘widowed father’, iṇesĩro (3.MP), iṇesĩrʔ /
 iṇesĩrk (3.MS.BF)
 l. irsĩrte (3.MS.FF) ‘winner’, irsĩro (3.MP), irsĩrʔ / irsĩrk (3.MS.BF)

The nominals in (37) are *nomina agentis* ending in *-/sĩrte/*, which corresponds to AY *-/sōri/* (see §12.9). This is one of the few derivational processes still to be found in Chamacoco, although it is no longer productive and often semantically opaque. The derivational operation is only detectable in a few cases. Nominals

³⁶⁵ The *ahnapsĩrc* /aṇapsĩrte/ is a supernatural being who is key figure in CH mythology. For more details, see Sušnik (1957b: 9-12).

³⁶⁶ The term refers to someone who is hungry, ravenous or gluttonous. In a figurative sense, it also refers to someone who is hungry for sex.

in *-/sĩrtɛ/* can derive from nominal or verbal elements. *Posĩrc* */posĩrtɛ/* (37e) derives from *posht* */poɕt/* (3.MS.FF) ‘food’, more precisely from the BF *pos* (3.MS.BF).³⁶⁷ *Ihyosĩrc* */iɰosĩrtɛ/* (37d) ‘creator’ is related to the verb *shiyokõr* */ɛijokõr/* or *shiyõr* */ɛijõr/*, whose root is *iyokõr* */ijokõr/* or *iyõr* */ijõr/*. */j/* can devoice in the verb (cf. irrealis *n-ihyo-kõr* */n-iɰo-kõr/*), as in *ihyo-sĩrc* */iɰo-sĩrtɛ/*. The verb *shiyokõr* */ɛijokõr/* means ‘to make’, also in the sense of ‘to create’ (see §5.4.14, ex. 92e). *Yosĩrsĩrc* */josĩrsĩrtɛ/* ‘liberator, merciful person’ (37g) probably also has a verbal origin. It could be related to *s-osĩr* */ts-osĩr/* (3) ‘to help’, whose root *-/osĩr/* is identifiable in the noun, thus segmentable as *y-osĩr-sĩrc* */j-osĩr-sĩrtɛ/*. Deverbal nominals such as *ihyosĩrc* */iɰosĩrtɛ/* and *yosĩrsĩrc* */josĩrsĩrtɛ/* are the remnants of the ancient nominalization process still to be observed in Ayoreo (cf. §12.9). *Yinsĩrc* */jinsĩrtɛ/* (37i) is morphologically related to its antonym *yilt* */jilt/* ‘slave’ (3.MS.FF) (see ex. 21f). Here one can detect the derivational process: *-/t/* is the MS-FF morpheme and the root is */jil/-*. The suffix *-/sĩrtɛ/* yields nasalization of */l/* into */n/*. Indeed, */l/* is present in *yilahata* (3.FS.FF) ‘mistress’, the feminine of *yinsĩrc* */jinsĩrtɛ/* (see ex. 56d): *yil-t* */jil-t/* ‘slave’ (3.MS.FF) → */jil/-* (root) → */jil/-* + */sĩrtɛ/* → *yinsĩrc* */jinsĩrtɛ/* ‘master’ (3.MS.FF).³⁶⁸ Further support to the morphological relatedness between *yilt* */jilt/* and *yinsĩrc* */jinsĩrtɛ/* is provided by the possessive inflection, which depends on the properties of the root. Both *yilt* */jilt/* and *yinsĩrc* */jinsĩrtɛ/* belong to

³⁶⁷ No possessive inflection is reported for *posĩrc* */posĩrtɛ/*.

³⁶⁸ Apparently, here *-/sĩrtɛ/* originally indicated someone who owned slaves. As pointed out in §12.9 and §12.11, the corresponding Ayoreo and Old Zamuco suffixes may also refer to the owner of a certain entity.

prefixal nouns with the 3-prefix /j/-. A few nouns share this feature (see §10.5).

The following examples list nominals in *-rɛ/* which show some exceptions. *Anamirc* /anamirɛ/ (38a) is a Spanish loanword. As already said, masculine Spanish loanwords generally have FF in *-t/*. In (38b-c) the plural in *-o/* alternates with the plural in *-(i)jo/*. In (38d-f) the plural in *-(u)wo/* alternates with the regular plural in *-o/*.³⁶⁹ These irregular plural forms might depend on the fact that /i/ or /u/, which originally preceded the suffix *-ɛ/*, has dropped. In (38b, d) the suffix *-ak/* is alternatively used and in (38d) it comes together with the suffix *-e/* in the plural. In (38g-h) the sequence /VhV/ simplifies into V in the plural, where the following /r/ devoices into /ɾ/. Also *uhũrc* /uhũrɛ/ has a plural in *-uwo/*; its ‘regular’ plural in *-o/* conveys another meaning according to the informants (38h). This is probably the result of /h/ metathesis, which has merged with the devoiced approximant /r/. The nominal *ilarc* /ilartɛ/ (38i) has epicene BF in *-oʔ/* rather than in *-rʔ/* (about this nominal, see also §13.3.2, ex. 88 and §14.3.1, ex. 82).

- (38) a. anamirɛ (MS.FF) ‘wire’, anamiro (MP), anamirʔ (MS.BF)
 (Spanish: alambre)
 b. ijertɛ (3.MS.BF) ‘place’, ijerjo / ijero (3.MP), ijerak / ijerɿ (3.MS.BF)
 c. oterɛ (3.MS.FF) ‘buttock, anus’, otero / oterijo (3.MP),
 oterk (3.MS.BF)
 d. losĩrɛ (MS.FF) ‘grave’, losĩro / losĩre / losĩrwo (MP),
 losĩrʔ / losĩrak (MS.BF)³⁷⁰
 e. pu:rɛ (MS.FF) ‘shade, shadow’, pu:ruwo (MP), pu:rk (MS.BF)
 f. u:rɛ (3.MS.FF) ‘dream’, u:ruwo (3.MP), u:rk (3.MS.BF)

³⁶⁹ See also *irũrc* /irũrɛ/ (19m).

³⁷⁰ The BF *losĩr* is more frequent than *losĩrak*.

- g. olahartɛ (MS.FF) ‘eel’, olaɾo (MP), olahark / olaharʔ (MS.BF)
- h. uhūrte (3.MS.FF) ‘load, burden; hump’, uɾũwo (3.MP)
 ‘load, burden’, cf. uɾõ (3.MP) ‘hump’, uhürk (3.MS.BF); cf. uɾũro
 ‘sexual relationship’
- i. ilarte (MS.FF) ‘old’, ilaro (MP), ilaroʔ ([M/F]S.BF)

§13.2 Feminine nominals

Feminine nominals usually take the suffixes *-ta/* or *-tea/* in the FF and can be thus divided into two classes. These suffixes correspond to the masculine FF suffixes *-t/* and *-tɛ/*; apparently the feminine suffix has been obtained by adding *-a/* to the masculine FF suffix. This suggests that Chamacoco was originally an agglutinative language. In the plural, the suffix *-e/* is often used, but it may drop, so that the BF and the plural only differ in the presence vs. lack of final glottalization.

Most feminine nominals take *-ta/*. I first discuss nominals in *-ata/*, *-eta/*, *-ita/*, *-ota/* and *-uta/* (§13.2.1), and *-ita/* (§13.2.2), including some compounds in (§13.2.3). Some feminine nominals have a BF suffix which has originated from a reinterpretation of the last root-vowel or from an epenthetic vowel (§13.2.4). Feminine Spanish loans show the FF suffix *-ta/* (§13.2.5). Section §13.2.6 deals with FFs in approximants plus *-ta/*. Some exceptions are discussed in §13.2.7. Finally, I discuss the feminine nominals with the FF morpheme *-tea/* (§13.2.8), which has two allomorphs, *-tea/* (§13.2.9) and *-ɭa/* (§13.2.10).

§13.2.1 Feminine nominals in *-/Vta/*³⁷¹

Most feminine nominals take the suffix *-/ta/* in the FF.³⁷² In examples (39-43) *-/ta/* is added to the BF. The BF ends in *-/iʔ/* (39), *-/uʔ/* (40), *-/oʔ/* (41) and *-/aʔ/* (42). Word-final glottalization should be considered part of the root and disappears as expected when any element follows. In (39) and (40) the plural adds the vowel *-/e/* and there is insertion of */j/* or */w/* after */i/* or */u/* respectively. If the plural suffix drops, the only element opposing the BF to the plural is the presence vs. absence of final glottalization (which is not uncommon in the feminine). Dropping the last vowel is very frequent in Chamacoco, in particular when the affected vowel is the plural suffix. In *osdi:ta* /osdi:ta/ (39c) and *yoni:ta* /joni:ta/ (39d) one finds two alternating BFs, one ending in *-/iʔ/* and coinciding with the root and one ending in *-/ja/*. In this case, *-/a/* might be a feminine BF suffix and */j/* a glide insertion, as in the plural.

- (39) a. *ejhita* (FS.FF) ‘seed’, *ejhi* (FP), *ejhiʔ* (FS.BF)
 b. *kojti:ta* (FS.FF) ‘shy’, *kojti:* / *kojtije* (FP), *kojti:ʔ* (FS.BF)
 c. *osdi:ta* (FS.FF) ‘type of plant’ (caraguatà), *osdi:* / *osdi:je* (FP),
 osdi:jaʔ, *osdi:ʔ* (FS.BF)
 d. *joni:ta* (3.FS.FF) ‘spirit with supernatural power’, *joni:* /
 joni:je (3.FP), *joni:ja* / *joni:ʔ* (3.FS.BF)
 e. *ibi:ta* (3.FS.FF) ‘servant, employee’, *ibi:* / *ibi:je* (3.FP),
 ibi:ʔ (3.FS.BF)
- (40) a. *dukuta* (FS.FF) ‘cemetery’, *duku* / *dukuwe* (FP), *dukuʔ* (FS.BF)
 b. *huta* (3.FS.FF) ‘head’, *hu* / *huwe* (3.FP), *huʔ* (FS.BF)

³⁷¹ Excluding nominals with FF in *-/ita/*, which will be discussed in §13.2.2.

³⁷² The suffix *-/ta/* is generally realized as [taʔ]. Word-final glottalization is only indicated when it distinguishes two forms or words.

- c. *polu:ta* (FS.FF), *polu:ʔ* (FS.BF) ‘widow’, *polu:we* / *polu:* (FP)
- d. *poŋu:ta* (FS.FF) ‘gun’, *poŋu:* / *poŋu:we* (FP), *poŋu:ʔ* (FS.BF)
- e. *uŋu:ta* (FS.FF) ‘fire’, *uŋu:* / *uŋu:we* (FP), *uŋu:ʔ* (FS.BF)
- f. *ilu:ta* (3.FS.FF) ‘way, meaning’, *ilu:* / *ilu:we* (3.FP), *ilu:ʔ* (FS.BF)³⁷³

In (41a, d) the plural suffix *-e/* can be added directly to the root, although */w/* insertion is also reported (41c). In the plural, the suffix can drop and, here too, the lack of final glottalization is the distinctive feature with respect to the BF. Both forms will be further discussed in the chapter on gender (§13.3).

- (41) a. *teuknamorōhota* (FS.FF) ‘whirlwind’, *teuknamorōho* / *teuknamorōh(o)e* (FP), *teuknamorōhoʔ* (FS.BF)
- b. *kokota* (FS.FF) ‘hen’, *koko* (FP), *kokoʔ* (FS.BF)
(cf. *koko* (MP) / *kokoʔ* (MS.BF) ‘rooster’)
- c. *ono:ta* (FS.FF) ‘river’, *ono:* / *ono:we* (FP), *ono:ʔ* (FS.BF)
- d. *oŋō:ta* (FS.FF) ‘clearing’, *oŋō:* / *oŋō:e* (FP), *oŋō:ʔ* (FS.BF)
- e. *wo:ta* (FS.FF) ‘frog’, *wo:* (FP), *wo:ʔ* (FS.BF)
- f. *jōkokota* (FS.FF) ‘toad’, *jōkoko* / *jōkoki* (FP), *jōkokoʔ* (FS.BF)
- g. *ilpijota* (FS.FF) ‘jaguar’, *ilpijo* ([M/F]P), *ilpijoʔ* ([M/F]S.BF)

In nominals with FF in *-ata/* and BF in *-aʔ/*, the plural suffix can drop and, here too, final glottalization marks the BF. The plural suffix replaces final */aʔ/* even when it is a long vowel. If the root ends in *-aha/*, the first */a/* assimilates to the suffix (42b, c, h), so that the plural ends in *-ehe/*. In nominals with FF in *-eta/* and BF in *-eʔ/* there is no glide insertion and the suffix merges with the last vowel of the root. Consequently, as in other cases mentioned, final glottalization becomes the BF marker. Note that having FF in *-ata/*

³⁷³ The FP *iluu* /*ilu:*/ is more frequent than *iluuwe* /*ilu:we*/.

or *-/eta/* does not imply that the BF is obtained by removing the suffix *-/ta/* (see §13.2.4).

- (42) a. *karte:ta* (FS.FF) ‘clam’, *karte:* (FP), *karte:ʔ* (FS.BF)
 b. *kinahata* (FS.FF) ‘strange’, *kinehe* / *kinaha* (FP), *kinahaʔ* ([M/F]S.BF)
 c. *kiskahata* (FS.FF) ‘radio, telephone’, *kiskehe* (FP),
kiskahaʔ (FS.BF)³⁷⁴ (also: *kiskirahata*)
 d. *ṁata* (3.FS.FF) / *aṁita* (2S.FS.FF) ‘hand’, *ṁe* (3.FP),
ṁeʔ / *ṁaʔ* (3.FS.BF)³⁷⁵
 e. *ṇika:ta* (FS.FF) ‘black carob tree’, *ṇika:* / *ṇike:* (FP), *ṇika:ʔ* (FS.BF)
 f. *olxa:ta* (FS.FF) ‘type of tree’, *olxa:* / *olxe:* (FP), *olxa:ʔ* (FS.BF)
 ‘white carob tree’
 g. *pawteata* (FS.FF) ‘tarantula’, *pawtea* / *pawtee* (FP), *pawteaʔ* (FS.BF)
 h. *imahata* (3.FS.FF) ‘enemy’, *imehe* (3.FP), *imahaʔ* (3.[M/F]S.BF)
- (43) a. *e:ta* (FS.FF) ‘fruit / flower’, *e:* (FP), *e:ʔ* (FS.BF) (*plorta* *plor*)
 b. *we:ta* (FS.FF) ‘group, flock’, *we:* (FP), *we:ʔ* (FS.BF)
 c. *weheta* (3.FS.FF) ‘throat’, *wehe* (3.FP), *weheʔ* (3.FS.BF)

§13.2.2 Feminine nominals in *-/ita/*

Most feminine nominals have FF in *-/ita/*. They do not represent a homogeneous group, because they do not have the same BF.

The nominals in (44) have root in *-/p/*, coinciding with the BF. */i/* in the FF is an epenthetic vowel. When the FF and plural suffixes are added, */p/* voices into */b/* and when necessary nasalizes into */m/* (44a). If there is no epenthesis of */i/* in the FF (44c-e) */b/* can devoice owing to assimilation to voiceless */t/* (44e). When the

³⁷⁴ This BF coincides with the BF of *kiskehet* ‘machete’.

³⁷⁵ In this noun, the BF *hme* */ṁeʔ/* depends on the reduction of the last vowel of the root, this process can also be seen in the alternation between */a/* and */i/* in the FF: *hmata* */ṁata/* (3.FS.FF), *ahmita* */aṁita/* (2S.FS.FF).

plural suffix *-/e/* is added, the previous vowel */a:/* assimilates to it. In (44e) this does not always occur. In *ahnimita* /aṇimita/ (44a) the BF is *ahnap* /aṇap/: the last vowel of the root reduces to */i/* in the FF and in the plural. Masculine nominals with FF in *-/it/* and BF in *-/p/* show the same morphological behaviour.

- (44) a. aṇimita (3.FS.FF) ‘grandson, granddaughter’, aṇap (3.[M/F]S.BF),
aṇime (3.FP)
b. huwa:bta (FS.FF) ‘very short; flat, plane’, huwe:be (FP),
huwa:p ([M/F]S.BF)
c. ixa:bta / ixa:bta (3.FS.FF) ‘little, little daughter’, ixε:be (3.FP),
ixa:p (3.[M/F]S.BF)³⁷⁶
d. kosa:bta (FS.FF) ‘type of bird’, kose:be (FP), kosa:p ([M/F]S.BF)
(local name: garcita azulada)
e. sarpa:pta / sarpa:bta (FS.FF) ‘type of bird’, sarpe:be / sarpa:be (FP),
sarpa:p ([M/F]S.BF) (also: serpa:bta; local name: ave picaflor
or colibrí)

The examples in (45) belong to the most representative group of feminine nominals. They have FF in *-/ita/*, where */i/* is part of the glottalized feminine root (in *-/iʔ/*) which coincides with the BF. The plural suffix *-/e/* is added to the BF and replaces the last root-vowel */i/*.³⁷⁷ Similarly, in most masculine nominals in *-/it/* (the counterpart of the feminine in *-/ita/*) the plural suffix replaces pre-final */i/* (cf. §13.1, ex. 1). Although the BF of the (most representative)

³⁷⁶ This nominal is nowadays used as an adjective meaning ‘little’. It is originally the diminutive form of *ijita* ‘daughter’ (3.FS.FF), a loan from Spanish *hija* ‘daughter’. Also its masculine counterpart *ijit* ‘son’ (MS.FF), from Spanish *hijo* ‘son’, is reported (see 13.3.1, ex. 64b).

³⁷⁷ As already said, the loss of final glottalization is the result of a morphophonological process.

nominals in (45) ends in *-iʔ* and the plural in *-e/*, there is neutralization of the contrast */i/* vs. */e/* in final position. In the plural, this is due to the reduction of */e/* to */i/* in final position, which is also to be observed in other parts of speech such as the temporal clitic *=/ke/*, which indicates recent past and can be realized as */ke/* or */ki/*. In the BF, strengthening of */i/* into */e/* probably occurs. As a result, the lack of final glottalization in the plural is often the only marker with respect to the BF: e.g. *toweʔ* / *towiʔ* (FS.BF) vs. *towe* / *towi* (FP) (45n). Since the presence of final */e/* in the BF or of final */i/* in the plural depends on phonetic realization, the examples below only report the forms actually recorded in my corpus. (45k) is a loanword from Spanish *oveja*. As will be apparent in other examples, the feminine class in *-ta/* is still productive.

- (45) a. *armita* (FS.FF) ‘deaf’, *arme* (FP), *armiʔ* (FS.BF)
 b. *bobita* (FS.FF) ‘type of tree’, *bobe* / *bobi* (FP), *bobeʔ* / *bobiʔ* (FS.BF)
 (local name: *aromita*)
 c. *botikita* (FS.FF) ‘pill’, *botike* (FP), *botikiʔ* (FS.BF)
 d. *diteipita* / *diteipta* (FS.FF) ‘latrine’, *diteipe* (FP), *diteipiʔ* (FS.BF)
 e. *ṇitita* (3.FS.FF) ‘foot’, *ṇite* / *ṇiti* (3.FP), *ṇiteʔ* / *ṇitiʔ* (3.FS.BF)
 f. *hutita* (FS.FF) ‘paper, book’, *hute* (FP), *hutiʔ* (FS.BF)
 g. *hutubita* (FS.FF) ‘top, summit’, *hutube* (FP), *hutubiʔ* (FS.BF)
 h. *ṁantita* (FS.FF) ‘fist’, *ṁante* / *ṁanti* (FP), *ṁanteʔ* / *ṁantiʔ* (FS.BF)
 i. *nerpita* / *nerpta* (3.FS.FF) ‘shirt’, *nerpe* / *nerpi* (3.FP), *nerpeʔ* / *nerpiʔ* (3.FS.BF)
 j. *ṇotita* (FS.FF) ‘money’, *ṇote* (FP), *ṇoteʔ* (FS.BF)
 k. *obexita* (FS.FF) ‘sheep’, *obexe* / *obexi* (FP), *obexeʔ* (FS.BF)
 (Spanish: *oveja*)
 l. *pihīpita* (FS.FF) ‘person who does not speak’, *pihīpe* (FP),
pihīpeʔ / *pihīpiʔ* (FS.BF)
 m. *topita* (FS.FF) ‘dead’, *tope* (FP), *topiʔ* / *topeʔ* (FS.BF)
 n. *towita* / *towuta* (FS.FF) ‘lazy’, *towe* / *towu* / *towi* (FP), *toweʔ* / *towiʔ* (FS.BF)

- o. xwekita (FS.FF) ‘fire’, xweke (FP), xwekiʔ (FS.BF) (Spanish: fuego)
 p. ilxa:bita (FS.FF) ‘evil’, ilxa:be (FP), ilxa:beʔ (FS.BF)³⁷⁸

The existence of nominals in *-/bita/* or *-/mita/* with BF in *-/iʔ/*, indicates that such FFs do not necessarily correspond to BFs in *-/p/*. The contrary is possible but equally unpredictable.

§13.2.3 Compounds ending in *-/ita/*

Chamacoco is not rich in compounds. However, (46) lists compounds with *pita* (FS.FF) ‘box’ as head (*piʔ* (FS.BF), *pi* (FP)). In CH compounds the head follows the modifier. The compounds in (46) have heads with FF in *-/ita/* and BF in *-/iʔ/*. The modifier and the head form a phonological word, with suffixation on the head and possessive inflection on the modifier. This is particularly evident when head and modifier belong to the inflectional class of radical nouns, as in (46b) and (46c).³⁷⁹ *Dichipita* /diteipita/ (46a) is a non-possessable noun with modifier *dichit* /diteit/, the GF of *ichit* /iteit/. In (46) all compounds are formed by nominal elements. Since the modifier takes no suffixation, only the root of the modifier is used in compounds. In example (46) the root of the modifier is separated from the suffix by the hyphen.

- (46) a. diteipita (FS.FF) ‘toilet, latrine’
 → ditei-t (GF.MS.FF) ‘dung’ + pita (FS.FF) ‘box’
 b. nerpita (3.FS.FF) ‘shirt’
 → nerʔ (3.BF) ‘behind’ + pita (FS.FF) ‘box’
 c. potipita (3.FS.FF) ‘pot’

³⁷⁸ Feminine nominals with plural in *-/a:be/* usually have BF in *-/a:p/*, so that this nominal can be considered an exception.

³⁷⁹ For the possessive inflection of these forms, see §10.6.

- poti-ta³⁸⁰ (3.FS.FF) ‘edible fruit, food’ + pita (FS.FF) ‘box’
- d. ikipita (3.FS.FF) ‘shirt, dress’
- iki-jo (3.MP) ‘body’³⁸¹ + pita (FS.FF) ‘box’
- e. ilipita (3.FS.FF) ‘lens’ / ilipe (3.FP) ‘glasses’
- il-e (3.FP) ‘face, eyes’ + pita (FS.FF) ‘box’
- f. iterpita (3.FS.FF) ‘trousers’
- iter-te (3.MS.FF) ‘thigh’ + pita (FS.FF) ‘box’
- g. dirpita (3.FS.FF) ‘footprint’, pirpita (1S.FS.FF),
erpita (2S.FS.FF) ‘footprint’
- pi-ja (1S.FS.FF) / e-ja (2S.FS.FF) ‘foot’ + pita (FS.FF) ‘box’

With the exception of (46c, g), these compounds have probably been created to refer to objects absent in traditional CH culture. *Dirpita* /dirpita/ (46g) is, however, an old word, because the compounding mechanism is transparent in the 1S- and the 2S-person, but not anymore in the 3-person, where the suppletive form *hnitita* /ɲitita/ is used.^{382, 383}

³⁸⁰ As already said, FFs in /-ta/ actually have word-final glottalization [taʔ], not transcribed in the orthography. In this case, it is better to indicate it, because, according to the informants, final glottalization distinguishes *potitaʔ* (3.FS.FF) ‘edible fruit, food’ from *potita* (without glottalization), an uninflectable adjective meaning ‘swollen, inflated’.

³⁸¹ This noun is used in the plural with the meaning ‘body’, see example (28o).

³⁸² This is the possessive inflection of the word: *p-i-rrza* /p-i-ɽa/ (1S), *e-rrza* /e-ɽa/ (2S), *hnitita* /ɲitita/ (3), *d-e-rrza* /d-e-ɽa/ (RFL) ‘foot’. Feminine nominals in /-ja/ will be discussed in (§13.2.10).

³⁸³ Because the compound has the possessive inflection of the modifier, *dirpita* (3.FS.FF) ‘footprint’ is supposed to have taken the same possessive inflection of ‘foot’: since *d-irpita* has the prefix /d-/ in the 3-person (cf. *p-irpita* vs. *d-irpita*), one can suppose that also the original 3-person possessive of ‘foot’ had it. For this reason it should be possible to reconstruct the original form **dirrza* /di-ɽa/. This form is not observed in the previous studies, but Sušnik (1970: 108-109) reports the forms *diri* and *dit*. It is difficult to analyze them,

§13.2.4 Feminine (or epicene) base-form suffixes³⁸⁴

Some feminine nominals have a BF suffix which derives from the reinterpretation of a root vowel or a paragogic vowel. The nominals in (47) have FF in *-/ita/*, but the BF does not end in *-/iʔ/*. In this case, the BF does not coincide with the root, because final *-/aʔ/* and *-/oʔ/* are not to be found in the rest of the paradigm. This can occur in the plural, when the last root-vowel *-/a/* is replaced by */e/* (see ex. 42), but it should not occur when the BF ends in *-/oʔ/* (see ex. 41).³⁸⁵

- (47) a. *otita* (FS.FF) ‘person’, *ote* (FP), *otoʔ* (FS.BF)
 b. *apibitita* / *apubitita* / *apibitita* (FS.FF) ‘young woman’,
apibite / *apubite* / *apibite* (FP), *apibitaʔ* / *apibitaʔ* / *apibiteʔ* (FS.BF)

The same happens in the following examples, featuring nominals in *-/lta/* or *-/l̥ta/* (48), *-/mta/* (49), *-/nta/* (50), *-/sta/* (51a-b) and *-/ɛta/* (51b-c). In such cases the BF in *-/Vʔ/* does not coincide with the root ending in a consonant. One has to note that there are no CH words ending in *-/l/* or *-/l̥/* and that, although a CH word can end in *-/m/*, *-/n/*, *-/s/* and *-/ɛ/*, there are no feminine nominals ending in these consonants, very rare even in masculine nominals (excluding the BF in *-/s/*). This suggests that the final vowel has

because she just reports single words and their context of use is not provided, but this confirms that such a form probably existed. A word corresponding to the form *hnitita* /*ɲitita*/ is already found in Baldus (1932: 403)

³⁸⁴ Thanks are due to Rik van Gijn and Fernando Zúñiga for their suggestions concerning the interpretation of some data reported in the present section.

³⁸⁵ The same interaction between nominals roots in *-/oʔ/* or *-/aʔ/* and the plural suffix can also be noted in masculine nominals (see examples (12-13)).

originally been added to re-create the preferred CV syllabic structure. In this case, the expected vowel is /i/, often used as epenthetic vowel, or /e/, because this phonological opposition is neutralized word-finally in many feminine nominals. But this would exclude /o/ and /a/ from the word-final position. One might also surmise that these vowels, belonging to the root, have dropped in the rest of the paradigm and have been reinterpreted as BF suffixes. Thus, *-oʔ/* and *-aʔ/* are BF suffixes originally belonging to the root, while in the case of */iʔ/* and */eʔ/* it is not possible to clarify whether they derive from: (i) a part of the root or (ii) a paragogic vowel. Such BF suffixes are mostly feminine, but some of them were pointed out in examples (21) and (22), where they mark the epicene BF. These suffixes will also be discussed in the section on gender (§13.3).

-eʔ/ or *-iʔ/* occasionally alternates with *-oʔ/* or *-aʔ/* (48). In *armista*, there is root allomorphy, because the root ends in *-s/* in the FF, while it ends in *-ts/* in the BF and in the plural.

(48) a. *itilta* (3.FS.FF) ‘cane, stick’, *itile* (3.FP), *itileʔ / itiloʔ* (3.FS.BF)

b. *lu:ɭta* (FS.FF) ‘coconut’, *lu:ɭe* (FP), *lu:ɭeʔ / lu:ɭaʔ* (FS.BF)

c. *wolta* (3.FS.FF) ‘hat’, *wole* (3.FP), *woloʔ / wolaʔ* (3.FS.BF)

d. *jilta* (3.FS.FF) ‘slave, servant’, *jile* (3.FP), *jilaʔ* (3.FS.BF)

(49) a. *ki:mta* (FS.FF) ‘unmarried’, *ki:me / ki:mi* (FP), *ki:miʔ* (FS.BF)

b. *jokomta* (FS.FF) ‘type of armadillo’, *jokome / jokomi* (FP),
jokomeʔ (FS.BF) (*Tolypeutes matacus*)

(50) a. *distrenta* (FS.FF) ‘flashlight’, *distrene* (FP), *distreneʔ / distrenaʔ* (FS.BF)

b. *keteinta* (FS.FF) ‘Paraguayan’, *keteine* (FP), *keteinaʔ / keteineʔ* (FS.BF)

c. *pemuɳta* (FS.FF) ‘feathered headdress’, *pemuɳe* (FP),

pemuŋeʔ (FS.BF)

- (51) a. armista (3.FS.FF) ‘blood’, armitse / armitsi (3.FP),
armitseʔ (3.FS.BF)³⁸⁶
b. kã:sta (FS.FF) ‘type of bird’, kã:se / kã:si (FP), kã:seʔ /
kã:siʔ (FS.BF) (local name: ave carau)
c. boœœeta (FS.FF) ‘girl’, boœœee (FP), boœœeeʔ (FS.BF)
(Spanish: muchacha)
d. bolieta (FS.FF) ‘store’, boliee / boliei (FP), bolieeʔ / bolieoʔ (FS.BF)
(Latin American Spanish: boliche ‘grocery store’)

§13.2.5 Loanwords

Bosheshta /boœœeta/ in (51c) is a Spanish loan. The class of feminine nominals in *-ta/* is still productive. In (52) one finds further Spanish loanwords. *Ishtorita* /iœtorita/ (52) also has the non-adapted form *ishtorya* /iœtorja/, used in both BF and FF contexts. The same is true of *mintana*ʔ, which is morphologically a BF but can also be used in FF contexts. In (52a-b) *ishtorita* /iœtorita/ and *leyta* /lejta/ can take the suffix *-e/* in the plural, but this can drop and in such a case only final glottalization distinguishes the BF from the plural. The nominals in (52c-d) exhibit a BF suffix. In (52a) the Spanish noun is masculine, but its CH adaptation is feminine.

- (52) a. iœtorita (FS.FF) ‘history’, iœtor / iœtore (FP), iœtorʔ (FS.BF)
(non-adapted form: iœtorja; Spanish: historia)
b. lejta (FS.FF) ‘law’, lej / leje (FP), lejʔ (FS.BF) (Spanish: ley)
c. mjenta / mjentita (FS.FF) ‘wind’, mjente (FP), mjenteʔ /
mjentoʔ (FS.BF) (Spanish: viento)

³⁸⁶ The plural refers to the blood of more than one person.

- d. *mĩntanta* (FS.FF) ‘window’, *mĩntane* (FP), *mĩntanaʔ* /
mĩntaneʔ (FS.BF) (*mĩntanaʔ* is also used as non-adapted form;
 Spanish: *ventana*)

§13.2.6 Nominals with root ending in an approximant

When the root ends in an approximant (/r/, /w/ and /j/), word-final glottalization occurs, as in (53) and (54). The nominals in (53) have root in *-wʔ*/. In the plural *-e/* is added, but it can fall and in such a case only the lack of final glottalization in the plural distinguishes it from the BF.

- (53) a. *ĩtewta* (FS.FF) ‘debt’, *ĩtew* / *ĩtewe* (FP), *ĩtewʔ* (FS.BF)
 b. *titewta* (FS.FF) ‘heart’, *titew* / *titewe* (FP), *titewʔ* (FS.BF)

Example (54) lists nominals in *-ta/* with /r/ before the FF and plural suffix. In the BF, final /r/ is glottalized. In some cases the BF has the suffix *-aʔ/* (54c-d), which alternates with the BF in *-rʔ/*. In the plural, *-e/* is added, but as it often occurs when it is preceded by an approximant (see (52b) and (53)), the suffix can fall and the distinction between plural and BF is only conveyed by the lack of final glottalization in the plural.

- (54) a. *alpuhĩrta* (FS.FF) ‘type of fish’ (*pez doradillo*), *alpuhĩr* /
alpuhire (FP), *alpuhĩrʔ* (FS.BF)
 b. *hĩrta* (FS.FF) ‘palm’, *hĩr* / *hĩre* (FP), *hĩrʔ* (FS.BF)
 c. *kuĩĩrta* (FS.FF) ‘orphan’, *kuĩĩre* (FP), *kuĩĩrʔ* / *kuĩĩraʔ* (FS.BF)
 d. *jarta* / *jaĩĩa* (FS.FF) ‘sign’, *jar* / *jare* (FP), *jarʔ* / *jaraʔ* (FS.BF)³⁸⁷
 e. *wihĩrta* (FS.FF) ‘red’, *wihĩr* / *wihĩre* (FP), *wihĩrʔ* (FS.BF)
 f. *wahĩrta* (FS.FF) ‘type of tree’, *wahĩr* / *wahĩre* (FP), *wahĩrʔ* (FS.BF)

³⁸⁷ About the alternating FFs *yarta* /*jarta*/ or *yarrza* /*jaĩĩa*/, see §13.2.8.

h. ihĩrta (FS.FF) ‘beautiful’, ihĩr / ihĩre (FP), ihĩrʔ (FS.BF)

In (55) there is root allomorphy, because the BF and plural root is different from the root of the FF in *-/ãta/*. In some cases, two FFs alternate. In (55a, c, e) the FF in *-/rta/* or *-/ɽa/* has the same root as the plural and the BF. This confirms that final *-/aʔ/* in the BF is a suffix (cf. §13.2.4). *-/aʔ/* is not present in (55e), while (55a) has a BF in *-/rʔ/* and another one in *-/raʔ/*. The plural, *-/e/* can drop and in (55a, e) the lack of final glottalization in the plural distinguishes it from the BF.

- (55) a. apã:ta / apĩrta (FS.FF) ‘roll, skein’, apĩr / apĩre (FP), apĩrʔ / apĩraʔ (FS.BF)
 b. ijãta (3.FS.FF) ‘friend, companion’, ijẽr / ijẽre (3.FP),³⁸⁸ ijẽraʔ (3.FS.BF)
 c. kuɽata / kuɽẽrta (FS.FF) ‘orphan’, kuɽẽre / kuɽĩre (FP), kuɽeraʔ / kuɽẽrʔ (FS.BF)
 d. ojã:ta (FS.FF) ‘dog’, ojẽ:re (FP), ojẽ:raʔ (FS.BF)
 e. pejkẽta / pejkẽɽa (FS.FF) ‘gourd’, pejkẽre / pejkẽr (FP), pejkẽrʔ (FS.BF)

The FFs which do not correspond to the BF and plural roots are probably the result of */r/* syncope, as in (55e): */pejkẽrʔ/* + *-/ta/* > */pejkẽta/*. In (55c) both */r/* and the previous vowel have dropped: */kuɽeraʔ/* + *-/ta/* > */kuɽata/*. In other cases, such as (55a), the vowel preceding */a/* merged with the latter: */apĩraʔ/* + *-/ta/* > */apã:ta/*. */r/* deletion is frequent in the Zamucoan languages, especially in Ayoreo.

³⁸⁸ Note that in this case the FP and MP are ambiguous.

§13.2.7 Exceptions

The following examples list some irregular forms. The nominals in (56a-c) and (57a, c) end in *-ta/* in the FF, but */t/* seems to be part of the root, as one can see from the loanword sources. These loanwords from Spanish nouns ending in *-ta/* show a BF suffix.³⁸⁹ One can suppose that when *-ta/* is added to a root ending in *-t/*, the latter deletes, because geminated */t/* is very rare in Chamacoco. In (56d) root-final */t/* is to be found in the plural, where it alternates with the form without */t/*. (56d) has no BF suffix, because *-aʔ/* is part of the root. By contrast, (57d) shows a BF suffix: here a root ending in */t/* in the BF and in the plural is also found. In (56a, d) and (57b) */a/* in the root assimilates to the plural suffix *-e/*. *Kabahata* also has the irregular plural form *kabiyuhe* */kabijuhe/*.

- (56) a. *irāhata* / *irāhta* (3.FS.FF) ‘wife’, *irēhte* / *irēhete* (3.FP),
 irāhtoʔ / *irāhatoʔ* (3.FS.BF)
 b. *dekita* (3.FS.FF) ‘grandmother’, *dekite* (3.FP), *dekiteʔ* (3.FS.BF)
 c. *lata* (3.FS.FF) ‘mother’, *lati* / *late* (3.FP), *latiʔ* / *lateʔ* (3.FS.BF)
 (also: *data*)
 d. *jila:ta* / *jilahata* (3.FS.FF) ‘mistress’, *jile:te* / *jilehe* (3.FP),
 jilahaʔ (3.FS.BF)
- (57) a. *ɬeukleta* (FS.FF) ‘bike’, *ɬeuklete* (FP), *ɬeukleteʔ* (FS.BF)
 (Spanish: *bicicleta*)
 b. *kabahata* (FS.FF) ‘horse’, *kabiyuhe* / *kabehe* (FP),
 kabahaʔ ([M/F]S.BF)
 c. *kamnota* (FS.FF) ‘hyacinth’, *kamnote* (FP), *kamnoteʔ* (FS.BF)
 (from local Spanish: *camalote*)

³⁸⁹ In Chamacoco */t/* can occur word-finally, but the BF suffix is probably used because a nominal ending in *-t/* could be interpreted as a masculine FF.

- d. kanasta (FS.FF) ‘basket’, kanaste / kanastì / kanase (FP),
kanasteʔ / kanaseʔ (FS.BF) (Spanish: canasta)

§13.2.8 Feminine nominals in *-/tɛa/*

The class of feminine nominals in *-/tɛa/* include fewer items than the class in *-/ta/*. There are various feminine loanwords with FF in *-/ta/*, while loanwords in *-/tɛa/* are rare, showing that *-/tɛa/* is no longer productive. The FF suffix *-/tɛa/* corresponds morphologically to the masculine FF suffix *-/tɛ/*³⁹⁰ plus */a/*, which in Ayoreo is a FS-FF morpheme. Synchronically *-/tɛ/* and */a/* can no longer be analyzed as two separate elements, but this seems to be a trace of agglutination suggesting that, like *-/ta/*, also *-/tɛa/* is diachronically derived from the masculine FF suffix. The morpheme *-/tɛa/* has two allomorphs: *-/tɛa/* and *-/ɬa/*. The latter only occurs when the root ends in *-/rʔ/*. The boundary between feminine nominals in *-/ta/* and *-/tɛa/* is not rigid: in some cases these suffixes alternate in the same nominal. In the plural, nominals in *-/tɛa/* take the suffix *-/e/*, like all feminine nominals.

§13.2.9 The allomorph *-/tɛa/*

A small group of feminine nominals use the allomorph *-/tɛa/* (58). In some cases it can alternate with *-/ta/* (58a, d, g), although in these cases *-/tɛa/* is by far more frequent. Most nominals with the allomorph *-/tɛa/* have root in *-/p/* which, when a suffix is added, regularly turns into */b/* and nasalizes into */m/* if required. Epenthetic

³⁹⁰ There is not always a direct correspondence between *-/tɛ/* and *-/tɛa/* in the same paradigm (see the section on nominal derivation).

/i/ or /i/ is inserted before the allomorph *-/tɛa/*.³⁹¹ In (58) final *-/p/* in the BF is usually preceded by */a/* or */a:/*. */a/* can delete (58a, d) or reduce to */i/* (58b, f, h) in the FF and in the plural, while */a:/* turns into */e:/* (55e, g). In (58e) one finds an exception, because the sequence */uw/* is present in the BF of *nahneemcha* */naŋe:mɛa/*, in contrast with the FF and the plural. Not all nominals with the allomorph *-/tɛa/* have root ending in *-/p/*: *latermicha* */latermitɛa/*, with the root ending in *-/e/*, is an exception. Since there are nominals in *-/ita/* with BF in *-/p/*, it is not possible to predict from it whether the FF takes *-/tɛa/* or *-/ta/*.

- (58) a. *ɛɛpĩrmitɛa* / *ɛɛpĩrmita* (FS.FF) ‘little bird’, *ɛɛpĩrme* (FP),
 ɛɛpĩrãp (FS.BF)
 b. *lasibitɛa* (3.FS.FF) ‘niece’, *lasibe* (3.FP), *lasap* (3.[M/F]S.BF)
 c. *latermitɛa* (3.FS.FF) ‘aunt’, *latirme* (3.FP), *latirmeʔ* (3.FS.BF)
 (also: *datermitɛa*, *d-/l-ate:mɛa*)
 d. *kirkirbitɛa* / *kirkirbita* (FS.FF) ‘type of bird’, *kirkirbe* (FP),
 kirkirap (FS.BF)
 e. *naŋe:mɛa* (3.FS.FF) ‘aunt’, *naŋe:me* (3.FP), *naŋuwa:p* (3.FS.BF)
 f. *nanimɛa* (3.FS.FF) ‘sister’, *nanime* (3.FP), *nanap* (3.FS.BF)
 g. *po:ɬɛ:bɛa* / *po:ɬɛ:bita* (FS.FF) ‘star’, *po:ɬɛ:be* (FP),
 po:ɬɬa:p (FS.BF)
 h. *ilibitɛa* (3.FS.FF) ‘coin’, *ilibe* / *ilibi* (3.FP), *ilap* (3.FS.BF)

§13.2.10 The allomorph *-/ɬa/*

The allomorph *-/ɬa/* is to be observed when *-/tɛa/* is attached to a root in *-/rʔ/*, for word-internally */r/* + */tɛ/* yield */ɬɬ/*. The latter

³⁹¹ Epenthetic */i/* is more frequent before *-/tɛa/*. Masculine nominals in *-/tɛ/* usually have epenthetic */i/* when the root ends in *-/p/*, and nominals in *-/t/* and *-/ta/* generally have epenthetic */i/*.

(usually transcribed as <rz>) is thus the result of the merging of two segments (see §2.3). /ɹ/ is only transcribed as <rrz> in the case of the feminine FF suffix /ɹa/, probably to associate the first <r> to the radical /r/ and <rz> to the first part of the suffix /ɹa/, with morphologically-faithful orthography. A list of feminine nominals in -/ɹa/ is provided in (59-60). -/ɹa/ can occasionally alternate with -/ta/ (59b, f, h, l, n, p), but in such a case no consonant change occurs. The plural suffix is -/e/, but it tends to fall, so that, here too, the lack of final glottalization distinguishes the plural from the BF.

- (59) a. awoɹa (3.FS.FF) ‘chin’, awoɹ / awoɹe (3.FP), awoɹʔ (3.FS.BF)
 b. asõɹa / asõɹta (FS.FF) ‘lance’, asõɹ / asõɹe (FP), asõɹʔ (FS.BF)
 c. asipsĩɹa (3.FS.FF) ‘opponent in combat’, asipsĩɹʔ (3.[M/F]S.BF),
 asipsĩɹ / asipsĩɹe (3.FP)
 d. tækeoɹa (FS.FF) ‘rainbow’, tækeoɹ / tækeoɹe (FP),
 tækeoɹʔ (FS.BF)
 e. ebiɹa (FS.FF) ‘sterile’, ebire / ebir (FP), ebirʔ (FS.BF)
 f. ŋekuɹa / ŋekurta (FS.FF) ‘type of plant’, ŋekur / ŋekure (FP),
 ŋekurʔ (FS.BF)
 g. ŋuxuɹa (FS.FF) ‘Chacoan peccary, tagua’, ŋuxur / ŋuxure (FP),
 ŋuxurʔ ([M/F]S.BF) (*Catagonus wagneri*)
 h. ŋikeɹa / ŋikerta (FS.FF) ‘pregnant’, ŋikẽɹ / ŋikẽɹe (FP),
 ŋikẽɹʔ (FS.BF)
 i. oxoɹa / irxoɹa (3.FS.FF) ‘chest’, oxor / irxor (3.FP), oxore /
 irxore (3.FP), oxorʔ / irxorʔ (3.FS.BF)
 j. paɹa (FS.FF) ‘virgin’, pare (FP), para / pareʔ (FS.BF),
 parʔ ([M/F]S.BF)
 k. pohoɹa (FS.FF) ‘tree, boat’, pohir (FP), pohire (FP), pohirʔ (FS.BF)
 l. tirmiɹa (FS.FF) ‘big caiman’, tirmir / tirmire (FP), tirmirʔ (FS.BF)
 (also: tirmirta)
 m. uhuɹa (FS.FF) ‘lid, door’, uhur / uhure (FP), uhurʔ (FS.BF)
 n. ukuhuɹa (FS.FF) ‘cloud’, ukuhur / uku:re / uku:ri (FP),
 ukuhurʔ (FS.BF) (also: ukuhuɹa / uku:rta)

- o. juhũɬa (3.FS.FF) ‘skin; bark’, juhũr (3.FP) / juhũre (3.FP),
juhũrʔ (3.FS.BF)
- p. juwĩɬa (FS.FF) ‘killer’, juwĩr / juwĩre / juwĩri (FP),
juwĩrʔ ([M/F]S.BF) (also: juwĩrta)

In (60a) one finds a rare example of loanword in *-ɬa/*. In (60b) */i/* can delete in the FF when the plural suffix *-e/* is added and turns into */a/* in the FF. In (60c) the suffix *-oʔ/* shows up in the BF. In (60d-f) the root vowel */a/* can assimilate to the plural suffix *-e/*. This kind of assimilation is to be found even when there is no suffix in the plural and this confirms that *-e/* has been added to the root and has fallen afterwards. This kind of assimilation is not obligatory and when the suffix drops, the BF and the plural are distinguished as in previous cases by the mere presence of final glottalization in the BF.

- (60) a. kuẽɬa (FS.FF) ‘spoon’, kuẽr / kuẽre (FP), kuẽrʔ (FS.BF)
(also: kuẽrta) (Spanish: cuchara)
- b. lakahaɬa (3.FS.FF) ‘daughter-in-law’, lakahir (3.FP),
lakahre (3.FP), lakahirʔ (3.FS.BF)
- c. jitoɬa (FS.FF) ‘prostitute’, jitore / jitor (FP), jitorʔ / jitoroʔ (FS.BF)
- d. timteaɬa (FS.FF) ‘woman’, timteer / timteere / timtear /
timteare (FP), timtearʔ (FS.BF)
- e. ilaɬa (FS.FF) ‘old’, ilar / ilare / iler / ilere (FP), ilarʔ (FS.BF) /
ilaroʔ ([M/F]S.BF)
- f. ilxaɬa (3.FS.FF) ‘pocket’, ilxer / ilxere / ilxar / ilxare (3.FP),
ilxarʔ (3.FS.BF)

§13.3 Masculine and feminine gender: a comparison

In this section the formation of masculine and feminine gender will be discussed. Pairs of nominals with the same root will be compared, thus excluding pairs such as */ɲakĩrbite/* (MS.FF) ‘man’

and *timcharrza* /timtɕaɹɹa/ (FS.FF) ‘woman’, or *hnakirbitit* /ɲakirbitit/ (MS.FF) ‘young man’ and *apibitita* (FS.FF) ‘young woman’. In nominals with both masculine and feminine forms, the gender-indicating suffixes are usually added to the root, which coincides with the feminine BF or is common to both genders (in epicene words). Synchronically the feminine FF and the masculine FF suffixes are independent elements, but diachronically the FF suffixes *-ta/* and *-tɕa/* were clearly derived from the masculine suffixes *-t/* and *-tɕ/*. Indeed, /a/ is still analyzable as feminine FF suffix in Ayoreo. As will be shown, there is no perfect correspondence between the FF suffixes *-t/* and *-ta/*, and *-tɕ/* and *-tɕa/*. Besides, when the plural suffix *-e/* is used in the MP, it is shared by both genders. In the course of the comparison, the nominals will be distinguished into two groups, characterized by the masculine suffixes *-t/* (§13.3.1) and *-tɕ/* (§13.3.2).

§13.3.1 Masculine nominals in *-t/* and their feminine counterparts

The masculine FF suffix *-t/* corresponds to the feminine suffix *-ta/*. In (61a-f) the feminine BF ends in *-iʔ/* and coincides with the root,³⁹² while the masculine BF has the suffix *-k/*. In (61g) the root ends in *-rʔ/*. The masculine and the feminine generally share the same root. In (62) one finds some exceptions showing a different root for feminine and masculine. In (62a) there is alternation between /u/ and /i/ in the masculine root alongside /u:/ in the feminine. The root coincides with the masculine BF *tok*, whose

³⁹² In some cases *-eʔ/* is also found at the end of the root, because the phonological opposition between /i/ and /e/ is neutralized when they are the last vowel of a feminine nominal.

final consonant has been reinterpreted as /w/ in the rest of the paradigm.

- (61) a. *aṃurmit* (MS.FF) ‘armadillo’, *aṃurmo* (MP), *aṃurmik* (MS.BF)
 → *aṃurmīta* (FS.FF) ‘armadillo’, *aṃurme* (FP), *aṃurmeʔ* (FS.BF)
 b. *ṇentit* (MS.FF) ‘type of bird’, *ṇento* / *ṇentitso* (MP), *ṇentak* (MS.BF)
 → *ṇentīta* (FS.FF) ‘type of bird’, *ṇente* (FP), *ṇenteʔ* (FS.BF)
 c. *olibit* (MS.FF) ‘blind’, *olibo* (MP), *olibik* (MS.BF)
 → *olibīta* (FS.FF) ‘blind’, *olibe* (FP), *olibīʔ* (FS.BF)
 d. *ki:mīt* (MS.FF) ‘unmarried’, *ki:mo* (MP), *ki:mik* (MS.BF)
 → *ki:mīta* (FS.FF) ‘unmarried’, *ki:me* / *ki:mi* (FP), *ki:miʔ* (FS.BF)
 e. *pihīpit* (MS.FF) ‘person who doesn’t speak’, *pihīpo* (MP),
pihīpik (MS.BF)
 → *pihīpīta* (FS.FF) ‘person who doesn’t speak’, *pihīpe* (FP),
pihīpeʔ / *pihīpiʔ* (FS.BF)
 f. *topit* (MS.FF) ‘dead’, *topo* (MP), *topik* (MS.BF)
 → *topīta* (FS.FF) ‘dead’, *tope* (FP), *topīʔ* / *topeʔ* (FS.BF)
 g. *dukuterit* (MS.FF) ‘greedy’, *dukutero* (MP), *dukuterk* (MS.BF)
 → *dukuterta* (FS.FF) ‘greedy’, *dukuter* / *dukutere* (FP),
dukuterʔ (FS.BF)
- (62) a. *polit* (MS.FF) ‘widower’, *poluwo* (MP), *polik* (MS.BF)
 → *polu:ta* (FS.FF) ‘widow’, *polu:we* / *polu:* (FP), *polu:ʔ* (FS.BF)
 b. *towit* (MS.FF) ‘lazy, idle’, *towo* (MP), *tok* (MS.BF)
 → *towīta* / *towuta* (FS.FF) ‘lazy, idle’, *towe* / *towu* / *towī* (FP),
toweʔ / *towīʔ* (MS.BF)

The root can coincide not only with the feminine BF, but also with an epicene BF, as in (63). In such cases a specific masculine BF, obtained by attaching *-ak/* (63b) or *-k/* (63c), is sometimes observed. In (63b) the plural form in *-e/* is epicene. (64) lists some loanwords: the feminine paradigm is more complete, because the

feminine BF is reported, while the masculine BF seems no longer productive and in most cases coincides with the FF.

- (63) a. *etɛikit* (MS.FF) ‘thief’, *etɛiko* (MP), *etɛikiʔ* ([M/F]S.BF)
 → *etɛikita* (FS.FF) ‘thief’, *etɛike* (FP), *etɛikiʔ* ([M/F]S.BF)
 b. *wetɛekit* (MS.FF), ‘he-goat; ram’, *wetɛeko* (MP), *wetɛeke* ([M/F]P),
 wetɛekeʔ ([M/F]S.BF), *wetɛeka(k)* (MS.BF)
 → *wetɛekita* (FS.FF) ‘goat; sheep’, *wetɛeke* ([M/F]P),
 wetɛekeʔ ([M/F]S.BF)
 c. *wo:kit* (MS.FF) ‘type of lizard’, *wo:kik* (MS.BF), *wo:kiʔ* ([M/F]S.BF)
 wo:ko (MP)
 → *wo:kita* / *wo:kota* (FS.FF), *wo:kiʔ* ([M/F]S.BF), *wo:ke* (FP)
 d. *ɪŋa:psit* (3.MS.FF) ‘countryman, someone of the same country’,
 ɪŋa:pso (3.MP), *ɪŋa:psaʔ* (3.[M/F]S.BF)
 → *ɪŋa:psita* (3.FS.FF) ‘countryman, someone of the same country’,
 ɪŋa:pse (3.MP), *ɪŋa:psaʔ* (3.[M/F]S.BF)
- (64) a. *buritit* (MS.FF) ‘little donkey’, *burito* (MP)
 → *buritita* (FS.FF) ‘little donkey’, *burite* (MP), *buriteʔ* (FS.BF)
 (non-adapted form: *burita*; from Spanish: *burrito*, DIM. of *burro*
 ‘donkey’)³⁹³
 b. *ixit* (3.MS.FF) ‘son’, *ixo* (3.MP) (from Spanish: *hijo*)
 → *ixita* (3.FS.FF) ‘daughter’, *ixeʔ* (3.FS.BF), *ixe* (3.FP)
 (from Spanish: *hija*)
 c. *obexit* (MS.FF) ‘ram’, *obexo* (MP)
 → *obexitita* (FS.FF) ‘sheep’, *obexe* / *obexi* (FP), *obexeʔ* (MS.BF)
 (from Spanish: *oveja*)

The nominals in (65) have epicene BF in *-p/*, but this is not necessarily the case for nominals with masculine FF in *-bit/* or *-mit/* and feminine FF in *-bita/* or *-mita/*, as one can see in the

³⁹³ The non-adapted form *burita* can be used in FF and BF contexts.

item reported in (66), which is like those discussed in (61). In (67) one finds nominals with BF in *-/p/*, but masculine and feminine have different root, although one can observe a regular correspondence: in the masculine word-internal */k/* corresponds to feminine */j/* after */i/*, and to */w/* after */u/*.³⁹⁴

- (65) a. *ixa:bit* (3.MS.FF) ‘little child / little’, *ixa:bo* (3.MP),
ixa:p (3.[M/F]S.BF)
→ *ixa:bta* / *ixa:bita* / *ixa:pta* (3.FS.FF) ‘little, little daughter’,
ixe:be (3.FP), *ixa:p* (3.[M/F]S.BF)
- b. *kosa:bit* (MS.FF) ‘type of bird’ (*garcita azulada*), *kosa:bo* (MP),
kosa:p ([M/F]S.BF)
→ *kosa:bta* (FS.FF) ‘type of bird’ (*garcita azulada*), *kose:be* (FP),
kosa:p ([M/F]S.BF)
- c. *tirɛa:bit* / *tirɛa:bitɛ* (MS.FF) ‘type of bird’, *tirɛa:bo* (MP),
tirɛa:p (MS/FS.BF), *tirɛa:bik* (MS.BF)
→ *tirɛa:bta* (FS.FF) ‘type of bird’, *tirɛe:be* (FP), *tirɛa:p* (MS/FS.BF)
- (66) *ilxa:bit* (MS.FF) ‘evil’, *ilxa:bo* (MP), *ilxa:bik* (MS.BF)
→ *ilxa:bita* (FS.FF) ‘evil’, *ilxa:be?* (FS.BF), *ilxa:be* (FP)
- (67) a. *koɛka:bit* (MS.FF) ‘thin’, *koɛka:bo* (MP), *koɛka:p* ([M/F]S.BF)
→ *koɛuwa:bta* (FS.FF) ‘thin’, *koɛuwe:be* (FP), *koɛuwa:p* (FS.BF)
- b. *turkã:bit* (MS.FF) ‘short’, *turkã:mo* (MP), *turkã:p* (MS.BF)
→ *turijã:bta* (FS.FF) ‘short’, *turijẽ:me* (MP), *turijã:p* (FS.BF)

Masculine nominals in *-/ehet/* correspond to feminine nominals in *-/ahata/*. The comparison with the feminine and the fact that these nominals have epicene BF in *-/aha?* suggest that a vowel change in the root occurred in the masculine FF. The feminine BF

³⁹⁴ This form probably derives from a diminutive, although it is no longer analyzable as such. The diminutive suffix *-/a:p/* will be discussed in (§13.6).

kutumrahaya /kutumrahaja/ takes the feminine BF suffix *-/a(ʔ)/* while */j/* is possibly a glide insertion. The same element is to be found in the feminine BFs *osdiya* /osdi:ja/ and *yoniiya* /joni:ja/ (39c-d). The BF suffix *-/aʔ/* has been considered an epicene suffix in other contexts (see §13.1.9 and §13.2.4), but here it does not depend on euphonic reasons. Moreover, at least in the case of *kutumharaya* /kutumrahaja/ (68b) it helps to create the feminine BF as opposed to the epicene BF.

- (68) a. *kabahat* / *kabehet* (MS.FF) ‘horse’, *kabijuho* (MP),
 kabahaʔ ([M/F]S.BF)
 → *kabahata* (FS.FF) ‘horse’, *kabijuhe* / *kabehe* (FP),
 kabahaʔ ([M/F]S.BF)
- b. *kutimrehet* / *kutumrehet* (MS.FF) ‘Chamacoco clan name’,
 kutimraho (MP), *kutimrahaʔ* / *kutimrahaʔ* ([M/F]S.BF)
 (also: *kutumrehet*)
 → *kutumrahata* (FS.FF) ‘Chamacoco clan name’,
 kutumrahaʔ ([M/F]S.BF) / *kutumrahaja* (FS.BF), *kutumrehe* (FP)
- c. *kinehet* (MS.FF) ‘strange, different’, *kinahaʔ* ([M/F]S.BF), *kinaho* /
 kinahu (MP)
 → *kinahata* (FS.FF) ‘strange, different’, *kinuhe* / *kinaha* (FP),
 kinahaʔ ([M/F]S.BF)
- d. *imehet* (3.MS.FF) ‘enemy’, *imaho* / *imahatso* (3.MP),
 imahaʔ (3.[M/F]S.BF)
 → *imahata* (3.FS.FF) ‘enemy’, *imehe* (3.FP), *imahaʔ* (3.[M/F]S.BF)

Masculine nominals in *-/ẽt/* correspond to feminine nominals in *-/ãta/*. In both genders, the root of plural and BF does not correspond to the FF root. The morphological boundaries are not easy to determine, because it is not clear whether the last *-/a/* of the feminine BF is part of the root or is a BF suffix. If it is part of the root, the masculine BF is obtained by adding *-/k/* to the feminine BF, otherwise *-/ak/* is added. In both cases, whatever the

morphological boundaries, masculine and feminine share the same root in the BF and in the plural. This confirms that /r/ syncope occurred in the FF and that /e/ has been replaced by the last root-vowel /a/ in the feminine.³⁹⁵ As in masculine nominals in /-ehet/, which have root in /-ahaʔ/ and correspond to feminine FFs in /-ahata/, /a/ turns into /e/ in the masculine FF.³⁹⁶

- (69) a. kuṇet (MS.FF), kuṇero (MP) ‘orphan’, kuṇerak (MS.BF)
 → kuṇata (FS.FF) ‘orphan’, kuṇere (FP), kuṇeraʔ (FS.BF)
 b. oḵč̣:t (MS.FF) ‘dog’, oḵč̣:ro (MP) / oḵč̣:re ([M/F]P) oḵč̣:rak (MS.BF)
 → oḵā:ta (FS.FF) ‘dog’, oḵč̣:re (FP), oḵč̣:raʔ (FS.BF)³⁹⁷
 c. ijēt (3.MS.FF), ‘friend, companion’, ijēro (3.MP) / ijēre (3.[M/F]P),
 ijērak (3.MS.BF)
 → ijāta (3.FS.FF) ‘friend, companion’, ijēr (3.FP) / ijēre (3.[M/F]P),
 ijēra (3.FS.BF)

Masculine nominals in /-it/ correspond to feminine nominals in /-ita/. The root usually coincides with the feminine BF. Sometimes an epicene BF is found. A masculine BF with the suffix /-ak/ can alternate with the epicene BF (70b). In (70c) two feminine BFs alternate, a BF coinciding with the root and another obtained by the feminine BF suffix /-a/ (/j/ is an insertion).

- (70) a. dīteiḳiri:t (MS.FF) ‘type of bird’, dīteiḳiri:jo (MP), dīteiḳiri:jak
 (MS.BF) (*Caracara plancus*)

³⁹⁵ This might suggest that /a/ in this case is part of the root.

³⁹⁶ One may also surmise that /a/ deletes in the masculine when /r/ syncope occurs, but it is difficult to explain why two different morphophonological processes should occur in the same root.

³⁹⁷ *Ohyeēt* /oḵč̣:t/ is an archaic word for ‘dog’, while *pohoch* /pohote/ (§13.3.2, ex. 86) is the word currently used.

- dīteikĩri:ta (FS.FF) ‘type of bird’, dīteikĩri: / dīteikĩri:je (FP),
dīteikĩri:ʔ (FS.BF) (*Caracara plancus*)
- b. kotei:t (MS.FF) ‘black howler’, kotei:jo (MP) / kotei: ([M/F]P),
kotei:ʔ ([M/F]S.BF), kotei:jak (MS.BF) (*Alouatta caraya*)
→ kotei:ta (FS.FF) ‘black howler’, kotei: ([M/F]P),
kotei:ʔ ([M/F]S.BF) (*Alouatta caraya*)
- c. joni:t (3.MS.FF) ‘ghost, spirit’, joni:jo (3.MP), joni:jak (3.MS.BF)
→ joni:ta (3.FS.FF) ‘spirit with supernatural power’, joni: /
joni:je (3.FP), joni:ja / joni:ʔ (3.FS.BF)

In (71) one finds nominals with root in *-oʔ/*. In (71b-c) the epicene BF coincides with the root, while in (71a) one finds a difference between feminine BF, coinciding with the root, and masculine BF, obtained by adding the suffix *-/k/* to the feminine BF.

- (71) a. ohot (3.MS.FF) ‘father-in-law’, oho (3.[M/F]P), ohok (3.MS.BF)
→ ohota (3.FS.FF) ‘mother-in-law’, oho (3.[M/F]P), ohoʔ (3.FS.BF)
- b. kokot / kokit (MS.FF) ‘rooster’, koko (MP), kokoʔ (MS.BF)
→ kokota (FS.FF) ‘hen’, koko (FP), kokoʔ (FS.BF)
- c. ilpijot (MS.FF) ‘jaguar’, ilpijo (MP), ilpijoʔ (MS.BF)
→ ilpijota (FS.FF) ‘jaguar’, ilpijo ([M/F]P), ilpijoʔ ([M/F]S.BF)

The same situation observed in (70) and (71) is to be observed in nominals with root in *-/uʔ/* (72). In *bahlut* /baɫut/ (72a), the masculine and the feminine differ in the vowel length, because the root vowel /u/ is short in the masculine and is long in the feminine. The same difference between masculine and feminine has been noted in *polit* ‘widower’ (62a). In (72c) too, /u:/ corresponds to a short vowel in the masculine. In the masculine, /u/ has probably reduced to /i/ in the BF and FF, as one can see from the fact that /u/ re-emerges in the plural.

- (72) a. baɫut (MS.FF) ‘chief; big’, baɫuwo (MP), baɫuʔ / baɫuwa (MS.BF)

- baļu:ta (FS.FF) ‘big’, baļu: (FP), baļu:ʔ (FS.BF)
- b. wuput (MS.FF) ‘black vulture’, wupuwo (MP), wupuʔ ([M/F]S.BF)
(Coragyps atratus)
 → wuputa (FS.FF) ‘black vulture’, wupu (FP), wupuʔ ([M/F]S.BF)
(Coragyps atratus)
- c. miñit (MS.FF) ‘bad, evil’, miñuwo (MP), miñik (MS.BF)
 → miñu:ta (FS.FF) ‘bad, evil’, miñu:ʔ (FS.BF), miñu: (FP)

The following examples list nominals in: *-/nt/* or *-/nt/* (73), *-/lt/* (74) and *-/rzt/* (75). In these nominals, a suffix is added to the root in order to form the feminine BF or the epicene BF (73b,74a). The masculine BF is formed by adding *-/ak/* to the root (73a,74a,73d,75a). The presence of the suffix *-/ak/* in the masculine BF often correlates with the plural suffix *-/e/* in the masculine: such a plural suffix can be common to both masculine and feminine. In (73a) and (74a) the epicene plural in *-/e/* alternates with the MP in *-/o/*.

- (73) a. keteint (MS.FF) ‘Paraguayan (person)’, keteine ([M/F]P),
 keteino (MP), keteinak (MS.BF)
 → keteinta (FS.FF) ‘Paraguayan’, keteine ([M/F]P), keteinaʔ /
 keteineʔ (FS.BF)
- b. nomĩnt (MS.FF) ‘horse’, nomĩño (MP), nomĩñaʔ ([M/F]S.BF)
 → nomĩnta (FS.FF) ‘horse’, nomĩñe (FP), nomĩñaʔ ([M/F]S.BF)
- c. pikiñint (MS.FF) ‘boy, child’, pikiñino (MP) (Spanish: pequeño)
 → pikiñinta (FS.FF) ‘girl, child’, pikiñine (FP), pikiñineʔ (FS.BF)
 (Spanish: pequeña)
- d. jermoñt (MS.FF) ‘talkative, charlatan’, jermoño (MP),
 jermoñak (MS.BF)
 → jermoñta (FS.FF) ‘talkative, charlatan’, jermoñe (FP),
 jermoñeʔ (FS.BF)

- (74) a. ahilt / ałt (MS.FF) ‘new’, ało (MP), ałe ([M/F]P), ałeʔ ([M/F]S.BF)

- ahilta (FS.FF) ‘new’, aļe ([M/F]P), aļeʔ ([M/F]S.BF)
 b. jilt (3.MS.FF) ‘slave, servant’, jilo (3.MP), jilak (3.MS.BF)
 → jilta (3.FS.FF) ‘slave, servant’, jile (3.FP), jilaʔ (3.FS.BF)
- (75) a. berzt (MS.FF) ‘high, tall’, berzo (MP), berzak (MS.BF)
 → berzta (FS.FF) ‘high, tall’, berze (FP), berzeʔ (FS.BF)

In (76) one finds nominals with root in *-rʔ/*. In this case too, the root coincides with the feminine BF. The masculine BF is obtained by adding the suffix *-k/* or *-ak/* to the root, an epicene BF in *-rʔ/* is only to be found in (76c). In (76), the masculine FF suffix *-t/* does not always correspond to the feminine suffix *-ta/*, but may correspond to *-ļa/*.

- (76) a. hutkejkērt (MS.FF) ‘manguruju fish’, hutkejkēro (MP),
 hutkejkērak (MS.BF), hutkejkērʔ ([M/F]S.BF)
 → hutkejkērtā / hutkejkēļa (FS.FF) ‘manguruju fish’,
 hutkejkēr / hutkejkēre (FP), hutkejkērʔ ([M/F]S.BF)
- b. ebirt (MS.FF) ‘sterile’, ebiro (MP), ebirak (MS.BF)
 → ebiļa (FS.FF) ‘sterile’, ebire / ebir (FP), ebirʔ (FS.BF),
- c. kabirt (MS.FF) ‘he-goat’, kabi-ro (MP), kabirʔ ([M/F]S.BF)
 → kabirta ‘goat’, kabir / kabire (FP), kabirʔ ([M/F]S.BF)
 (non-adapted form: kabra; from Spanish: cabra))
- d. kepirt (MS.FF) ‘wide’, kepiro (MP), kepirak (MS.BF)
 → kepiļa (FS.FF) ‘wide’, kepir / kepire (FP), kepirʔ (FS.BF)
- e. wiħirt (MS.FF) ‘red’, wiħirtso (MP), wiħirk (MS.BF)
 → wiħirta (FS.FF) ‘red’, wiħir / wiħire (FP), wiħirʔ (FS.BF)

In (77) one can note root allomorphy: */s/* in the masculine corresponds to */t/* in the feminine, as one can note in the numeral ‘two’ (77b) which shows gender distinction. The nouns in (77c-f) are all compounds whose head is *osht* /oæt/ ‘person’ (77a) and have the same suffixation of the head. In *osht* /oæt/ the root coincides

with the masculine BF *os*. In the feminine, /s/ turns into /t/ and -/oʔ/ is a BF suffix. The nominals in (78) have masculine FF in -/ɛt/ and feminine FF in -/ɛta/. In this case too, the root coincides with the masculine BF, which ends in -/s/. The paradigm is characterized by the alternation between /s/ in the masculine BF and /ɛ/ in the other forms.³⁹⁸ The feminine is obtained by adding a BF suffix to the root.

- (77) a. *oet* (MS.FF) ‘person’, *os* (MS.BF), *oso* (MP)
 → *otita* (FS.FF) ‘person’, *ote* (FP), *otoʔ* (FS.BF)
 b. *osijer* (M) ‘two’
 → *otijer* (F)
 c. *ojerptoet* (MS.FF) ‘soldier’, *ojerptoso* (MP), *ojerptos* (MS.BF)
 → *ojerptotita* (FS.FF) ‘soldier’, *ojerptote* (FP), *ojerptotoʔ* (FS.BF)
 d. *po:ɬoet* (MS.FF) ‘God, divinity’, *po:ɬoso* (MP) ‘gods’,
 po:ɬos (MS.BF)
 → *põ:ɬotita* (FS.FF) ‘goddess’, *põ:ɬotote* (FP), *põ:ɬototoʔ* (FS.BF)
 e. *uhuɬoet* (MS.FF) ‘last’, *uhuɬoso* (MP), *uhuɬos* (MS.BF)
 → *uhuɬotita* (FS.FF) ‘last’, *uhuɬote* (FP), *uhuɬotoʔ* (FS.BF)
 f. *ibitoet* (MS.FF) ‘Chamacoco Ebitoso’, *ibitoso* (MP), *ibitos* (MS.BF)
 → *ibitotita* (FS.FF) ‘Chamacoco Ebitoso’, *ibitotite* (FP),
 ibitotitoʔ (FS.BF)
- (78) *kuskuet* (MS.BF) ‘type of bird’, *kuskuɛo* (MP), *kuskus* (MS.BF)
 → *kuskuɛta* (FS.FF) ‘type of bird’, *kuskuɛe* (FP), *kuskuɛiʔ* (FS.BF)

In (79) one finds some Spanish loanwords. The feminine takes a BF suffix and the masculine generally has no BF, because it is no

³⁹⁸ Given the presence of /ɛ/ in the plural, one can think that final /s/ in the masculine BF derives from /ɛ/. Note that there are no nominals in -/ɛ/. Probably for this reason /ɛ/ turns into /s/ word-finally in the masculine BF.

longer productive in the masculine. The epicene BF is only to be observed in (79c).

- (79) a. *boœœt* (MS.FF) ‘boy’, *boœœo* (MP) (Spanish: *muchacho*)
 → *boœœta* (FS.FF) ‘girl’, *boœœe* (FP), *boœœe?* (FS.BF)
 (Spanish: *muchacha*)³⁹⁹
 b. *kerpiet* (MS.FF) ‘capybara’, *kerpieo* (MP) (Spanish: *carpincho*)
 → *kerpieta* (FS.FF) ‘capybara’, *kerpiee* (FP), *kerpiei?* (FS.BF)
 c. *miet* (MS.FF) ‘cat’, *mieo* (MP), *miei?* ([M/F]S.BF)
 → *mieta* (FS.FF) ‘cat’, *miee* (FP), *miei?* ([M/F]S.BF)
 (Spanish: *micho* (MS), *micha* (FS) ‘kitty, pussycat’)

In the previous examples, one finds pairs of nominals where the variation of the grammatical gender reflects the natural gender. In (80) one finds two pairs of nominals where the nominal gender is not related to the natural gender and the variation of the grammatical gender expresses a variation in the referent, although the referent of the masculine form has a semantic relationship with the referent of the masculine form. In (80a), *kiskirehet* and *kiskirahata* refer to objects with metallic parts which do not belong to traditional CH culture. In (80b) the masculine *wolt* means ‘cap’ and the feminine *wolta* ‘hat’. Both nominals have an epicene BF which conveys both meanings. *Wolta* (80b) also has a specific feminine BF *wola?*.

- (80) a. *kiskirehet* (MS.FF) ‘knife, machete’, *kiskiraho* (MP),
 kiskiraha? ([M/F]S.BF)
 → *kiskahata* / *kiskirahata* (FS.FF) ‘radio, telephone’, *kiskehe* /

³⁹⁹ This pair of words has replaced the indigenous words *disibich* /*disibite*/ and *disibicha* /*disibitea*/ (82c), which nowadays are considered archaic words.

- kiskirehe (FP), kiskaha[?] (FS.BF) / kiskiraha[?] ([M/F]S.BF)⁴⁰⁰
 b. wolt (3.MS.FF) ‘cap’, wolo (3.MP), wolo[?] (3.[M/F]S.BF)
 → wolta (3.FS.FF) ‘hat’, wole (3.FP), wolo[?] (3.[M/F]S.BF) /
 wola[?] (3.FS.BF)⁴⁰¹

§13.3.2 Masculine nominals in *-tɛ/* and feminine gender

Masculine nominals in *-tɛ/* are less numerous than masculine nominals in *-t/* and do not systematically correspond to feminine nominals in *-tɛa/* (81b, 82a, 83, 85-86), but the corresponding feminine FF can take the suffix *-ta/*. As already said, the masculine FF suffix *-tɛ/* and the feminine FF suffix *-tɛa/* are no longer productive. In the BF the correspondence between feminine and masculine follows the same rules already discussed above.

In (81) one finds the alternation between *-tɛ/* or *-t/*, and *-tɛa/* or *-ta/*. The root coincides with the feminine, while the masculine BF has the suffix *-k/*. In (81b) the last vowel of the feminine root is */i:/*, while the last vowel of the masculine root is */i/*. An alternation between */i:/* and */i/* in the root is not surprising, but the difference in the vowel length is more interesting, because the correspondence between a long vowel in the feminine and a short vowel in the masculine were also pointed out in (62a) and (72a). In (82) the nominals have epicene root in *-ap/*. In (82b-c) the masculine suffix *-tɛ/* corresponds to the feminine suffix *-tɛa/*.

⁴⁰⁰ The forms *kiskahata*, *kiskaha[?]* and *kiskehe* are reduced forms of *kiskirahata*.

⁴⁰¹ In *pich* */pitɛ/* or *pich* */pitɛ/* ‘box’ and *pita* ‘box’ the gender difference does not seem to reflect a change in the meaning. The use of *pich* or *pita* in compounds is idiosyncratic, but the feminine form is more frequent. The paradigms are reported here: *pich* */pitɛ/* or *pich* */pitɛ/* (MS.FF) ‘box, container’, *po* (MP), *pi[?]* (MS.BF), *pita* (FS.FF) ‘box’, *pi[?]* (FS.BF), *pi* (FP).

- (81) a. *debihte* / *debiht* (3.MS.FF) ‘nephew’, *debijo* (3.MP),
debihik (3.MS.BF) (also: *debuhutea*)
→ *debihita* / *debuhutea* (3.FS.FF) ‘niece’, *debihi* / *debuhi* (3.FP),
debihi? / *debuhi?* (3.FS.BF)
- b. *ibite* (3.MS.FF) ‘work / servant, employee’, *ibijo* (3.MP),
ibik (3.MS.BF)⁴⁰²
→ *ibi:ta* (3.FS.FF) ‘servant, employee’, *ibi* / *ibi:je* (3.FP),
ibi:? (3.FS.BF)
- (82) a. *añimite* (3.MS.FF) ‘grandson’, *añimo* (3.MP), *añap* (3.MS.BF)
→ *añimita* (3.FS.FF) ‘grandson, granddaughter’ *añime* (3.FP),
añap (3.[M/F]S.BF)
- b. *lasibite* (3.MS.FF) ‘nephew’, *lasibo* (3.MP), *lasap* (3.[M/F]S.BF)
→ *lasibitea* (3.FS.FF) ‘niece’, *lasibe* (3.FP), *lasap* (3.[M/F]S.BF)
- c. *disibite* (MS.FF) ‘boy’, *disibo* (MP), *disap* ([M/F]S.BF)
→ *disibitea* (FS.FF) ‘girl’, *disibe* (MP), *disap* ([M/F]S.BF)

In (83) no masculine BF is reported, but the root coincides with the feminine BF. The difference between the last root-vowel /i/ in the masculine and /i/ in the feminine is due to the fact that /i/ tends to turn into /i/ before the suffix *-te/*.

- (83) a. *dekite* / *dekite* (3.MS.FF) ‘grandfather’, *deko* / *dekijo* (3.MP)
→ *dekita* (3.FS.FF) ‘grandmother’, *dekite* (3.FP), *dekite?* (3.FS.BF)
- b. *dikiteibite* / *dikiteibi:te* (GF.MS.FF) ‘ghost’, *dikiteibijo* (GF.MP)
→ *dikiteibita* (GF.FS.FF) ‘ghost’, *dikiteibi?* (GF.FS.BF), *dikiteibi* (GF.FP)

In (84), the masculine root is different from the feminine one, although the masculine and the feminine FF show some similarities.

⁴⁰² Note that the masculine BF coincides with *ibik* ‘it rains’ and it means both ‘work’ and ‘servant, employee’, while the feminine forms only convey the latter meaning.

In (85) the adjective *dich* /ditɛ/ has no specific BF in either the masculine or the feminine. Its MP is also used for the FP, while the MS-FF tends to replace the FS form *data*. In *pohoch* /pohotɛ/ (86) the masculine FF is irregular, while the root in the feminine is the same observed in the MP.⁴⁰³

(84) dejtɛ (3.MS.FF) ‘father’, dejo (3.MP), dejʔ (3.MS.BF)
 → lata (3.FS.FF) ‘mother’, lati / late (3.FP), latiʔ / lateʔ (3.FS.BF)
 (also: data)

(85) ditɛ / dītɛ (MS.FF) ‘big, large, great’, dejo ([M/F]P)
 → data (FS.FF), dejo ([M/F]P)

(86) pohotɛ / pohītɛ (MS.FF) ‘dog’, pojto (MP)
 → pojti:ta (FS.FF) ‘dog’, pojti: (FP), pojti:ʔ (FS.BF)

In (87) one finds nominals with root in *-rʔ/*. In this case, the masculine FF suffix *-/tɛ/* corresponds to the feminine FF suffix *-/tɛa/*, which after */r/* is realized as *-/ɭa/*. The root usually coincides with the feminine BF. In the masculine, the BF suffix *-/k/* or *-/ak/* is added. In some nominals an epicene BF coinciding with the root is also observed and sometimes can alternate with the masculine BF in *-/k/* or *-/ak/*.

(87) a. asipsĩrtɛ (3.MS.FF) ‘opponent in combat’, asipsĩrʔ (3.[M/F]S.BF),
 asipsĩro (3.[M/F]S.BF)
 → asipsĩɭa (3.FS.FF) ‘opponent in combat’, asipsĩrʔ (3.[M/F]S.BF),

⁴⁰³ Apparently, a long vowel has been added to form the feminine root. One may also surmise that the masculine root ends in a short vowel which has been replaced by the plural suffix *-/o/* (probably */i/*). This would be another example of nominal where a short vowel in the masculine corresponds to a long vowel in the feminine.

- asipsîr / asipsîre (3.FP)
- b. muxurte (MS.FF) ‘Chacoan peccary, tagua’, muxuro (MP),
 muxurak (MS.BF), muxur? ([M/F]S.BF) (*Catagonus wagneri*)
 → muxuḷa (FS.FF) ‘Chacoan peccary, tagua’, muxur /
 muxure (FP), muxur? ([M/F]S.BF) (*Catagonus wagneri*)
- c. osiptijerte (MS.FF) ‘type of bird’ (garza blanca), osiptijero (MP),
 osiptijerak (MS.BF), osiptijer? ([M/F]S.BF),
 → osiptijeḷa (FS.FF) ‘type of bird’ (garza blanca),
 osiptijer? ([M/F]S.BF), osiptijer / osiptijere (FP)
- d. posîrte (FS.FF) ‘predator; hungry’, posîro (MP), posîrk (MS.BF),
 posîr? ([M/F]S.BF),
 → posîḷa (FS.FF) ‘predator; hungry’, posîr / posîre (FP),
 posîr? ([M/F]S.BF)
- e. tatijôrte / tatijôrt (MS.FF) ‘ounce’, tatijôro (MP), tatijôrak (MS.BF),
 tatijôr? ([M/F]S.BF)
 → tatijôḷa (FS.FF) ‘ounce’, tatijôr / tatijôre (FP),
 tatijôr? ([M/F]S.BF),
- f. tîrmîrte (MS.FF) ‘big caiman’, tîrmîro (MP), tîrmîrk (MS.BF),
 tîrmîr? ([M/F]S.BF)
 → tîrmîḷa (FS.FF) ‘big caiman’, tîrmîr / tîrmîre (FP),
 tîrmîr? ([M/F]S.BF) (also: tîrmîrta)
- g. juwîrte / juwîrt (MS.FF) ‘killer’, juwîro (MP), juwîr? ([M/F]S.BF) /
 juwîrk (MS.BF)
 → juwîḷa (FS.FF) ‘killer’, juwîr / juwîre / juwîri (FP),
 juwîr? ([M/F]S.BF) (also: juwîrta)
- h. wonsîrte (MS.FF) ‘driver’, wonsîro (MP), wonsîr? ([M/F]S.BF),
 wonsîrk (MS.BF)
 → wonsîḷa (FS.FF) ‘driver’, wonsîr / wonsîre (FP),
 wonsîr? ([M/F]S.BF),
- i. îeîrte (MS.FF) ‘indigenous man’, îeîro (MP), îeîr? ([M/F]S.BF)
 → îeîḷa (FS.FF) ‘indigenous woman’, îeîr / îeîre (FP),
 îeîr? ([M/F]S.BF)

In (88) the root is *îlar*?, but there is an epicene BF obtained by

adding *-oʔ* to the root. In (89) masculine nominals in *-sĩrte/* do not show a regular correspondence with the respective feminine forms. The FF suffix is *-te/* in the masculine and *-ta/* in the feminine. In (89a) one can observe the presence of */s/* in the masculine root, which corresponds to */t/* in the feminine root.

- (88) a. *ilarte* (MS.FF) ‘old’, *ilaro* (MP), *ilaroʔ* ([M/F]S.BF)
 → *ilaɬa* (FS.FF) ‘old’, *ilar* / *ilare* / *iler* / *ilere* (FP), *ilarʔ* (FS.BF) /
 ilaroʔ ([M/F]S.BF)
- (89) a. *imisĩrte* (3.MS.FF) ‘godfather’, *imisĩro* (3.MP), *imisĩr(a)k* /
 imisĩr (3.MS.BF) (also: *imisĩrte*)
 → *imitĩta* (3.FS.FF) ‘godmother’, *imite* (3.FP), *imitoʔ* (3.FS.BF)
 (also: *imisũɬa*)
- b. *jinsĩrte* (3.MS.FF) ‘master/ owner / employer’, *jinsĩro* (3.MP),
 jinsĩrk / *jinsĩrʔ* (3.MS.BF)
 → *jila:ta* / *jilahata* (3.FS.FF) ‘mistress’, *jile:te* / *jilehe* (3.FP),
 jilahaʔ (3.FS.BF)
- c. *iñesĩrte* (3.MS.FF) ‘widowed father’, *iñesĩro* (3.MP), *iñesĩrk* /
 iñesĩrʔ (3.MS.BF)
 → *inahata* (3.FS.FF) ‘widow mother’, *inahaʔ* (3.FS.BF),
 inehe (3.FP)

§13.4 Other nominals

The nominals which will be discussed in this section are characterized by peculiarities which have not been analyzed in the previous chapters. Some CH nominals have no inflection, such as: *kĩis* /*kĩ:s/* ‘cold’, *nihyokot* /*nijokot/* ‘water’,⁴⁰⁴ *potita* ‘inflated,

⁴⁰⁴ This is the archaic word for ‘water’. Nowadays this term tends to be replaced by *awit*, loanword from Spanish *agua* ‘water’.

swollen’, *shirã* /ɛirã/ ‘dry’, *icharãha* /itearãha/ ‘new’, *irhew* /irew/ ‘full’.

As already seen, some masculine nominals have the FF, but no BF. The contrary can also occur, although it is less frequent: there are nominals having the BF, but whose FF is not to be found. This means that the BF is also used in typical FF contexts. *Aap* /a:p/ (90a) ‘son/daughter’ is an epicene BF. In the FF, *ijit* /ixit/ (3.MS.FF) ‘son’ and *ijita* /ixita/ (3.MS.FF) ‘daughter’ are used. These words are loans from Spanish *hijo* and *hija* and tend to replace the indigenous term. Also *om* has an epicene BF (90). In *wis* (90f) the masculine has no FF, but in the feminine there is morphological distinction between BF and FF.

- (90) a. a:p (3.[M/F]S.BF) ‘child’, a:bo (3.MP), e:be (3.FP)
 b. awo[?] (3.MS.BF) ‘mouth’, awo (3.MP)
 c. ner[?] (3.MS.BF) ‘behind’, ner (3.MP)⁴⁰⁵
 d. om ([M/F]S.BF) ‘good’, omo / o:mo (MP), ome (FP)
 e. wos (MS.BF) ‘poison’, woso (MP)
 f. wis (MS.BF) ‘black’, wiso (MP)
 → wista (FS.FF) ‘black’, wisi[?] (FS.BF), wisi (FP)

The nominals in (91) could be considered *pluralia tantum*: they only have plural inflection or they are almost exclusively used in the plural.

- (91) a. akilijo / akilije (3.MP) ‘suggestion’⁴⁰⁶
 b. ejuwo (3.MP) ‘thought’

⁴⁰⁵ *Ner*[?] is a nominal used as a locative postposition.

⁴⁰⁶ The singular BF of *akiliyo* /akilijo/, *akili*[?] is reported, so that this nominal could be considered a nominal lacking the singular FF, but its singular BF is usually not used.

- c. *ieuwo* / *ieuwo* (3.MP) ‘belongings, clothing’⁴⁰⁷
- d. *ijuwo* (3.MP) ‘hunger’
- e. *ukurbo* (3.MP) ‘power, force’⁴⁰⁸
- f. *ware* (3.MP) ‘dirtiness, what is dirt’⁴⁰⁹

In (92) one finds nominals without distinction between FF and BF and characterized by irregular inflection. *Yet* /*jet*/ (92a) means ‘other’ and can be used both as an adjective and as a noun. The MS and FS have the endings *-t*/ and *-ta*/ as typical of the FF. For this reason they have been glossed with (FF), but in *yet* /*jet*/ there is no BF vs. FF opposition. This would not be surprising in the masculine, but in the feminine this is exceptional. The root /*je*/ assimilates to the suffix *-ta*/ in *yata* /*jata*/ and turns into /*jër*/ in the plural. The plural suffixes *-o*/ and *-e*/ are used for masculine and feminine, respectively. In the plural there is /*w*/ insertion. *Lishi* /*liei*/ (92b) (literally ‘poor’) is an adjective used to express endearment and compassion (typically, for someone dead). In this case no suffixes expressing gender, number and form can be identified.

- (92) a. *jet* (MS.FF), *jewo* (MP), *jata* (FS.FF), *jër* / *jëre* (FP) ‘other’
 b. *liei* (MS), *wiei* (MP), *late*? (FS)⁴¹⁰, *iei* (FP) ‘poor, dear, dead’

⁴⁰⁷ The singular BF *ishik* /*ieik*/ meaning ‘thing, belonging’ is to be observed and morphologically is the BF of *ishuwo* /*ieuwo*/. Probably because *ishuwo* /*ieuwo*/ or *ishuwo* /*ieuwo*/ is the specialized term for ‘clothing’, the speakers do not connect *ishik* to *ishuwo*, but consider it a singular form of *ishujãro* /*ieuxãro*/ (3.MP) ‘thing, belonging’, mainly used in the plural, but *ishujãro* has its proper singular forms *ishujärt* /*ieuxärt*/ (3.MS.FF) and *ishujärak* /*ieuxärak*/ (3.MS.BF), even though only the plural is generally used.

⁴⁰⁸ A masculine FF *ukurbit* is reported, but this word is usually used in the plural.

⁴⁰⁹ In the plural, the variant *waro* is also found, but *ware* is far more frequent.

Pisht /piɛt/ (93) is an elative particle which follows nominals (94a-b) and verbs (94c). It can be a phonological word (94a) or an enclitic particle (94b-c). *Pisht* /piɛt/ has nominal inflection after a nominal (93a-b). Its inflection is regular. The feminine BF takes the suffix *-iʔ*/. After a verb, its root, to be identified with the masculine BF, is used. *Pisht* /piɛt/ corresponds to the AY elative suffix *-/pis/* (cf. §4.8.6) and to O.Z *-puz* (*-/pus/*) (Chomé 1958: 134).⁴¹¹

(93) a. piɛt (MS.FF), piɛ (MS.BF), piɛo (MP)

→ piɛta (FS.FF), piɛiʔ (FS.BF), piɛi / piɛe (FP) (also: piɛt)

(94) a. Sêhe d-iraha eyok ahwos-o pish-o.

/tsêhe d-iraha ejok aʔos-o piɛ-o/

VOL 3.IRLS-know 1.PI 3.word-MP ELAT-MP

‘He wants to know our real words.’ (Ciucci, field notes)

b. Tok-owa waa hnekur=pish-ta.

/Tok-owa wa: ŋekur=piɛ-ta/

1S-show DET.FS caraguata_plant=ELAT-FS.FF

‘I will show you the real caraguata.’ (Ciucci, field notes)

⁴¹⁰ The form *lateʔ* coincides with the BF of mother *lateʔ* (3.FS.BF). The plural form *wishi* /wiei/ is also used with the meaning ‘many’.

⁴¹¹ O.Z *-puz* (*-/pus/*) is the masculine BF, while *-/e/* is added in the feminine BF, which is *-puze* (*-/puse/*) (Chomé 1958: 134). The form added to verbs is *-puz*, the same used to form the masculine BF. The vowel *-/e/* added in the feminine probably corresponds to the Chamacoco BF suffix.

c. <i>ʃshir-rza</i>	<i>s-ahmūr=pish</i>	Bochani.
<i>/ɛiɫ-ja</i>	<i>ts-amūr=pie</i>	<i>boteani/</i>
Chamacoco-FS.FF	3-love=ELAT	Boggiani
‘The Chamacoco woman loved Boggiani very much.’		
(Ciucci, field notes)		

There are two other relative particles: *=/ɛip/* and *=/pa/*: *t-aak=ship* /t-a:k=ɛip/ (3-eat=ELAT) ‘he eats very much’, *om=pa* (good.[M/F]S.BF=ELAT) ‘very good’. Both are enclitic and have no inflection. *=/ɛip/* possibly derives from the root */pie/* via metathesis; it can only be used in the same contexts of *=/pie/*.⁴¹² *=/pa/* can be used in all contexts.

In (95) one finds some plant nouns with the respective fruits. There is a derivational mechanism to obtain the name of the fruit: the suffix *-/oʔ/* is added to the feminine BF. The suffix *-/oʔ/* replaces preceding */i/* or */e/*, while */a/* is preserved (95c). The names for fruits take no inflection and when an adjective agrees with one of these names it is inflected in masculine: *hnikaaoʔ osiyer* /ɲika:oʔ osijer/ (fruit two.M) ‘two fruits of black carob tree’.

- (95) a. *teoxita* (FS.FF) ‘type of plant’, *teoxe* (FP), *teoxiʔ* (FS.BF)
 (local name: *poro blanco*)
 → *teoxoʔ* ‘fruit of *teoxita*’
 b. *ɲimita* (FS.FF) ‘cactus’, *ɲime* (FP), *ɲimiʔ* (FS.BF)
 → *ɲimoʔ* ‘cactus fruit’⁴¹³
 c. *ɲika:ta* (FS.FF) ‘black carob tree’, *ɲika:* (FP), *ɲika:ʔ* (FS.BF)
 (*Prosopis nigra*)

⁴¹² The only difference is that *=/pie/* is not observed after a predicate at the end of a clause, while *=/ɛip/* can also occur in this context.

⁴¹³ Note the difference between *hnimo* /ɲimo/ (MP) ‘land’ and *hnimo* /ɲimoʔ/ ‘cactus fruit’, distinguished by the final glottalization of ‘cactus fruit’.

- ɲika:oʔ ‘fruit of black carob tree’
- d. porosu:ta (FS.FF) ‘type of plant’, porosu: / porosu:we (FP),
 porosu:ʔ (FS.BF) (also: porosuta; local name: poro)
 → porosu:woʔ / porosuwoʔ ‘fruit of porosuuta’
- e. wopalta (FS.FF) ‘type of plant’, wopale (FP), wopaleʔ (FS.BF)
 → wopaloʔ ‘fruit of wopalta’⁴¹⁴

§13.5 The indeterminate form

In the MS-IF two suffixes are used: *-tɪk/* and *-ĩrk/*, which correspond to the MP suffixes *-tijo/* and *-ĩr/*, respectively. Both pairs of suffixes can usually be used in the same nominal. However, the most frequently used suffixes are *-tɪk/* and *-ĩr/*. The FS-IF suffixes are *-tã(k)/* and *-rã(k)/*, while the plural *-ĩr/* is epicene. In the singular, the masculine and feminine suffixes are very similar: *-tɪk/* (MS.IF) and *-tã(k)/* (FS.IF) differ in the vowel and the nasality of the feminine suffix. The other pair of singular suffixes, *-ĩrk/* and *-rã(k)/*, show the same vocalic difference (/i/ in the masculine and /a/ in the feminine) and differ with respect to /r/ metathesis.⁴¹⁵ In the feminine, final /k/ can drop, while in the masculine it is always preserved. If the root ends in *-p/*, it voices before the IF suffix. The IF suffixes are not added exclusively to the root, as the other suffixes discussed so far: they can also be added to the FF. Plural IF suffixes can also be added to the plural form. All options are observed in the following examples. Consequently, if this is combined with the alternation between two prefixes, a certain number of possible IFs forms are to be observed.

⁴¹⁴ ‘Fruta negra del monte’ (Ulrich & Ulrich 2000b: 45).

⁴¹⁵ The comparison with Old Zamuco and Ayoreo suggest that /r/ metathesis occurs in the masculine.

The following examples only list the IFs actually observed in the field. Other forms might exist, although not reported here. The fact that the suffix can be added to the FF shows that CH morphology has undergone a great deal of reinterpretation.

§13.5.1 The masculine indeterminate form

In (96) and (97) one finds masculine nominals in $-/t/^{416}$ and $-/tɕ/$, respectively. The suffix $-/tik/$ (MS.IF) can be added to the root or to the FF. When the root ends in $-/p/$, such as in (96d, g, p, n) and (97e-f), it voices into $/b/$. This occurs with all IF suffixes.⁴¹⁷ The consonantal cluster $/bt/$ can simplify, so that $/b/$ drops, as in *leshibich* $/leɕibitɕ/$ (97e) and *hnakirbich* $/ŋakirbitɕ/$ (97f), which have both *leshibtik* $/leɕibtik/$ and *leshtik* $/leɕtik/$ (97e), and *hnakirbitik* $/ŋakirbitik/$ and *hnakirtik* $/ŋakirtik/$ (97f). Epenthetic $/i/$ may show up between the root and the suffix $-/tik/$, as in *ijaabitik* $/ixa:bitik/$ (96d). When $-/tik/$ is added to the FF, a consonantal cluster $/tɕt/$ or a fake geminate $/tt/^{418}$ originates: *deeychtik* $/de:jtɕtik/$ (97c), *hnimichtik* $/ŋimitetɕtik/$ (97g), *ijichtik* $/ixitɕtik/$ (97l), *dihipttik* $/dihipttik/$ (96c), *loshittik* $/loɕittik/$ (96j). The same occurs when the suffix $-/tijo/$ is added to the FF: *laseɛttiyo* $/lasɛ:ttijo/$ (96i), *ijichtiyo* $/ixitɕtijo/$ (97l). $-/tijo/$ can also be added to the root and two possible forms alternate: *hnimichtiyo* $/ŋimitetɕtijo/$, *hnimitiyo*

⁴¹⁶ In (96) there are no masculine nominals in $-/ɕt/$, because they will be discussed later (see ex. 98).

⁴¹⁷ When an IF suffix is added to a root in $-/p/$, it is understood that $/p/$ not only voices, but it also nasalizes if it nasalizes in the FF and in the plural.

⁴¹⁸ When $/t/$ and $/t/$ are abutting consonants, they generally create a geminate consonant. In some cases, however, a very short pause between the two consonants can be perceived.

/ɲimitijo/ (97g). When a suffix beginning with /t/ is added to a word ending in -/rɛ/, (/r/ + /ɛ/ → /ɹ/), as in *uhurztik* /uhurztɪk/ (97j), which can alternate with *uhurchtik* /uhurtɛtik/ (without lenition) or *uhurtik* (97j), this confirms that one can add -/tik/ to both the root and the FF. In *owich* /owitɛ/, /i/ turns into /i/ before the suffixes -/tik/ and -/tijo/.⁴¹⁹ *Pohoch* /pohotɛ/ (97i) has a different root for the FF and the plural: the suffix -/tik/ is added to the FF (*pohochtik* /pohotɛtik/); -/tijo/ is added to the plural. When -/tijo/ is added, epenthetic /i/ before -/tik/ does not generally show up: cf. *loshipitik* /loɕipitɪk/ vs. *loshiptiyo* /loɕiptijo/ (96k). In the plural IF of *imatit* ‘old’ (97q), syllable deletion can occur before -/tijo/: cf. *imatitiyo* /imatitijo/ vs. *imatiyo* /imatijo/. This is probably due to the fact that the two syllables begin with /t/.⁴²⁰

When the suffix -/ĩrk/ (MS.IF) is added to a root in -/i/ or -/i/,⁴²¹ this vowel is replaced: *ibich* /ibitɛ/ (3.MS.FF) → *ibĩrk* (3.MS.IF) (97k). If the root ends in -/a/ or -/e/, the suffix vowel (/ĩ/) deletes and the root vowel nasalizes: *bahat* (3.MS.FF) → *bahãrk* (3.MS.IF) (96b), *eeych* /e:jɛ/ (2S.MS.FF) → *eẽrk* /ẽ:rk/ (2S.MS.IF)

⁴¹⁹ As already noted, the epenthetic vowel is usually /i/ before the FF suffix -/ɛ/ and /i/ before -/t/.

⁴²⁰ -/tik/ is also to be found in =/petik/, which reinforces the negation expressed by *ye* /je/. The first element of =/petik/ is the negative particle =/pe/, the second element is the MS-IF suffix -/tik/.

(i) Ye o-l-irmas petik nehet shi o-hnoy.
 /je o-l-irmas petik nehet ɕi o-ɲoj/
 NEG P-3.IRLS-make_get_off at_all until DUR P-3.bring
 ‘They didn’t make him get off the bus at all, until they bring him (by bus).’
 (Ciucci, field notes)

⁴²¹ Here and in the following cases final glottalization is not taken into account, because it disappears when a suffix is added.

(97d). In *kinehêt* (96f), there is alternation between /aha/ and /ehe/. The last sequence is to be observed in the IFs in (96f), so that, when *-ĩrk/* is added, the corresponding form will be *kinehẽrk* (96). In (96l), *-ĩrk/* is added to the BF *mihnik* /miɲik/. This is probably due to the fact that, although a FF is reported, the BF of this word is far more frequent and is also used when the FF would be expected. When the root ends in *-r/*, this consonant can delete before *-ĩrk/*: /iẽr/- + *-ĩrk/* → *ishĩrk* /iẽĩrk/ (MS.IF) (97o); /ilar/- + *-ĩrk/* → *ilãrk* (MS.IF) (97n).

The suffix *-ĩr/* (MP.IF) is the plural counterpart of *-ĩrk/* (MS.IF). Since it can be added to the root, to the FF or to the plural, more forms can alternate, such as *dihipĩr* and *dihiptĩr* (96c), *hnimĩr* /ɲimĩr/ and *hnimichĩr* /ɲimiteĩr/ (97g) and *deeyĩr* /de:ĩr/ and *deeychĩr* /de:jteĩr/ (97c). When it is added to a root in *-i/*, as in *loshipit* /loɛipit/ (96k), */i/* is replaced (*loshipĩr* /loɛipĩr/). Some masculine nominals with root in *-V* insert */j/* or */w/* before the plural suffix *-o/*. The same can also occur when the suffix *-ĩrk/* is added to the root. There is */j/* insertion in: *loshiyĩr* /loɛijĩr/ (96j) (cf. *loshiyo* /loɛijo/ (MP)), *abiyĩr* /abijĩr/ (97a) (cf. *abiyo* /abijo/ (3.MP)), (97k) (cf. *ibiyio* /ibijio/ (MP)), (97l) (cf. *ijiyio* /ixijio/ (MP)). In *mihnuwĩr* /miɲuwĩr/ (96l) (cf. *mihnuwo* /miɲuwo/ (MP)) there is */w/* insertion. In *abich* /abite/ (97a) the suffix *-ĩr/* can also be added to the plural *abiyo* /abijo/ with */r/* insertion, yielding *abiyorĩr* /abijorĩr/ (MP.IF). Apparently, only a plural IF suffix can be added to a plural form, but it does not occur very frequently. There is */r/* insertion even when the suffix *-ĩr/* is added to a nominal with root in *-V*: *bahat* (MS.FF) → *baharĩr* (MP.IF) (96b); *laseêt* /lasê:t/ (3.MS.FF) → *laseẽrĩr* /lasê:rĩr/ (3.MP.IF) (96i). In *kinehĩr* /kinehĩr/ (MP.IF) (96f) root-final */e/* is replaced by the first vowel of the suffix. *Kuchit* /kuteit/ (96h) has the irregular forms *kuchẽrk*

/kuteĉrk/ (MS.IF) and *kuchĕriyo* /kuteĉrijo/, *kuchĕryo* /kuteĉrjo/ (MP.IF).

- (96) a. ahĩrt (2S.MS.FF) ‘friend, companion’ → ahĩrtik (2S.MS.IF),
ahĩrĩrk (2S.MS.IF), ahĩrtijo (2S.MP.IF), ahĩrĩr (2S.MP.IF)
- b. bahat (3.MS.FF) ‘price’ → bahatik (3.MS.IF), bahārk (3.MS.IF),
bahatijo (3.MP.IF), baharĩr (3.MP.IF)
- c. dihipit (MS.FF) ‘foreigner’ → dihipttik (MS.IF), dihipitik (MS.IF),
dihipĩrk (MS.IF), dihipĩr (MP.IF), dihiptĩr (MP.IF),
dihipittijo (MP.IF), dihiptijo (MP.IF)
- d. ixa:bit (MS.FF) ‘little’, ixa:p (MS.BF) → ixa:btik (MS.IF),
ixa:btik (MS.IF), ixa:btijo (MP.IF)
- e. i:sit (3.MS.FF) ‘relative’ → i:stik (3.MS.IF), i:sĩrk (3.MS.IF),
i:sĩr (3.MP.IF), i:tijo (3.MP.IF)
- f. kinehet (MS.FF) ‘strange’ → kinehetik (MS.IF), kineĉrk (MS.IF),
kinehĩr (MP.IF), kinehetijo (MP.IF)
- g. koeka:bit (MS.IF) ‘thin’, koeka:p (MS.BF) → koeka:btik (MS.IF),
koeka:btijo (MP.IF)
- h. kuteit (MS.FF) ‘thing’ → kuteĉrk (MS.IF), kutetik (MS.IF), kuteĉrijo (MP.IF),
kuteĉrjo (MP.IF), kutetijo (MP.IF)
- i. lasĕ:t (3.MS.FF) ‘son-in-law’ → lasĕ:ttik (3.MS.IF), lasĕ:rĩr (3MP.IF),
lasĕ:ttijo (3.MP.IF)
- j. loeit (MS.FF) ‘fish’ → loeittik (MS.IF), loeitik (MS.IF), loetik (MS.IF),
loetĩrk (MS.IF), loetijo (MP.IF), loeijĩr (MP.IF)
- k. loeipit (MS.FF) ‘animal’ → loeipitik (MS.IF), loeipĩrk (MS.IF),
loeiptijo (MP.IF), loeipĩr (MP.IF)
- l. mĩĩik (MS.BF), mĩĩt (MS.FF) ‘bad, evil’ → mĩĩtik (MS.IF),
mĩĩkĩrk (MS.IF), mĩĩtijo (MP.IF), mĩĩuĩr (MP.IF)
- n. pika:bit (MS.FF) ‘a little’, pika:p (MS.BF) → pika:btik (MS.IF),
pika:bĩrk (MS.IF), pika:btijo (MP.IF), pika:bĩr (MP.IF)
- o. topit (MS.FF) ‘dead’ → topitik (MS.IF), topĩrk (MS.IF),
toptijo (MP.IF), topĩr (MP.IF)
- p. turka:bit (MS.FF) ‘short’ → turkā:bittik (MS.IF), turkā:btijo (MP.IF)
- q. imatit (MS.FF) ‘old’ → imatitik (MS.IF), imatĩrk (MS.IF),

imatĩr (MP.IF), imatitijo (MP.IF), imatijo (MP.IF)

- (97) a. abite (3.MS.FF) ‘husband’ → abitik (3.MS.IF), abĩrk (3.MS.IF),
abijĩr (3.MP.IF), abitijo (3.MP.IF), abijorĩr (3.MP.IF)
- b. dejte (3.MS.FF) ‘father’ → lejtik (3.MS.IF), dejtĩrk (3.MS.IF),
dejtetik (3.MS.IF), dejtetijo (3.MP.IF), dejtĩr (3.MP.IF)
- c. de:jte (MS.FF) ‘day’ → de:jtetik (MS.IF), de:jtijjo (MP.IF) /
de:jteĩr (MP.IF), de:jĩr (MP.IF)
- d. i:te (3.MS.FF) ‘name’ → e:jtik (2S.MS.IF), ě:rk (2S.MS.IF),
i:itik (3.MS.IF), ĩ:rk (3.MS.IF), i:tijo (3.MP.IF), ĩ:r (3.MP.IF)
- e. lecibite (MS.FF) ‘brother’ → lecibtik (3.MS.IF), lectik (3.MS.IF),
lecibĩrk (3.MS.IF), lecibĩr (3.MP.IF), lecibtijo (3.MP.IF)
- f. ŋakirbite (MS.FF) ‘man’ → ŋakirbitik (MS.IF), ŋakirtik (MS.IF),
ŋakirbĩrk (MS.IF), ŋakirbtijo (MP.IF), ŋakirbĩr (MP.IF)
- g. ŋimite (MS.FF) ‘land, country’ → ŋimitetik (MS.IF), ŋimitik (MS.IF),
ŋimĩrk (MS.IF), ŋimĩr (MP.IF), ŋimiteĩr (MP.IF), ŋimitetijo (MP.IF),
ŋimitijo (MP.IF)
- h. owite (3.MS.FF) ‘place’ → owitik (3.MS.IF), owitetik (3.MS.IF),
owitijo (3.MP.IF), owiteĩrk (3.MP.IF), owilĩr (3.MP.IF)
- i. pohote (MS.FF), pojto (MP) ‘dog’ → pohotetik (MS.IF),
pojtotijo (MP.IF)
- j. uhurte (3.MS.FF) ‘end’ → uhurtik (3.MS.IF), uhurztik (3.MS.IF),
uhurteĩrk (3.MS.IF), uhurtetik (3.MS.IF), uhurtijo (3.MP.IF),
uhurĩr (3.MP.IF)
- k. ibite (3.MS.FF) ‘work, worker’ → ibitik (3.MS.IF), ibĩrk (3.MS.IF),
ibitijo (3.MP.IF), ibijĩr (3.MP.IF)
- l. ixite (3.MS.FF) ‘path’ → ixitetik (3.MS.IF), ixitetijo (3.MP.IF),
ixijĩr (3.MP.IF)
- n. ilarte (MS.FF) ‘old’ → ilartik (MS.IF), ilĩrk (MS.IF), ilartijo (MP.IF),
ilarĩr ([M/F]P.IF)
- o. ieĩrte (MS.FF) ‘Chamacoco’ → ieĩrk (MS.IF), ieĩrtik (MS.IF),
ieĩrĩr ([M/F]P.IF), ieĩrtijo (MP.IF)

In (98) one finds nominals in *-/et/* with BF coinciding with the root in *-/s/* which turns into *-/e/* in the FF (see §13.1.7). The suffix *-/tik/* can be added to the root of the FF: *ahwoshtik* /aʷoet̪ik/ (98a), *Porroshtik* /po:ɭoet̪ik/ (98b), *poshtik* /poet̪ik/ (98c), but the root-final consonant can delete before *-/tik/* and *-/tijo/*: *ahwotik* /aʷot̪ik/ (98a), *potik* (98c), *potiyo* /potijo/ (98c).⁴²² The presence of forms such as *porrostiyo* /po:ɭostijo/ (98b) and *postiyo* /postijo/ (98c) suggests that the change of */s/* into */e/* in the FF is not necessarily due to the presence of */t/* after */s/*. *Porrosht* /po:ɭoet̪/ (98b) has an irregular form *porroshĩryo* /po:ɭoeĩrjo/ (MP.IF); one can see the same irregularity in a plural IF of *kuchit* /kuteit̪/, *kuchẽr(i)yo* /kuteĩr(i)jo/ (MP.IF) (96h).⁴²³

- (98) a. aʷoet̪ (3.MS.FF) ‘word’ → aʷot̪ik (3.MS.IF), aʷoet̪ik (3.MS.IF),
 aʷoeĩrk (3.MS.IF), aʷotijo (3.MP.IF), aʷosĩr (3.MP.IF)
 b. po:ɭoet̪ (MS.FF) ‘God’ → po:ɭoet̪ik (MS.IF), po:ɭoeĩrk (MS.IF),
 po:ɭoeĩrjo (MP.IF), po:ɭostijo (MP.IF)
 c. poet̪ (3.MS.FF), poso (3.MP) ‘food’ → pot̪ik (3.MS.IF),
 poet̪ik (3.MS.IF), posĩr (3.MP.IF), potijo (3.MP.IF), postijo (3.MP.IF)

In (99) the FF is no longer used and the IF suffixes are only added to the root *aap* /a:p/. */p/* voices into */b/* (as in the plural *aabo* /a:bo/). The consonant cluster */bt/* can simplify into */t/*: cf. *aabtik* /a:bt̪ik/ vs. *aatik* /a:t̪ik/.

- (99) a:p (3.[M/F]S.BF) ‘son, child’ → a:t̪ik (3.MS.IF), a:bt̪ik (3.MS.IF),
 a:btijo (3.MP.IF), a:bĩr (3.MP.IF)

⁴²² Since the root-final consonant deletes, and */s/* and */e/* alternate in the root, it is not possible to establish whether */s/* or */e/* has been deleted.

⁴²³ Apparently, *-/jo/* has been added to the plural IF suffix *-/ĩr/*.

- (100) a. awit (MS.FF) ‘water’ → awitik (MS.IF), awĩrk (MP.IF)
 (Spanish: agua)
 b. ixit (3.MS.FF) ‘son’ → ixittik (3.MS.IF), ixtik (3.MS.IF),
 ixĩrk (3.MS.IF), ixitijo (3.MP.IF), ixĩr (3.[M/F]P.IF) (Spanish: hijo)
 c. pwert / pwertit (MS.FF) ‘house’ → pwerttik (MS.IF),
 pwertik (MS.IF), pwertĩrk (MS.IF), pwertĩr (MP.IF),
 pwertijo (MP.IF) (from Spanish: puerto ‘port’)

The nominals in (101) are only to be observed or mainly used in the plural. In many plural forms in *-wo/*, */w/* can be considered an insertion before the plural suffix *-o/*. Nominals in *-wo/* in example (100) have */w/* before the suffix *-ĩr/*, but not before *-tijo/*, which begins with a consonant.⁴²⁴

- (101) a. ejuwo (3.MP) ‘thoughts’ → ejuwĩr / ejutijo (3.MP.IF)
 b. ieuwo / ieuwo (3.MP) ‘dress’ → ieuwĩr / ieuwĩr / ietijo /
 ieutijo (3.MP.IF)
 c. kuɛxãro (GF.MP) ‘thing’ → kuɛxãrĩr / kuɛxãrtijo (GF.MP.IF)
 d. poruwo (MP) ‘ancestor’ → poruwĩr / porutijo (MP.IF)
 e. ukurbo (3.MP) ‘power, strength’ → ukũrbĩr / ukurbĩr /
 ukurbtijo (3.MP.IF)
 f. uro (MP) ‘wood’ (which has been cut) → ũrĩr / urtijo (MP.IF)
 g. ware (3.P) ‘dirty, what is dirty’ → warĩr (3.P.IF)
 h. woso (3.MP) ‘poison’ → wosĩr / wostijo (3.MP.IF)

While the BF is not usually observed in masculine Spanish loans, the IF is still productive. In (102) one finds some Spanish words used by CH speakers. Not all are adapted loans;⁴²⁵ many terms

⁴²⁴ In *ishuwo* /ieuwo/ (101b), */u/* can delete before *-tijo/*: cf. *ishutiyo* /ieutijo/ vs. *ishtijo* /ietijo/.

⁴²⁵ In (102), non-adapted loans are reported in Spanish orthography.

have been introduced by the missionaries. The interesting fact is that these words take the IF suffix required by the context.

- (102) a. algún (Spanish) ‘some’ → algunĩrk (IF)
 b. anxel (MS) ‘angel’ → anxeltik (MS.IF) (MP: anxele),
 anxelĩrk (MS.IF), anxelĩr (MP.IF), anxeltijo (MP.IF)
 (Spanish: angel)
 d. kresjente ‘flood’ → kresjentĩrk (IF)
 (Spanish: creciente ‘growing’)
 e. perdon ‘forgiveness’ → perdontik (MS.IF) (Spanish: perdón)
 f. plata (Spanish) ‘money, silver’ → platĩr (P.IF)
 g. premit (MS.FF) ‘prize’ → premitik
 (non-adapted form premio, Spanish: premio)
 h. sacerdote (Spanish) ‘priest’ → sacerdotĩr (P.IF)
 i. sinagoga (Spanish) ‘synagogue’ → sinagogĩr (P.IF)
 j. vidrio (Spanish) ‘glass’ → vidrĩr (P.IF)
 k. oro (Spanish) (also adapted as: ort (MS.FF)) → orĩr (MP.IF)
 l. pan (MS/P)⁴²⁶ ‘bread’ → panĩr (MP.IF) (Spanish: pan)
 m. parte (Spanish) ‘part’ → partĩrk (IF)
 n. tjempiĩt (MS.FF) ‘time’ → tjemptik / tjempiĩrk (MS.IF),
 tyempiĩr / tjemptijo (MP.IF) (Spanish: tiempo)

§13.5.2 The feminine indeterminate form

There are two FS-IF suffixes: *-rã(k)/* and *-tã(k)/*. Final */k/* can drop depending on the context. The plural suffix is *-ĩr/*, the same suffix used for the masculine. In (103) one finds feminine nominals in *-ta/*, while in (104) there are feminine nominals in *-tea/*.

The suffix *-rã(k)/* (FS.IF) can be added to the root or to the FF. When the suffix is added to the FF, */a/* in *-ta/* or *-tea/* normally

⁴²⁶ The plural form *panye* /panje/ is also observed.

reduces to /i/. The forms *hnikaatarã(k)* /ɲika:tarã(k)/ (103n), *poytiitarã(k)* /pojti:tarã(k)/ (103q) and *irahatarã(k)* (103x) do not follow the general tendency.⁴²⁷ If the root ends in a consonant, epenthetic /i/ can show up, as in *poõrrzeebirã(k)* /põ:ɽɛ:birã(k)/ (104c) and *pohorĩrã(k)* (104b). When the root ends in /r/, it can delete before *-rã(k)* (104b, d-g). In *yarrza* /jaɽa/ (103t), not only /i/, but also /a/ can show up between root and suffix: *yarirã(k)* /jarirã(k)/ (FS.IF), *yararã(k)* /jarirã(k)/ (103t). As already seen, a group of feminine nominals in *-tea/* have IF in *-ɽã(k)*. They exhibit the variant *-ɽa/* of the suffix *-tea/*, in which the FS-IF suffix *-rã(k)* has been added to the FF in *-ɽa/*, losing initial /r/ (104). This occurs because */ɽr/ is not to be found in Chamacoco and /r/ deletes after *-ɽɽ/*.⁴²⁸

The suffix *-tã(k)* (FS.IF) is only added to the root.⁴²⁹ When it is added to nominals with FF in *-ta/* and final /k/ drops, the IF marked by *-tã(k)* can only be distinguished from the FF in *-ta/* by nasality (103). The suffix *-tã(k)* is clearly detectable in feminine nominals in *-tea/* (104).

The plural suffix *-ĩr/* is common to both masculine and feminine, and is the only one to be observed for the feminine. The masculine, by contrast, uses two morphological devices (*-tijo/* and

⁴²⁷ This could be due to assimilation by /a:/ or /aha/ in the root. In (103x), some forms with the reduction of /a/ to /i/ are also reported.

⁴²⁸ /ɽɽ/ is a geminate consonant, because it is the result of the merger of /r/ (the root-final consonant) and of /te/ (the first consonant of the prefix). In the orthography /ɽɽ/ is only represented as <rrz> to distinguish /ɽ/ in the root from the suffix *-tea/*. In the other cases, it is represented as <rz>.

⁴²⁹ Theoretically, since its masculine counterpart *-tik/* can be added to the FF, this should also be possible for the suffix *-tã(k)*, but it does not occur. The reason why *-tã(k)* it is never added to FFs in *-ta/* is probably to avoid a sequence of two syllables only differing with respect to nasality.

-/ĩr/). As seen in §13.1 and §13.2, something similar occurs with the masculine plural, which has several morphological devices (-/o/, -/e/, -/lo/ and -/tso/), while the only FP suffix (-/e/) can also be used by some masculine nominals. -/ĩr/ can be added to the root or to the FF. When -/ĩr/ is added to the FF, the last vowel of the suffixes -/ta/ and -/tea/ is replaced by the suffix. /a:/ or the sequence /aha/ can turn into /e:/ or /ehe/: *ijaabita* /ixa:bita/ → *ijeebĩr* /ije:bĩr/ (103j), *ilarra* /ilaɽa/ → *ilerĩr* (104f). The same occurs in the plural BF/FF when the suffix -/e/ is added. /a:/ or /aha/ can also turn into /e:/ and /ehe/ when the suffix -/ĩr/ is added to the FF: e.g. *ijaabita* /ixa:bita/ → *ijeebtĩr* /ije:btĩr/ (103j), *irāh(a)ta* → *irehetĩr* / *irēhtĩr* / *irāhtĩr* (103x). As one can see in the last form, this change is not obligatory. In some nominals characterized by the change of /aha/ or /a:/ into /ehe/ or /e:/ in the plural, the first vowel of the suffix can be replaced by the root vowel: *hnikaata* /ñika:ta/ → *hnikeẽr* /ñikẽ:r/ (103n), *kinahata* → *kinehẽr* (103l). The contrary also occurs, that is the last root-vowel can be replaced by the suffix: *kinahata* → *kinehĩr* (103l). This also occurs when the root ends in /i/ or /ĩ/: *eyhita* /ejhita/ → *eyhĩr* /ejhĩr/ (103d), *hutita* → *hutĩr* (103e). As already seen in the masculine, when -/ĩr/ is added to a root ending in V, /j/ or /w/ can show up between root and suffix: *iluuta* /ilu:ta/ → *iluuwĩr* /ilu:wĩr/ (103u), *onoota* /ono:ta/ → *onoowĩr* /ono:wĩr/ (103p), *poytiita* /pojti:ta/ → *poytiyĩr* /pojti:jĩr/ (103q). This also occurs when FP -/e/ is added, but there are exceptions. For instance in *mihnuuĩr* /miɽu:ĩr/ (FP.IF) (103m) epenthetic /w/ is not observed, although it is to be found in the MP *mihnuuwo* /miɽu:wo/ (see §13.1, ex. 9f). In the plural IF of *eeta* /e:ta/ (103b) there is /r/ insertion before the suffix -/ĩr/: *eẽrir* /ẽ:rĩr/ or *eerĩr* /e:rĩr/ (103b).

- (103) a. data (3.FS.FF) ‘mother’ → latirã(k) (3.FS.IF), latã(k) (3.FS.IF),
latĩr (3.FP.IF)

- b. e:ta (FS.FF) ‘fruit’ → e:tã(k) (FS.IF), e:rã(k) (FS.IF),
e:ã(k) (FS.IF),⁴³⁰ e:tirãk (FS.IF), ê:rîr (FP.IF), e:rîr (FP.IF),
e:tîr (FP.IF)
- c. epita (3.FS.FF) ‘shot’ → epirã(k) (3.FS.IF), epitã(k) (3.FS.IF),
epitirã(k) (3.FS.IF), epîr (3.FP.IF), epitîr (3.FP.IF)
- d. ejhita (FS.FF) ‘seed’ → ejhirã(k) (FS.IF), ejhitã(k) (FS.IF),
ejhitirã(k) (FS.IF), ejhîr (FP.IF)
- e. hutita (FS.FF) ‘book’ → hutirã(k) (FS.IF), hutitã(k) (FS.IF),
hutitirã(k) (FS.IF), hutîr (FP.IF)
- f. hîrta ‘palm’ → hîrã(k) (FS.IF), hîrtirã(k) (FS.IF), hîrtã(k) (FS.IF),
hîrîr (FP.IF), hîrtîr (FP.IF)
- j. ixa:bita (FS.FF) ‘little’ → ixa:btirã(k) (FS.IF), ixa:birãk (FS.IF),
ixe:bîr (FP.IF), ixe:btîr (FP.IF)
- k. koçuwa:bita (FS.FF) ‘thin’ → koçuwa:bîrãk (FS.IF),
koçuwa:btirãk (FS.IF), koçuwe:bîr (FP.IF)
- l. kinahata (FS.FF) ‘strange, different’ → kinaharã(k) (FS.IF),
kinahirã(k) (FS.IF), kinahatã(k) (FS.IF), kinahatirã(k) (FS.IF),
kinehîr (FP.IF), kinehêr (FP.IF)
- m. miñu:ta (FS.FF) ‘bad, evil’ → miñu:tirã(k) (FS.IF),
miñu:rã(k) (FS.IF), miñu:îr (FP.IF)
- n. ñika:ta (FS.FF) ‘black carob tree’ → ñika:tãk (FS.IF),
ñika:rãk (FS.IF), ñika:tarãk (FS.IF), ñika:tîr (FP.IF), ñikê:r (FP.IF)
- o. nerpita (3.FS.FF), pijërpta (1S.FS.FF) ‘shirt’ →
nerpîra(k) (3.FS.IF), nerpîr (3.FS.IF), pijerprã(k) (1S.FS.IF),
nerpirã(k) (3.FS.IF), nerpitã(k) (3.FS.IF), nerptirã(k) (3.FS.IF),
pijerpîr (1S.FP.IF)
- p. ono:ta ‘river’ → ono:tirã(k) (FS.IF), ono:rã(k) (FS.IF),
ono:tã(k) (FS.IF), ono:tîr (FP.IF), ono:wîr (FP.IF)
- q. pojti:ta (FS.FF) ‘dog’ → pojti:rãk (FS.IF), pojti:tarã(k) (FS.IF),
pojti:jîr (FP.IF)
- r. turijã:bta (FS.FF) ‘short’ → turijã:btirã(k) (FS.IF),

⁴³⁰ This form is due to the dropping of /r/.

- turijă:mîrăk (FS.IF), turijë:mîr (FP.IF)
- s. urta ‘root’ → ură (FS.IF), urtăk (FS.IF), urîr (FP.IF)
- t. jarta / jaṭṭa (FS.FF) ‘sign’ → jartă(k) (FS.IF), jartîră(k) (FS.IF), jarîră(k) (FS.IF), jarară(k) (FS.IF), jaṭṭă(k) (FS.IF), jarîr (FP.IF), jartîr (FP.IF)
- u. îlu:ta (3.FS.FF) ‘way, meaning’ → îlu:tă(k) (3.FS.IF), îlu:tîră(k) (3.FS.IF), îlu:ră(k) (3.FS.IF), îlu:wîr (3.FP.IF), îlu:tîr (3.FP.IF)
- v. îmatita (3.FS.FF) ‘old’ → îmatîră(k) (FS.IF), îmatitîră(k) (FS.IF), îmatită(k) (FS.IF), îmatîr (FP.IF), îmatitîr (FP.IF)
- x. îrăhta (3.FS.FF) ‘wife’ → îrăhtîra(k) (3.FS.IF), îrăhîra(k) (3.FS.IF), îrăhta(k) (3.FS.IF), îrahatară(k) (3.FS.IF), îrehetîr (3.FP.IF), îrêhtîr (3.FP.IF), îrăhtîr (3.FP.IF)
- (104) a. țeipîrmîtea (FS.FF) ‘bird’ → țeipîrmîră(k) (FS.IF), țeipîrmîtă(k) (FS.IF), țeipîrmîteîră(k) (FS.IF), țeipîrmîteîr (FP.IF), țeipîrmîr (FP.IF)
- b. pohoṭṭa (FS.FF) ‘tree’ → pohorîră(k) (FS.IF), pohoṭṭîră(k) (FS.IF), pohortă(k) (FS.IF), pohoră(k) (FS.IF), pohoṭṭă(k) (FS.IF), pohorîr (FP.IF), pohîr (FP.IF)⁴³¹
- c. pō:ṭṭe:btea (FS.FF) ‘star’ → pō:ṭṭe:bîră(k) (FS.IF), pō:ṭṭe:bteîră(k) (FS.IF), pō:ṭṭe:btă(k) (FS.IF), pō:ṭṭe:bteîr (FP.IF), pō:ṭṭe:bîr (FP.IF)
- d. tîmteaṭṭa (FS.FF) ‘woman’ → tîmteară(k) (FS.IF), tîmteaṭṭîră(k) (FS.IF), tîmteartă(k) (FS.IF), tîmteaṭṭă(k) (FS.IF), tîmtearîr (FP.IF), tîmteaṭṭîr (FP.IF),
- e. juhūṭṭa (3.FS.FF) ‘skin’ → juhură(k) (3.FS.IF), juhuṭṭă(k) (3.FS.IF), juhurtă(k) (3.FS.IF), juhurîr (3.FP.IF), juhuṭṭîr (3.FP.IF)
- f. îlaṭṭa (FS.FF) ‘old’ → îlară(k) (FS.IF), îlartă(k) (FS.IF), îlaṭṭă(k) (FS.IF), îlerîr (IM/FP.IF), îlaṭṭîr (FP.IF)

⁴³¹ This form is due to the dropping of /r/. /o/ has been replaced by the suffix.

- g. *ieĩɬa* (FS.FF) ‘indigenous woman’ → *ieĩrã(k)* (FS.IF),
ieĩrtã(k) (FS.IF), *ieĩrĩr* ([M/F]P.IF)

When nominals have a different root for masculine and feminine, the IF suffixes are only added to the respective masculine or feminine root, as one can see comparing pairs of nominals such as *pohoch* /pohotɛ/ (97i) and *poyitiita* /pojti:ta/ (103q), *koshkaabit* /koɕka:bit/ (96g) and *koshuwaabita* /koɕuwa:bita/ (103k), and *turkaãbit* /turkã:bit/ (96p) and *turiyaãbta* /turijã:bta/ (103r). In (105) one finds the IFs of two feminine Spanish loanwords: *ijita* /ixita/ (105a) probably entered the language long ago, but *leyta* /lejta/ (106) is a relatively recent loan.

- (105) a. *ixita* (3.FS.FF) ‘daughter’ → *ixitã(k)* (3.FS.IF), *ixirã(k)* (3.FS.IF),
ixtirã(k) (3.FS.IF)
 b. *lejta* (FS.FF) ‘law’ → *lejtirã(k)* (FS.IF), *lejirã(k)* (FS.IF),
lejtrã(k) (FS.IF), *lejĩr* (FP.IF), *lejtĩr* (FP.IF) (Spanish: ley)

In (106), one finds other examples of IF. *Yet* /jet/ (106) ‘other’ also has irregular IF inflection. The elative particle =/piɛt/, =/piɛt/ (106b) has IF inflection. *Oti̯k* only has the IF. It can be used as an interrogative or indefinite pronoun to refer to someone or something unknown, uncertain or unspecified. As an adjective, it follows an element uninflected in IF and has the same function and meaning of an IF suffix, although it is less frequently used than the IF itself (see also §14.4.3).

- (106) a. *jet* (MS.FF), *jewo* (MP), *jata* (FS.FF), *jẽr* / *jẽre* (FP) ‘other’
 → *jetik* / *jẽ:k* (MS.IF), *jer(i)ĩjo* (MP.IF), *jinak* (FS.IF), *jeni(i)* /
jenijẽr (FP.IF)
 b. *piet* / *piɛt* (ELAT.MS.FF) → *pietik* (ELAT.MS.IF),
pieĩr (ELAT.[M/F]P.IF), *pietijo* (ELAT.MP.IF),
pieirã(k) (ELAT.FS.IF), *pieitã(k)* (ELAT.FS.IF)

c. *otik*⁴³² (IGNOR.MS), *otijo* (IGNOR.MP), *otirāk* (IGNOR.FS),
otrĩ / *otĩr* (IGNOR.FP)

§13.6 The diminutive

This section discusses the diminutive inflection. The diminutive typically expresses smallness, but it can also be used in order to express endearment or politeness. It inflects for all morphological categories described for nominals. In (107) examples are provided.⁴³³ The BF is obtained by adding the suffix *-/a:p/* to the nominal's BF. This is evident in masculine nominals with BF in *-/k/*: *loshipik* /*loɕipik*/ (MS.BF) → *loshipkaap* /*loɕipka:p*/ (107k) (see also (107d, g, j, m, p)). When no BF is found, the suffix is added to the root (107b, i) or to the FF, whose suffix is preserved in (107d-e).

In the feminine, it is not possible to decide whether the suffix is added to the root or to the BF, because they usually coincide. In (107g-h), however, the FF and the BF have a different root. Apparently, the BF root has reduced in the FF. In the masculine nominal *ihyēt* /*ijēt*/ (107g), the BF *ihyērak* /*ijērak*/ simplifies in the diminutive *ihyākaraap* /*ijākara:p*/, but it is clearly detectable by the presence of the suffix consonant */k/*. In its feminine counterpart, *ihyaāta* /*ijā:ta*/ (107h), the suffix *-/a:p/* is added to the root with */r/* insertion (*ihyaarāp* /*ija:rā:p*/), rather than to the BF root.

⁴³² In the MS, the form *otik* can alternate with *ohoch* /*ohotɕ*/, which is very rare and is morphologically a FF.

⁴³³ In this case, only the forms which have actually been recorded in the field have been reported, although the possible diminutive forms, especially the diminutive IFs, are more.

If the root ends in a vowel, this is generally replaced by /a:/ in the suffix (107a, c, q, r). If the root ends in a long vowel (107l, o, h), epenthetic /r/ shows up between root and suffix. In (107l) also the deletion of the last root-vowel is observed. In (107s) the last root-vowel /u:/ is preserved in the diminutive, but no /r/ insertion is to be observed. The suffix -/a:p/ is common to both genders.

When a nominal can be inflected in both masculine and feminine and these share the same root, the diminutive BF is epicene, as in (107b-c), (107n) and (107q-r). In (107g-h) the diminutive BF is not the same, because the suffix -/a:p/ is added to two forms according to gender. The diminutive FF and the diminutive plural are obtained by adding the respective suffixes to the BF: -/t/ (MS.FF), -/ta/ (FS.FF), -/o/ (MP), -/e/ (FP). When the suffixes -/t/ and -/ta/ are added to the diminutive BF in -/p/, epenthetic /i/ precedes the suffix. Root-final /p/ usually voices into /b/. When the suffix -/e/ (FP) is added, /a:/ turns into /e:/ owing to assimilation to the suffix.

The diminutive inflection is thus the same as that of nominals with root in -/p/. One has to consider that the vast majority of these nominals have root in -/ap/ or -/a:p/, which in most cases suggests a diminutive origin. The diminutive IF follows the same rules discussed in section (§13.5). The IF suffixes are added to the diminutive BF or FF. /a:/ generally turns into /e:/ in the FP-IF, but is preserved in the masculine, even when the same suffix -/ĩr/ is used.⁴³⁴

⁴³⁴ This does not occur in some FP-IFs in (106c), coinciding with the respective masculine forms (106b). Note that in some forms reported in (106), /a:/ can reduce to a short vowel.

(107)

a. apibitita (FS.FF), apibita[?] (FS.BF) ‘young woman’

→ apibita:p (DIM.FS.BF), apibita:bita (DIM.FS.FF),
apibite:be (DIM.FP), apibita:bitāk (DIM.FS.IF),
apibita:birāk (DIM.FS.IF), apibita:btirāk (DIM.FS.IF),
apibite:bīr (DIM.FP.IF)

b. boeet (MS.FF) ‘boy’

→ boeeca:p (DIM.[M/F]S.BF), boeeca:bit (DIM.MS.FF),
boeeca:bo (DIM.MP), boeeca:bittik (DIM.MS.IF),
boeeca:bīrk (DIM.MS.IF), boeeca:bttijo (DIM.MP.IF),
boeeca:bīr (DIM.[M/F]P.IF), boeeca:bīr (DIM.[M/F]P.IF),

c. boeeta (FS.FF), boeete[?] (FS.BF) ‘girl’

→ boeeca:p (DIM.[M/F]S.BF), boeeca:bta (DIM.MS.FF),
boeete:be (DIM.FP), boeeca:btirāk (DIM.FS.IF), boeeca:bttāk
(DIM.FS.IF),⁴³⁵ boeeca:bīrak (DIM.FS.IF), boeete:bīr (DIM.FP.IF),
boeeca:bīr (DIM.[M/F]P.IF), boeeca:btīr (DIM.[M/F]P.IF)

d. tēpit (MS.FF), tēpik (MS.BF) ‘a little, half’

→ tēpika:p (DIM.MS.BF), tēpika:bit (DIM.MS.FF),
tēpika:bo (DIM.MP), tēpika:bttik (DIM.MS.IF),
tēpika:bīrk (DIM.MS.IF), tēpika:bttijo (DIM.MP.IF),
tēpika:bīr (DIM.MP.IF)

e. doeit (MS.FF) ‘fish’ (also: loeit)

→ doeita:p (DIM.MS.BF), doeita:bit (DIM.MS.FF),
doeita:bo (DIM.MP), doeita:bitik (DIM.MS.IF),
doeita:btijo (DIM.MP.IF), doeita:bīr(ihi) (DIM.MP.IF),
doeita:bīrk(ihi) (DIM.MP.IF)

f. eteit (3.MS.FF) ‘pet’

⁴³⁵ In the form *bosheshaabttāk* /boeeca:bttāk/ (DIM.FS.IF) the geminate consonant indicates that the suffix *-tāk/* (FS.IF) has been added to the FF, which occurs very rarely with *-tāk/* (FS.IF).

→ eteita:p (3.DIM.[M/F]S.BF), eteita:bit (3.DIM.MS.FF),
eteija:bo (3.DIM.MP), eteita:btik (3.DIM.MS.IF),
eteita:btijo (3.DIM.MP.IF)

g. ijēt (3.MS.FF), ijērak (3.MS.BF) ‘friend, companion’
→ ijākara:p (3.DIM.MS.BF), ijākara:bit (3.DIM.MS.FF),
ijākara:bo (3.DIM.MP), ijākara:bitik (3.DIM.MS.IF),
ijākara:bitijo (3.DIM.MP.IF)

h. ijā:ta (3.FS.FF) ijēra (3.FS.BF) ‘friend, companion’
→ ija:rā:p (3.DIM.FS.BF), ija:rā:bita (3.DIM.FS.FF), ije:rē:be (3.DIM.FP),
ija:rā:btirāk (3.DIM.FS.IF), ije:rē:btir (3.DIM.FP.IF)

i. kuteit (MS.FF) ‘thing’
→ kutea:p (DIM.MS.BF), kutea:bit (DIM.MS.FF), kutea:bo (DIM.MP),
kutea:bitik (DIM.MS.IF), kutea:btijo (DIM.MP.IF),
kutea:bīrk (DIM.MP.IF), kutea:bīr (DIM.MP.IF)

j. xotsit (MS.FF), xotsak (MS.BF) ‘well, hole’
→ xotsaka:p (DIM.MS.BF), xotsaka:bit (DIM.MS.FF),
xotsaka:bo (DIM.MP), xotsaka:btik (DIM.MS.IF),
xotsaka:bīrk (DIM.MS.IF), xotsaka:btijo (DIM.MP.IF)

k. loeipit (FS.FF), loeipik (MS.BF) ‘animal’
→ loeipka:p (DIM.MS.BF), loeipka:bit (DIM.MP), loeipka:bo (DIM.MP),
loeipka:bitik (DIM.MS.IF), loeipka:btijo (DIM.MP.IF)

l. ŋika:ta (FS.FF), ŋika:ʔ (FS.BF) ‘black carob tree’ (*Prosopis nigra*)
→ ŋika:p / ŋika:ra:p (DIM.FS.BF), ŋika:ra:bta (DIM.FS.FF),
ŋike:be (DIM.FP), ŋika:ra:btirāk (DIM.FS.IF),
ŋika:ra:btāk (DIM.FS.IF), ŋika:ra:birāk (DIM.FS.IF),
ŋike:re:btir(ihi) (DIM.FP.IF), ŋike:re:bīr (DIM.FP.IF)⁴³⁶

⁴³⁶ These forms are reported, but with plant names the diminutive is not used very frequently. When the diminutive suffix is not used, the noun can be followed by the adjectives *ijaabit* /ija:bit/ ‘little’ or *shakiraabit* /eakira:bit/

m. obitit (MS.FF), obitak (MS.BF) ‘flute’

→ obitaka:p (DIM.MS.BF), obitaka:bit (DIM.MS.FF),
obitaka:bo (DIM.MP)

n. olt (MS.FF), olta (FS.FF), oloʻ ([M/F]S.BF) ‘thin, underfed’

→ ola:p (DIM.[M/F]S.BF), ola:bit (DIM.MS.FF), ola:bo (DIM.MP),
ola:bita (DIM.FS.FF), ole:be (DIM.FP)

o. ono:ta (FS.FF), ono:ʻ (FS.BF) ‘river’

→ ono:ra:p (DIM.FS.BF), ono:ra:bta (DIM.FS.FF), ono:re:be (DIM.FP),
ono:ra:btirāk (DIM.FS.IF), ono:rabtāk (DIM.FS.IF),
ono:rabitrak (DIM.FS.IF), ono:re:btir(ihi) (DIM.FP.IF),
ono:rebir(ihi) (DIM.FP.IF)

p. piramit (MS.FF), piramik (MS.FF) ‘pot’

→ piramika:p (MS.BF), piramika:bit (MS.FF), piramika:bitik (MS.IF),
piramika:btijo (MP.IF)

q. ilarte (MS.FF), ilaroʻ ([M/F]S.BF) ‘old’

→ ilara:p (DIM.[M/F]S.BF), ilara:bit (DIM.MS.FF), ilara:bo (DIM.MP),
ilara:bitik (DIM.MS.IF), ilara:birk (DIM.MS.IF), ilara:btijo (DIM.MP.IF)

r. ilaṭṭa (FS.FF), ilarʻ (FS.BF) / ilaroʻ ([M/F]S.BF) ‘old’

→ ilara:p (DIM.[M/F]S.BF), ilara:bita (DIM.FS.FF), ilare:be (DIM.FP),
ilara:btirā (DIM.FS.IF)

s. ilu:ta (3.FS.FF), ilu:ʻ (3.FS.BF) ‘way, meaning’

→ ilu:a:p (3.DIM.FS.BF.), ilu:a:bta (3.DIM.FS.FF), ilu:e:be (3.DIM.FP),
ilu:a:btirāk (3.DIM.FS.IF), ilu:a:btāk (3.DIM.FS.IF),
ilu:a:birāk (3.DIM.FS.IF), ilu:e:btir (3.DIM.FP.IF),
ilu:e:bir (3.DIM.FP.IF), ilu:wir (3.DIM.FP.IF)

‘little’ to express the same meaning as the diminutive.

§13.7 The morphosyntax of base form, full form and indeterminate form in Chamacoco

This section discusses the use of the BF, FF and IF in Chamacoco. The morphological and syntactic distinction between different forms is gradually disappearing. This has already occurred in the plural: Ayoreo and Old Zamuco show an opposition between plural BF and plural FF. Chamacoco probably had the same opposition, as suggested by the alternation of plural suffixes to be found in some paradigms, but it has lost it (only a few examples show traces of such an opposition, see §13.7.1, ex (118-119)). This phenomenon probably has many causes which will not be discussed in detail, but one of the most conspicuous is the intense contact with Spanish. The difference between BF and FF is addressed in §13.7.1. Section 13.7.2 deals with adjectival modifiers. In Chamacoco there is a tendency to reduce or to drop the last phoneme (or even the last syllable), which is often morphologically relevant (§13.7.3). Final-syllable reduction is to be found, for instance, in the genitival modifier (§13.7.4), which usually appears in FF. Compounds are discussed in (§13.7.5). The latter is also used in constructions with the clitic *=/e/* (§13.7.6). The BF is used in secondary predication, in reduced relative clauses (§13.7.7) and after the quotative (§13.7.8). Although the head of an argumental NP generally appears in FF, the BF is preferred before the adjective */ditɛ/* (§13.7.9). In some nominals the BF or the FF has become predominant and thus tends to be used in contexts where a different form would be expected (§13.7.10). The uses of the IF are described in sections §13.7.11-§13.7.16.

§13.7.1 Uses of the base form and full form

This section will illustrate the uses of BF and FF. I will start analyzing NPs only consisting of one nominal,⁴³⁷ coinciding with the head noun. In Ayoreo and Old Zamuco, the BF is used to express the predicative function, while the FF and the IF are used in non-predicative positions. This also occurs in Chamacoco, with the only difference that the opposition between BF and FF has been lost in the plural⁴³⁸ and the FF may also be used for predication, although the BF is the specific (and preferred) choice in such a function. In other words, the FF tends to ‘invade’ the context of use of the BF. By contrast, in all Zamucoan languages the IF cannot be used to express the predication in non-interrogative clauses.

In the following examples one can observe the contrast between the BF, in predicative function, and the FF, in its typical non-predicative use: ‘young man’ *hnakirbitak* /*ṇakirbitak*/ (MS.BF) (108) vs. *hnakirbitit* /*ṇakirbitit*/ (MS.FF) (109); ‘granddaughter’ *ahnap* /*aṇap*/ (3.[M/F]S.BF) (110) vs. *ahnimita* /*aṇimita*/ (3.MS.FF) (111); ‘Caraguatá plant’ *hnekur* /*ṇekur*/ (FS.BF) (111) vs. *hnekurta* /*ṇekurta*/ (FS.FF) (112); ‘name’ *iik* /*i:k*/ (3.MS.BF) (113) vs. *iich* /*i:ɬ*/ (3.MS.FF) (113).

(108) Ye	u <u>h</u> u	kōhor-t	puhro	elo,	pork
	/je	u <u>h</u> u	kōhor-t	puhro	elo
	NEG	2.do	sleep-MS.FF	break	2S.body
					because

⁴³⁷ I talk about nominals, because the distinction between nouns and adjectives is mainly a semantic one.

⁴³⁸ For this reason, while talking about Chamacoco, the term ‘base form’ (BF) is used to indicate the singular BF, and ‘full form’ (FF) to indicate the singular FF.

owa hnakirbit-ak.
 /owa ñakirbit-ak/
 2S young_man-MS.BF

‘Do not let sleep break your body [i.e. do not oversleep], because you are a young man.’ (Ciucci, field notes)

(109) Hnakirbiti-t yeliji l-obirho l-elo hn
 /ñakirbiti-t jelixi l-obirho l-elo ñ/
 Young_man-MS.FF never 3.IRLS-break RFL-body CONJ
 ye d-ish kōhir-t n-imchaha d-elo.
 /je d-iε kōhir-t n-imtεaha d-elo/
 NEG 3.IRLS-meet sleep-MS.FF 3.IRLS-put RFL-body

‘A young man never breaks his body and let the sleep go into his body [i.e. never oversleeps].’ (Ciucci, field notes)

(110) Chuebich ich d-ale ðryoo onoo-ta,
 /tεuebite itε d-ale ðrjo: ono:-ta/
 Chuebich EMPH 3-run 1PE river-FS.FF
 s-erzim ðr, ehni ye ahnap.
 /ts-erzīm ðr eñi je aṇap/
 3-shoot 3P SUB NEG 3.grandchild.MS.BF

‘Chuebich runs to our river, he throws rocks to them (lit. ‘he shoots up’), even though one is not his grandchild.’ (Ciucci, field notes)

(111) Naa ye hnekur=pe, p-ahnimi-ta,
 /na: je ñekur=pe p-añimi-ta/
 this.FS NEG caraguatá.FS.BF=NEG 1S- granddaughter-FS.FF
 naa osdii-ya, hnekur-hla.
 /na: osdi:-ja ñekur-ḷa/
 this.FS osdiita_plant-FS.BF caraguatá.FS.BF-fake

‘This is not caraguatá, my granddaughter, this is *osdiita*, it is fake caraguatá.’ (Ciucci, field notes)

- (112) Esee=ki ich abuel late s-owa
 /ese:=ki ite abwel late ts-owa/
 DM=PST CONJ grandmother poor.FS 3-show
 yoo waa hnekur-ta=ka.
 /jo: wa: ɲekur-ta=ka/
 1S DET.FS caraguatá-FS.FF=PST
 ‘Then, the poor grandmother showed me the caraguatá.’
 (Ciucci, field notes)

- (113) Je wich ir ii-ch otsii Luka?
 /xe wite ir i:-te otsi: luka/
 INT DET.MS 3S 3.name-MS.FF 3P.QUOT Luca
 Wich ir ii-k=pa!
 /wite ir i:-k=pa/
 DET.MS 3S 3.name-MS.BF=ELAT
 ‘Is his name Luca?’ ‘This is his real name!’ (Ciucci, field notes)

In the above examples (which do not cover all possible cases) the FF appears on the subject (*hnakirbitit* /ɲakirbitit/ (109), *iich* /i:te/ (113)) and on the direct object, *hnekurta* /ɲekurta/, (113). In (111), the FF *pahnimita* /paɲimita/ is used in a vocative expression. The BF is instead used when the nominal predicate is negated (ye *hnekurpe* /je ɲekurpe/) (111).

In (114a) and (115) the FF is used, although the BF is preferred. By contrast, the BF cannot be used in argumental position, hence in (114b) the FF cannot be replaced by the BF. Chamacoco lacks a specific copula meaning ‘to be’ corresponding to AY *u*, although the 3-pronoun/demonstrative (*wichi* /witei/ in (116)) seems to fill this slot: in this case too, the BF is used in Chamacoco.⁴³⁹

⁴³⁹ With copular verbs, such as the locative copula *de*, the FF is used in Chamacoco.

- (114) a. Ey-ji-ta ich apibita / apibiti-ta.
 /ej-xi-ta ite apibita?
 2S-daughter-FS.FF EMPH young_girl.FS.BF young_girl-FS.FF
 ‘Your daughter is a young woman.’ (Ciucci, field notes)

- b. Hm-eychim waa apibiti-ta / *apibita.
 /ɲ-ejɕim wa: apibiti-ta *apibita?
 2S.IMP-look DET.FS young_girl-FS.FF young_girl.FS.BF
 ‘Look at the young woman.’ (Ciucci, field notes)

- (115) Liki uu jots-ak / jotsi-t uje Ikon
 /liki u: xots-ak xotsi-t uxe ikon/
 this.MS DET.MS well-MS.BF well-MS.FF SUB Ikon
 ch-ichew=ni.
 /ɕe-itɕew=ni/
 3-dig=PST
 ‘This is the well which Ikon has dug.’ (Ciucci, field notes)

- (116) Mahn ese oyayuwa-t wichi kinaha.
 /maŋ ese ojajuwa-t witei kinaha?
 but that.MS giant_anaconda-MS.FF DET.MS different.[M/F]S.BF
 ‘But that giant anaconda was different.’ (Barbosa 1993:3)

As already noted, in the plural there is no distinction between FF and BF (117). Some nominals have two alternating MP suffixes, such as *-o/* and *-lo/*. These suffixes were probably plural BF vs. FF suffixes which have lost their specific function (see §14.3.4 and §14.3.6). An exception only emerges in some nominals which have the alternation between *-o/* and *-tɕo/* in the plural, such as *imehet* (118) and *loshipit* /loɕipit/ (119). In (118a) and (119a) one finds nominal predication and both suffixes can be used, while in (118b) and (119b) there is no nominal predication and the forms with *-tɕo/*

are considered ungrammatical. *-/tso/* or *-/tɕo/* is a very rare suffix in Chamacoco and corresponds to O.Z and AY *-/tɕo/*, used for the MP-BF. Note that both *-/o/* and *-/tɕo/* were originally plural BF suffixes (see §14.3.4 and §14.3.7), but, despite its rarity, *-/tso/* or *-/tɕo/* is the only suffix which, at least in some cases, seems to have preserved its original syntactic function.

- (117) a. Naa ee.
 /na: e:ʔ/
 this.FS fruit.FS.BF
 ‘This is a fruit.’⁴⁴⁰ (Ciucci, field notes)

- b. Hm-eychim ee.
 /ɱ-ejɕim e:/
 2S.IMP-look fruit.FP
 ‘Look at the fruits.’ (Ciucci, field notes)

- c. Nehi ee.
 /nehi e:/
 these.FP fruit.FP
 ‘These are fruits.’ (Ciucci, field notes)

- (118) a. Wir Iʃir imah-o / imaha-tso.
 /wir iɕir imah-o imaha-tso/
 DET.P Chamacoco.MP 3.enemy-MP 3.enemy-MP
 ‘They are the enemies of the Chamacoco.’ (Ciucci, field notes)

⁴⁴⁰ The presence of final glottalization is only indicated when it helps to distinguish the BF from the plural in a given example.

- b. Yok tik-iraha Ishir òr imah-o / *imaha-tso.
 /jok tik-iraha ieir òr imah-o imaha-tso/
 1S 1S-know Chamacoco.MP 3P 3.enemy-MP 3.enemy-MP
 ‘I know the enemies of the Chamacoco.’ (Ciucci, field notes)

- (119) a. Wir loship-o / loship-tso.
 /wir loeip-o loeip-tso/
 DET.P animal-MP animal-MP
 ‘They are animals.’ (Ciucci, field notes)

- b. Yok t-aw loship-o / *loship-tso.
 /jok t-aw loeip-o *loeip-tso/
 1S 1S-eat animal-MP animal-MP
 ‘I eat animals.’ (Ciucci, field notes)

§13.7.2 Adjectival modifiers

The NP head has two kinds of modifiers: adjectival and genitival modifiers. Adjectival modifiers follow the head noun and are thus postmodifiers. Very often a nominal can syntactically function either as a noun or as an adjective, although one function is more frequent than the other. In (120) one finds NPs where two elements, semantically to be considered nouns, are used as adjectives. In (120a-b) the word *apibitita* ‘young woman’ (cf. (114)) is an adjectival modifier meaning ‘young’.⁴⁴¹ In (120c) *pich* /pitə/ ‘stick; wood’ is a noun, while in (120d) it is used as an adjective meaning ‘wooden’.⁴⁴²

⁴⁴¹ *Apubitita* and *apibitita* are two variants of the same word (cf. example 47, §13.2.4).

⁴⁴² The word is sometimes transcribed as *phich*, because the initial consonant is often realized as [p^h], but there is no phonological difference between

- (120) a. Timchar-rza apubiti-ta.
 /timteaɿ-ɿa apubiti-ta/
 woman-FS.FF young_woman-FS.FF
 ‘Young woman.’ (Ciucci, field notes)
- b. Ishir-rza apibiti-ta.
 /iɛiɿ-ɿa apibiti-ta/
 Chamacoco_woman-FS.FF young_woman.FS.FF
 ‘Young Chamacoco woman.’ (Ciucci, field notes)
- c. Pi-ch turkaabi-t.
 /pi-tɛ turka:bi-t/
 wood-MS.FF short-MS.FF
 ‘Short stick.’ (Ciucci, field notes)
- d. Moyēki-t pi-ch.
 /mojēki-t pi-tɛ/
 puppet-MS.FF wood-MS.FF
 ‘Wooden puppet.’ (Ciucci, field notes)

As one can see in the above examples, adjectival modifiers usually agree in gender, number and form with the head.⁴⁴³ In (121) and (122) both head and modifier are inflected in BF. In this case, the BF *kinaha*⁹ is epicene. In (123) there is no agreement between *dit* (MS.FF) and *kinaha*⁹ ([M/F]S.BF), because they are not part of the same phrase, being *dit* the subject and *kinaha*⁹ the head of the nominal predicate.

aspirated and non-aspirated consonants.

⁴⁴³ Of course, the lack of some forms in a given paradigm makes the complete agreement impossible (see ex. 127).

- (121) Per ye timchar kinaha=pe.
 /per je timtear[?] kinaha=pe/
 but NEG woman.FS.BF strange.[M/F]S.BF=NEG
 ‘But she is not an unknown woman.’ (Ulrich & Ulrich 1995: 34)

- (122) Yok dihipi-k kinaha.
 /jok dihipi-k kinaha[?]/
 1S foreigner-MS.FF different.[M/F]S.BF
 ‘I am a foreigner.’ (Ulrich & Ulrich 1992: 71)

- (123) Tik-iraha je diki di-t kinaha.
 /tik-iraha xe diki di-t kinaha[?]/
 1S-know COMP this.MS city-MS.FF different.[M/F]S.BF
 ‘I know that this city is different.’ (Ciucci, field notes)

The subject and its nominal predicate agree in gender and number, but of course not in form. In (124) the subject *timcharra* /timteaḷa/ (FS.FF) agrees in gender and number with the nominal predicates *ihĩr*[?] (FS.BF) and *iljaabe* /ilxa:be[?]/ (FS.BF). In this context the corresponding masculine forms cannot be used.

- (124) Asa timchar-rza ich ihĩr /
 /asa timteaḷ-ḷa ite ihĩr[?]/
 that.FS woman-FS.FF EMPH beautiful.FS.BF
 *ihĩr-t hn iljaabe / *iljaabi-k.
 /*ihĩr-t ŋ ilxa:be[?] *ilxa:bi-k/
 beautiful-MS.FF CONJ evil.FS.BF evil-MS.BF
 ‘That woman is beautiful and evil.’
 (Ulrich & Ulrich 1995: 29; Ciucci, field notes)⁴⁴⁴

⁴⁴⁴ The masculine BF of *ihĩrt* is not observed. For this reason *ihĩrt*, morphologically a FF, is the only masculine form which can be used for nominal predication.

Opinta kinahata (125) and *jotsit bahlut* /xotsit baɭut/ (126) are two examples of gender, number and form agreement in noun phrases in FF. Compare *kinahata* (FS.FF) (125) with *kinaha*? ([M/F]S.BF) (121-123, 130) and *kinehet* (FS.FF) (128-129).

In (126) and (127) the FF *bahlut* /baɭut/ ‘big’ is the postmodifier of *jotsit* /xotsit/ (MS.FF) ‘well, hole’ (126) and *doshit* /doɕit/ (127, first occurrence). By contrast, its masculine BF *bahlu* /baɭu?/ is reported in the second clause of example (127). Here *bahlu* /baɭu?/ (MS.BF) is the postmodifier in a nominal predicate and appears in BF, although the head (*doshit* /doɕit/) is morphologically a FF. As already seen, some masculine nominals, including *doshit* /doɕit/, show no BF, so that the FF is obligatorily used for nominal predication. As one can see in (127), this has no consequences for the agreement.

- (125) Per ir ch-iyuhu wate asa opin-ta
 /per ir tɛ-ijuhu wate asa opin-ta/
 but 3 3-remove DET.FS that.FS arrow-MS.FF
 kinaha-ta=ka.
 /kinaha-ta=ka/
 strange-FS.FF=PST
 ‘But he removes the arrow of the other [hunter].’
 (Balbuena 1993: 3)

- (126) Esee=ni hno o-ch-ichew jotsi-t bahlu-t=ni.
 /ese:=ni ɲo o-tɛ-itɛew xotsi-t baɭu-t=ni/
 DM=PST 3.go P-3-dig hole-MS.FF big-MS.FF=PST
 ‘Then, they went to dig a deep hole.’ (Ciucci, field notes)

- (127) Nos wir eyok yesh y-itila ese doshi-t
 /nos wir ejok jɛɛ j-itila ese doɕi-t/
 all 3P 1PI again 1PI-be_afraid that.MS fish-MS.FF

bahlu-t	per	ye	doshi-t	bahlu=pe.
/baļu-t	per	je	doɕi-t	baļu=pe/
big-MS.FF	but	NEG	fish-MS.FF	big.MS.BF=NEG

‘All of us (lit. ‘they all and we’) feared again that big fish, but it wasn’t a big fish.’ (Ulrich & Ulrich 1990: 48)

§13.7.3 Final-syllable reduction

The morphological analysis of Chamacoco is complicated by the general tendency to reduce the last syllable, where relevant morphological information is expressed. Such a tendency seems to be stronger when the morphological information expressed by the last syllable can be understood owing to the morphosyntactic or pragmatic context, especially in nominals which are not the final element of the NP, so that gender, number and form are expressed on the last nominal. In (128) one finds the NP *dihipit kinēhēt*. In (129) the last syllable of *dihipit* can drop. The same occurs in example (130), where the BF is preferred. In both cases *dihipit* and *dihipik* can alternate with the root *dhip*.⁴⁴⁵

(128)	Kimiji	o-masaha	dhipi-t	kinēhēt
	/kimixi	o-masaha	dhipi-t	kinēhēt/
	If	3P-enter	foreigner-MS.FF	different-MS.FF

⁴⁴⁵ In this case, for reasons of simplicity, one can say that *dhip* is the root of the noun, but the whole root could be better represented as *dhip(i)*. It is not possible to decide whether this last vowel belongs to the root or is an epenthetic vowel.

ir	i-hyu-ch	ich	o-sh-iyokōr	māhni-k.
/ir	i-ju-te	ite	o-ε-ijokōr	māñi-k/
3S	3-house-MS.FF	CONJ	P-3-do	bad-MS.BF

‘If they enter the house of a foreigner, they do something bad.’
(Ulrich & Ulrich 2000a: 466)

(129) A-hakōraha wichi dihipi-t / dihip
 /a-hakōraha witei dihipi-t dihip
 2S-teach DET.MS foreigner-MS.FF foreigner
 kinehe-t eyok ahwos-o!
 /kinehe-t ejok awos-o/
 different-MS.FF 1.PI word-MP
 ‘Teach the foreigner our language!’ (Ciucci, field notes)

(130) a. Owa dihip kinaha
 /owa dihip kinaha?/
 2S foreigner strange.[M/F]S.BF
 b. Owa dihipi-k kinaha.
 /owa dihipi-k kinaha?/
 2S foreigner-MS.BF strange.[M/F]S.BF
 ‘You are foreigner.’ (Ulrich & Ulrich 1992a: 49;
 Ciucci, field notes)

Consider the NP *onoota bahluuta* /ono:ta baļu:ta/ ‘big river’. In (131a) the FF is required. In (131b) one finds final-syllable reduction on the first element of the NP. In (131b), final /a/ drops, while in (131c) one finds last syllable elision, so that *onoota* /ono:ta/ reduces to its root, which coincides with the BF. Not all forms are allowed to appear on the first element of the noun phrase, because the elision process has morphological limits: the plural *onoo* /ono:/ is ungrammatical in (131d), even though the plural is phonologically lighter. In (131e) both elements agree in plural form. When the NP is plural, the BF (131f) or the FF (131g) cannot

appear on the first element (in this case, BF and FF cannot be the result of final-syllable reduction, because they are phonologically heavier than the plural).

- (131) a. Tuk-umo onoo-ta bahluu-ta.
 /tuk-umo ono:-ta baɭu:-ta/
 1S-see river-FS.FF big-FS.FF

‘I see the sea (lit. ‘the big river’).’ (Ciucci, field notes)

- b. Tuk-umo onoo-t bahluu-ta / onoo-t bahluu-t.
 /tuk-umo ono:-t baɭu:-ta ono:-t baɭu:-t/
 1S-see river-FS.FF big-FS.FF river-FS.FF big-FS.FF

‘I see the sea (lit. ‘the big river’).’ (Ciucci, field notes)

- c. Tuk-umo onoo?² bahluu-ta.
 /tuk-umo ono:?² baɭu:-ta/
 1S-see river.FS.BF big-FS.FF

‘I see the sea (lit. ‘the big river’).’ (Ciucci, field notes)

- d. *Tuk-umo onoo bahluu-ta.
 /tuk-umo ono: baɭu:-ta/
 1S-see river.FP big-FS.FF

[I see the sea (lit. ‘the big river’).] (Ciucci, field notes)

- e. Tuk-umo onoo bahluu.
 /tuk-umo ono: baɭu:/
 1S-see river.FP big.FP

‘I see the seas (lit. ‘the big rivers’).’ (Ciucci, field notes)

- f. *Tuk-umo onoo?² bahluu.
 /tuk-umo ono:?² baɭu:/
 1S-see river.FS.BF big.FP

[I see the seas (lit. ‘the big river’).] (Ciucci, field notes)

- g. *Tuk-umo onoo-ta bahluu.
 /tuk-umo ono:-ta baɭu:/
 1S-see river.FS.FF big.FP

[I see the seas (lit. ‘the big river’).] (Ciucci, field notes)

The two elements of the predicate NP in (132) agree in BF (132a) and in FF (132b). In (132c) the first element appears in FF, while the second appears in BF. This means that *onoota* /ono:ta/ is not part of the predicate NP, but it forms a subject NP with the feminine demonstrative *naka*. Predicate NPs with a singular subject cannot appear in plural form (132d).

- (132) a. Naka onoo bahluu.
 /naka ono:ʔ baɭu:ʔ/
 this.FS river.FS.BF big.FS.BF

‘This is the see (lit. ‘the big river’).’ (Ciucci, field notes)

- b. Naka onoo-ta bahluu-ta.
 /naka ono:-ta baɭu:-ta/
 this.FS river-FS.FF big-FS.FF

‘This is the see (lit. ‘the big river’).’ (Ciucci, field notes)

- c. Naka onoo-ta bahluu.
 /naka ono:-ta baɭu:ʔ/
 this.FS river-FS.FF big.FS.BF

‘This river is big.’ (Ciucci, field notes)

- d. *Naka onoo bahluu.
 /naka ono: baɭu:/
 this.FS river.FP big.FP

[These are rivers.] (Ciucci, field notes)

In (133) one finds the phrase *Ishirc pisht* /ieirtɕ piet/ in BF (133a) and FF (133b-c). In (133b-c) the first element consists of the

root, which in this nominal coincides with the BF. The fact that in (131) and (133) the first element can consist of the root (phonologically coinciding with the BF) does not mean that the BF can be used for NPs appearing in FF. Consider for instance the NP *piramit bahlut* /pɪramit baɭut/ (134). When the BF of the first element is different from the root, for instance when it takes the suffix *-/k/* (as in *piramik*), the first element cannot appear in BF (134b), because when final-syllable reduction occurs, the root rather than the BF is involved. In (134d-e) the first element of the NP has to agree with the plural *bahluwo* /baɭuwo/.

- (133) a. Wichí Ishir pish
 /witei ieirʔ pie/
 DET.MS Chamacoco.[M/F]S.BF ELAT.MS.BF
 ‘He is a real Chamacoco man.’ (Ciucci, field notes)

- b. Wichí Ishir pish-t
 /witei ieirʔ pie-t/
 DET.MS Chamacoco.[M/F]S.BF ELAT-MS.FF
 ‘He is a real Chamacoco man.’ (Ciucci, field notes)

- c. T-ish Ishir pish-t.
 /t-ie ieirʔ pie-t/
 1S-meet Chamacoco.[M/F]S.BF ELAT-MS.FF
 ‘I meet a real Chamacoco man.’ (Ciucci, field notes)

- d. *T-ish Ishir pish.
 /tie ieirʔ pie/
 1S-meet Chamacoco.[M/F]S.BF ELAT.MS.BF
 [I meet a real Chamacoco man.] (Ciucci, field notes)

- (134) a. *Ãr-lo* *e-mchehe-lo* *pĩrami-t* *bahlu-t!*
 /*ãr-lo* *e-mt̥ehe-lo* *pĩrami-t* *baɭu-t/*
 2.cook-P 2-put-P pot-MS.FF big-MS.FF
 ‘(You) cook (it) putting (it) in a big pot!’ (Ciucci, field notes)
- b. **Ãr-lo* *e-mchehe-lo* *pĩrami-k* *bahlu-t!*
 /*ãr-lo* *e-mt̥ehe-lo* *pĩrami-k* *baɭu-t/*
 2.cook-P 2-put-P pot-MS.BF big-MS.FF
 [(You) cook (it) putting (it) in a big pot!] (Ciucci, field notes)
- c. *Ãr-lo* *e-mchehe-lo* *pĩram-o* *bahlu-wo!*
 /*ãr-lo* *e-mt̥ehe-lo* *pĩram-o* *baɭu-wo/*
 2.cook-P 2-put-P pot-MP big-MP
 ‘(You) cook (it) putting (it) in big pots!’ (Ciucci, field notes)
- d. **Ãr-lo* *e-mchehe-lo* *pĩrami-t* *bahlu-wo!*
 /*ãr-lo* *e-mt̥ehe-lo* *pĩrami-t* *baɭu-wo/*
 2.cook-P 2-put-P pot-MS.FF big-MP
 [(You) cook (it) putting (it) in big pots!] (Ciucci, field notes)
- e. **Ãr-lo* *e-mchehe-lo* *pĩrami-k* *bahlu-wo!*
 /*ãr-lo* *e-mt̥ehe-lo* *pĩrami-k* *baɭu-wo/*
 2.cook-P 2-put-P pot-MS.BF big-MP
 [(You) cook (it) putting (it) in big pots!] (Ciucci, field notes)

One might wonder whether the cause of this process is phonetic or morphological. Final-syllable reduction seems to be a merely phonetic process, but the complete loss of the inflection in the first element of the NP is reminiscent of Ayoreo and Old Zamuco, where only the final element of the NP is morphologically marked. The head noun and the adjectival modifier express number, gender and form. When final-syllable reduction occurs, the NP structure is very similar to that of Ayoreo and Old Zamuco, except that in these languages the non-final elements are in singular BF, even when this

differs from the root, while in Chamacoco the non-final elements of the NP may consist of the mere root, which does not necessarily coincide with the BF.

§13.7.4 The genitival modifier

The genitival modifier precedes the head noun, which does not agree with the NP head, always in FF. This is particularly evident in (135), when the head noun appears in BF (*aap* /a:p/) and the genitival modifier in FF (*Porrosht* /po:ɬoɕt/). In (136a) too, one finds nominal predication and *permich ir* /permiɕ ir/ (with *permich* /permiɕ/ in FF) is the genitival modifier of *hnikaa* /ɲika:ʔ/ (in BF). *Yok* /jok/ is in turn the genitival modifier of *permich ir* /permiɕ ir/. In (136b) the BF *permich* /permiɕ/ is used for a nominal predicate, but the use of the same form in the context of (136a) is not considered correct (136c). In (137), the NP *ana timcharrza late* /ana timtɕaɽa late/ ‘this poor woman’ is the genitival modifier governed by the plural noun *ijo* /ixo/ (3.MP) ‘children’. The head of the embedded NP, *timcharrza* /timtɕaɽa/, is in FF (the adjectival modifier *late* ‘poor’ has no BF vs. FF distinction).

- (135) Wichí Porrosht-t aap.
 /witei po:ɬoɕt a:p/
 DET.MS God-MS.FF 3.son.MS.BF
 ‘He is Christian (lit. ‘son of God’).’ (Ciucci, field notes)

- (136) a. Wate yok p-erm-ich ir hnikaa.
 /wate jok p-erm-itɕ ir ɲika:ʔ/
 DET.FS 1S 1S-uncle-MS.FF 3S black_carob_tree.FS.BF
 ‘It is the black carob tree of my uncle.’ (Ciucci, field notes)

b. Wichî yok p-erâp.
 /witei jok p-erâp/
 DET.MS 1S 1S-uncle.MS.BF
 ‘He is my uncle.’ (Ciucci, field notes)

c. *Wate yok p-erâp ir hnikaa.
 /wate jok p-erâp ir ṇika:’/
 DET.FS 1S 1S-uncle.MS.BF 3S black_carob_tree.FS.BF
 [It is the black carob tree of my uncle.] (Ciucci, field notes)

(137) Ana timchar-rza late ij-o òr tre=ni iteēt-o.
 /ana timteaṭ-ṭa late ix-o òr tre=ni itē:t-o/
 this.FS woman-FS.FF poor.FS 3.child-MP 3P three=PST male-MP
 ‘The children of this poor woman are three boys.’
 (Ciucci, field notes)

Most CH locative postpositions are morphologically nominals preceded by a genitival modifier. In example (138) the FF *jotsit* /*xotsit*/ is the premodifier of the locative noun phrase headed by *ehet* ‘inside’, while in (139) the FF *pirâhata* ‘wife’ precedes *pît* ‘piece, side’, used as a locative postposition.

(138) Weno, ohwa-lo ola pala, y-iĩsi-l jotsi-t bahlu-t
 /weno owa-lo ola pala j-ĩ:si-l xotsi-t baḷu-t/
 good 2.bring-P 2P blade 1PI-dig-GP hole-MS.FF big-MS.FF
 par y-imchaha asa kemyon bahlu-ta ese
 /par j-imteaaha asa kemjon baḷu-ta ese/
 SUB 1PI-put that.FS truck big-FS.FF that.MS
 jotsi-t ehe-t.
 /xotsi-t ehe-t/
 hole- MS.FF 3.inside-MS.FF
 ‘Good, bring your blades, we will dig a big hole in order to put the armored truck in the hole.’ (Ciucci, field notes)

- (139) Yok tiyakaha p-irãha-ta pit.
 /jok tij-akaha p-irãha-ta pit/
 1S 1S-sit 1S-wife-FS.FF beside
 ‘I sit beside my wife.’ (Ciucci, field notes)

Final-syllable reduction can also occur in the genitival modifier. In (140) the predicate NP is *hnikaata ukita* /ɲika:ta ukita/ ‘branch of black carob tree’, which can occur in both FF (140a) and BF (140b-c). The genitival modifier *hnikaata* /ɲika:t/ ‘black carob tree’ (*Prosopis nigra*) is expected to appear in FF, but it undergoes final-syllable reduction and can consist of the mere root (140c). In this case, only the NP head preserves all relevant morphosyntactic information.

- (140) a. Wate hnikaa-t uki-ta.
 /wate ɲika:-t uki-ta/
 DET.FS black_carob_tree-FS.FF branch-FS.FF
 ‘It is the branch of black carob tree.’ (Ciucci, field notes)

- b. Wate hnikaa-t uki.
 /wate ɲika:-t uki?/
 DET.FS black_carob_tree-FS.FF branch.FS.BF
 ‘It is the branch of black carob tree.’ (Ciucci, field notes)

- c. Wate hnikaa uki.
 /wate ɲika:ʔ uki?/
 DET.FS black_carob_tree.FS.BF branch.FS.BF
 ‘It is the branch of black carob tree.’ (Ciucci, field notes)

§13.7.5 Compounds

In compounds, the modifier precedes the head. When the lexemes form a single phonological unit, the root of the modifier precedes

the head, which takes full inflection:⁴⁴⁶ *dichipita* /ditɕipita/ (FS.FF) ‘toilet, latrine’ → *dichi-t* /ditɕit/ (GF.MS.FF) ‘dung’ + *pita* (FS.FF) ‘box’. When the lexemes do not form a single phonological unit, the first element of the compound behaves as a genitival modifier in FF:⁴⁴⁷ *Porrosht ahwoso* /po:ɬɔɕt aɰoso/ ‘Bible’ (lit. ‘the words of God’), *webich osht* /webitɕ oɕt/ ‘first’ (*webich* /webitɕ/ ‘before’, ‘person’). In example (141) the nominal *webich* /webitɕ/ is used as a locative postposition, while in (141) it is the first element of a compound and, as expected, there is no agreement with *otita* (FS.FF).

- (141) Yok de owa webich.
 /jok de owa webitɕ/
 1S 3.EXIST 2S before
 ‘You are before me.’ (Ciucci, field notes)

- (142) Waa iji-ta webich_oti-ta umo waa
 /wa: ixi-ta webitɕ_oti-ta umo wa:/
 DET.FS 3.daughter-FS.FF first-FS.FF 3.see DET.FS
 n-animi-cha.
 /n-animi-tɕa/
 3-sister-FS.FF
 ‘The first daughter sees her own sister.’
 (Ulrich & Ulrich 1992b: 60)

⁴⁴⁶ In this respect there are no fixed rules for compounds.

⁴⁴⁷ The only distinction between a compound and an NP preceded by a genitival modifier is a purely semantic one.

§13.7.6 Constructions with the clitic =/ε/

There are existential constructions in which the predicate consists of the enclitic copula =/ε/. This copula has a monoargumental structure and the clitic =/ε/ is added to the final element of the subject NP, in FF. This construction is generally used to express possession, because there is no verb meaning ‘to have’. The possessor is expressed by the genitival modifier and/or by possessive prefixation (if the head noun is possessable). In (143) and (144) one finds examples where one can see the use of the FF in the singular (because in the plural there is no difference between BF and FF). This only occurs in affirmative clauses. About negative clauses, see (§13.7.14).

(143) a. Yok chipirmi-chi=sh / chipirmi-ta=sh.⁴⁴⁸

/jok tɛipirmi-tɛi=ε tɛipirmi-ta=ε/
1S bird-FS.FF=EXIST bird-FS.FF=EXIST

‘I have a bird.’ (Ciucci, field notes)

b. Yok chipirmi=sh.

/jok tɛipirmi=ε/
1S bird.FP=EXIST

‘I have some birds.’⁴⁴⁹ (Ciucci, field notes)

⁴⁴⁸ Both forms are correct, but in this context the speaker prefers the form *chipirmitchi=sh* /tɛipirmitchi=ε/, usually less used, because the final syllables of *yok chipirmitchi=sh* /jok tɛipirmi-tɛi=ε/ could be confused with the verb *chish* /tɛiε/ (3) ‘to meet’ and there is the risk that the addressee could understand ‘my bird meets’ (Laura Báez, personal communication).

⁴⁴⁹ In (143a-b) the suffix -/ε/ and the last vowel of the suffix -/tɛa/ reduce to /i/ before the clitic =/ε/.

- c. Yok pohnuu-ta eyhi-ta=sh.
 /jok poŋu:-ta ejhi-ta=ɛ/
 1S gun-FS.FF seed-FS.FF=EXIST

‘I have a bullet (lit. ‘seed of gun’).’ (Ciucci, field notes)

- d. Yok pohnuuʔ eyhi-ta=sh.
 /jok poŋu:ʔ ejhi-ta=ɛ/
 1S gun.FS.BF seed-FS.FF=EXIST

‘I have a bullet (lit. ‘seed of gun’).’⁴⁵⁰ (Ciucci, field notes)

- e. Yok pohnuu eyhi=sh.
 /jok poŋu: ejhi=ɛ/
 1S gun.FP seed.FP=EXIST

‘I have some bullets (lit. ‘seeds of guns’).’⁴⁵¹ (Ciucci, field notes)

- (144) a. Yok poho-ch poor-c pish-t-i=sh.
 /jok poho-tɛ po:r-tɛ piɛ-t-i=ɛ/
 1S dog-MS.FF white-MS.FF ELAT-MS.FF-EPENT=EXIST

‘I have a very white dog.’ (Ciucci, field notes)

- b. Yok hutɪ-t wihĩr-ta pish-ta=sh.
 /jok hutɪ-t wihĩr-ta piɛ-ta=ɛ/
 1S book-FS.FF red-FS.FF ELAT-FS.FF=EXIST

‘I have a very red book.’ (Ciucci, field notes)

⁴⁵⁰ In (143d), final-syllable reduction occurs on the first element of the NP, although the non-reduced form is preferred.

⁴⁵¹ The internal structure of the compound *pohnuuta eyhita* /poŋu:ta ejhita/ indicates that *eyhita* ‘seed’ is the head and *pohnuuta* ‘gun’ the modifier. In this case, when the head shows up in the plural, also the modifier can appear in plural form.

The copula $=/e/$ was not discussed in chapter §7, because morphologically it is not a verb. Morphology-wise it is not a verb for the following reasons. First, there is no clitic verb in Chamacoco, secondly, $=/e/$ is invariable and cannot even take the affixes $/o/-$ or $-/lo/$ which can optionally be added to invariable verbs. The existential/locative copula *de*, for instance, can take the plural pre-prefix $/o/-$. *De* can also be used in this context, although it is mostly used to express location. (145a) and (145b) are equivalent according to the informants, but (145a) is far more frequent.

- (145) a. Yok hutì-t wihĩr-ta=sh.
 /jok hutì-t wihĩr-ta= $e/$
 1S book-FS.FF red-FS.FF=EXIST
 ‘I have a red book.’ (Ciucci, field notes)

- b. Yok hutì-t wihĩr-ta de.
 /jok hutì-t wihĩr-ta de/
 1S book-FS.FF red-FS.FF 3.EXIST
 ‘I have a red book.’ (Ciucci, field notes)

The copula $=/e/$ corresponds to the existential copulas *cuse* ($/kuse/$) in Ayoreo and $=uz$ ($=/us/$) in Old Zamuco. Both have no inflection, are used to build possessive sentences and follow a FF-marked NP in affirmative clauses.⁴⁵²

⁴⁵² See Bertinetto (2009: 39, 44) about AY *cuse* $/kuse/$ and Chomé (1958: 126) about O.Z $=uz$ ($=/us/$). See Kelm (1964: 798-799) for a comparison between AY *cuse* and O.Z $=uz$.

§13.7.7 Secondary predication and reduced relatives

The BF can be used for secondary predication, as in (146-148), where the nominal predicate does not immediately follow the nominal it refers to. The valency of the verb *shūrha* /εūr̥a/, intransitive, clearly indicates that nominals following *shūrha* /εūr̥a/ in (147) and (148) cannot be verbal arguments. One wonders whether this sequence of predicates could be interpreted as a serial construction. Indeed, serial constructions such as the one in (149) are to be found in Chamacoco.

- (146) Pikiñnin-ta de=kite kuhnēr.
 /pikiñnin-ta de=kite kuñēr?/
 girl-FS.FF 3.EXIST=PST orphan.FS.BF
 ‘There was a orphan girl.’ (Ulrich & Ulrich 1995: 3)

- (147) Ele p-iji-t shūrha iteēt-ak.
 /ele p-ixi-t εūr̥a itē:t-ak/
 this.MS.FF 1S-son-MS.FF 3.be_born male-MS.BF
 ‘This male child was born.’ (Ciucci, field notes)

- (148) a. Asa timchar-rza ir iji-t shūrha iteēt-ak.
 /asa timteaꞥ-ꞥa ir ixi-t εūr̥a itē:t-ak/
 that.FS woman-FS.FF 3S 3.son-MS.FF 3.be_born male-MS.BF
 ‘The son of this woman was born male / and he was born male.’
 (Ulrich & Ulrich 2000a: 1104)

- b. Hn wichi shūrha hnakirap.
 /ꞥ witei εūr̥a ꞥakirap/
 CONJ DET.MS 3.be_born man.MS.BF
 ‘And he was born man.’ (Ulrich & Ulrich 2000a: 860)

- (149) Timcharrza hno tĩr merkado.
 /tĩmteaɿ-ɿa ɲo tĩr merkado/
 woman-FS.FF 3.go 3.go_to market
 ‘The woman goes to the market.’ (Ciucci, field notes)

In (150) the nominal *ilaraap* /ilara:p/, following the head noun *hnakirbich* /ɲakirbitɕ/, does not agree with the noun it refers to, because it appears in BF, while the expected form would be *ilarabit*, as in (151). The construction in (150) can be analyzed as a reduced relative clause, where the relative complementizer *uje* /uxe/ has been omitted.

- (150) Hnakirb-ich ilar-aap de uje ii-ch
 /ɲakirb-ite ilar-a:p de uxe i:-tɕ/
 man-MS.FF old-DIM.MS.BF 3.EXIST SUB 3.name-FS.FF
 otsii Yepeto.
 /otsi: jepeto/
 3P.QUOT Geppetto
 ‘There was an old man, whose name was Geppetto.’
 (Ulrich & Ulrich 1995: 24)

- (151) Baa-ch ilar-aab-it otsii Cantero
 /ba:-tɕ ilar-a:b-it otsi: kantero/
 Paraguyan-MS.FF old-DIM-MS.FF 3P.QUOT Cantero
 hn ihyẽ-t ãya.
 /ɲ ijẽ-t ãja/
 CONJ 3.friend-MS.FF 3.accompany
 ‘The old Paraguayan man was called Cantero and a friend
 accompanied him.’ (adapted from: Barbosa 1993: 5)

§13.7.8 The base form and the quotative

The BF is observed after the quotative *otsii* /otsi:/ as used to express the name of someone or something.⁴⁵³ The BF is not very frequent in this construction, because it is generally used to introduce proper nouns, which do not contrast between BF and FF. However, the BF is used when the quotative introduces a noun which opposes BF and FF, e.g. *oyayuwa* /ojajuwaʔ/ in (152), *yilicho* /jilitɕoʔ/ in (153) and *ahwos* /awos/ in (154). Note that in (153) *yilichta* /jilitɕta/ is used in both FF (in an argumental NP) and BF (after the quotative). In (154) the first quotative introduces a proper noun (*Zoar* /θoar/), where, of course, there is no difference between BF and FF, and the second quotative introduces the word expressing its meaning in Chamacoco (*ijaap* /ixa:p/), which appears in BF.

- (152) Entons, esee=kite hn ese loshipi-t
 /entons ese:=kite ŋ ese loɕipi-t/
 then DM=PST CONJ that.MS animal-MS.FF
 kinehe-t de=chi ese lugar-t, uje
 /kinehe-t de=ɕei ese lukar-t uxe/
 different-MS.FF 3.EXIST=there that.MP place-MS.FF SUB
 ch-ipɕsa ōr, uje otsii oyayuwa.
 /ɕe-ipɕsa ōr uxe otsi: ojajuwaʔ/
 3-grab 3P SUB 3P.QUOT anaconda.MS.BF
 ‘Then, in that place there was that strange animal which grabs
 people, which is called *oyayuwat*.’
 (adapted from: Barbosa 1993: 2)

⁴⁵³ In (153) and (154) the quotative *otsii* /otsi:/ merges with the preceding relative pronoun *uje* /uxe/ in the word *jotsee* /xotse:/. About the uses of *otsii*, see §8.

- (153) T-ew waa j=otsee yilich-o. lin
 /t-ew wa: x=otse: jilite-oʔ i:n/
 3-eat DET.FS SUB=3P.QUOT spicy_fruit-FS.BF 3.swallow
 yilich-ta.
 /jilite-ta/
 spicy_fruit-FS.FF
 ‘He ate a palm. He ate what is called *yilichta*. He swallowed the
 yilichta.’⁴⁵⁴ (Gonzales *et al.* 1999: 2)

- (154) Ii-ch otsii Zoar wichi òr
 /i:-tɛ otsi: ɛoar witei òr/
 3.name-MS.FF 3P.QUOT Zoar DET.MS 3P
 ahwos j=otsee ijaap.
 /awos x=otse: ixa:p/
 3.word.MS.BF SUB=3P.QUOT little.MS.BF
 ‘Its name, Zoar, is their word which means “little” (lit. ‘which is
 little’).’ (Ulrich & Ulrich 1992a: 58)

The presence of the BF after the quotative indicates that the quotative alone does not express the predicative function, which is encoded by the nominal in BF. In §8 morphological evidence was provided to demonstrate that the quotative is not a verb. It is rather a sort of parenthetical element, external to the predication nucleus. Nevertheless, if it were omitted, the meaning of the sentence would change, because it wouldn’t mean that something is called in a certain way. Yet, the nominal predication would be syntactically acceptable. On the contrary, if a verb is omitted, the proposition is ungrammatical.

⁴⁵⁴ Type of fruit. *Yilichta* /jiliteta/ is a spicy fruit according to Gonzales *et al.* (1999: 19).

Indeed, compare the quotative in (152-154) with the verb *itso*.⁴⁵⁵ In (155) *itso* ‘to be like / to look like’ is followed by the direct object *hnakirbich* /*ṇakirbiṭe*/ in FF. *Itso* is also an irregular element morphology-wise, but the presence of FF rather than BF after *itso* suggests that *itso* has a predicative value.

- (155) Heke yok itso hnakirbich uje iljaabi-k=pa.
 /heke jok itso ṇakirb-ite uxe ilxa:bi-k=pa/
 For_this 1S 3.be_like man-MS.FF SUB bad-MS.BF=ELAT
 ‘For this I am like a man who is very bad.’
 (Ulrich & Ulrich 2000a: 665)

§13.7.9 The use of the base form before *dich* /*dite*/

Dich /*dite*/ or *dich* /*dite*/ is a nominal element meaning ‘big, great’. *Dich* is morphologically a MS-FF and, as seen in §13.1.11 (ex. 28c) and §13.3.1 (ex. 85), it lacks the BF. This means that the FF is also used in typical BF contexts, as in (156) and (157). Its corresponding FS form *data* is rarely used, so that *dich* is often preferred for the feminine, as in (156). The plural for both genders is *deyo* /*dejo*/ (158). In (156-157) *dich* is the head noun of the NP with predicative function, while in (158a) it is an adjectival modifier. When instead *dich* follows a qualifying adjective in the same NP, it has the function of an elative marker which modifies the adjective, as in (158b), where it modifies the adjective *ihĩrtso*, indicating that the fish are ‘very beautiful’. As one can see in (158), the meaning of *dich* /*dite*/ depends on its position in the NP.

⁴⁵⁵ The irrealis form of *itso*, *ilo*, can be used as a quotative (§8.4).

- (156) Yoo estudi petik=ni. Depwe yok di-ch=ni.
 /jo: estudi petik=ni depwe jok di-tɛ=ni/
 1S study at_all=PST after 1S big-MS.FF=PST
 ‘I did not study at all. After I grew (I was big).’
 (Ciucci, field notes)

- (157) Yoo titew-ta [...] shi itso waa pohor-rza
 /jo: titew-ta ɕi itso wa: poho.ɭ-ɭa/
 1S heart-FS.FF DUR 3.be_like DET.FS tree-FS.FF
 waa je ich di-ch.
 /wa: xe itɛ di-tɛ/
 DET.FS SUB CONJ big-MS.FF
 ‘My heart is like a tree which is big.’ (Ciucci, field notes)

- (158) a. Loshi-yo tre de-yo kahr-o hn ihĩr-tso.
 /loɕi-jo tre de-jo kaɾo-ɔ ɳ ihĩr-tso/
 fish-MP three big-MP yellow-MP CONJ beautiful-MP
 ‘Three beautiful, big, yellow fish (lit. ‘big, yellow and beautiful’).’
 (Ciucci, field notes)

- b. Loshi-yo tre kahr-o hn ihĩr-tso de-yo.
 /loɕi-jo tre kaɾo-ɔ ɳ ihĩr-tso de-jo/
 fish-MP three yellow-MP CONJ beautiful-MP big-MP
 ‘Three very beautiful, yellow fish.’ (Ciucci, field notes)

When *dich* /ditɛ/ is used as an elative marker, it has the same value of the elative clitic =/pa/. Indeed, (159a) and (159b) convey the same meaning according to the speakers.⁴⁵⁶

⁴⁵⁶ The only difference is that in (159b) the clitic =/pa/ is added to the feminine BF of the adjective *wihĩrt*, which is the predicate of a reduced relative clause.

- (159) a. Yok tuk-umo hutī-ta wihĩr-ta di-ch.
 /jok tuk-umo hutī-ta wihĩr-ta di-tɛ/
 1S 1S-see book-FS.FF red-FS.FF big-FS.FF

‘I see a very red book.’ (Ciucci, field notes)

- b. Yok tuk-umo hutī-ta wihĩr=pa.
 /jok tuk-umo hutī-ta wihĩr=pa/
 1S 1S-see book-FS.FF red.FS.BF=ELAT

‘I see a very red book.’ (lit. ‘a book which is very red’)

(Ciucci, field notes)

In (160) and (161) there are two predicate NPs. In (160) *dich* /ditɛ/ means ‘big’, while in (161) it is the elative marker of the adjective *ilarc* /ilartɛ/ ‘old’.⁴⁵⁷

- (160) Pokorz-ta umo sole: “Ich ihyokõr-ak
 /pokorz-ta umo tsole itɛ ijokõr-ak /
 monkey-FS.FF 3.see QUOT EMPH noise-MS.BF
 di-ch, sham.”
 /di-tɛ ɛam/
 big-MS.FF my_friend

‘The monkey said: “It is a big noise, my friend.”’

(Balbuena & Perez 1993: 4)

- (161) Õryoo deki=lishi ich ilar=di-ch=ni
 /õrjo: deki=liɛi itɛ ilar=di-tɛ=ni/
 1PE grandfather=poor.MS EMPH old=big-MS.FF=PST

⁴⁵⁷ In (161) *dich* forms a phonological word with the BF *ilaro*², which has lost its final elements owing to the process of final-syllable reduction.

je	oshent,	novent	ay-õ	hn	toy.
/xe	oœent	nobent	aj-õ	ŋ	toj/
SUB	eighty	ninety	year-MP	CONJ	3.die
‘Our poor grandfather was very old, when he was eighty, ninety years old, he died.’ (Ciucci, field notes)					

There is no morphosyntactic difference between the two uses of *dich*. In the previous examples, the element modified by *dich* are inflected in the gender, the number and the form of the NP it belongs to, as one can also see in (162), where both *loshipit* /*loœipit*/ and *dich* /*dite*/ show up in plural inflection. This is not surprising in Chamacoco, but, although this configuration is correct, this is not the preferred morphosyntactic configuration of the NPs with *dich* as final element.

(162)	T-itim	olak	par	uje	erze	pukuhnin-o	õr	eyucha
	/t-itim	olak	par	uxe	erze	pukuŋin-o	õr	ejutea/
	1S-tell	2P	SUB	SUB	that.P	child-MP	3P	3.remember
	nêhe	ese		oyayuwa-t		uje	t-ew	
	/nehe	ese		ojajuwa-t		uxe	t-ew/	
	FUT	that.MS		giant_anaconda-MS.FF		SUB	3-eat	
	loship-o	de-yo.						
	/loœip-o	de-jo/						
	animal-MP	big-MP						
‘I tell you so that these children will remind of this anaconda which eats big animals.’ (Barbosa 1993: 8)								

When *dich* is the final element of an NP, the element modified by it preferentially appears in singular BF, regardless of the number and form required by the NP. In (163), for instance, the phrase *ese ihyokōrak dich* /*ese ijokōrak dite*/ ‘this big noise’ requires the FF (singular), but *ihyokōrt* /*ijokōrt*/ ‘noise’ is in singular BF. The FF of *ihyokōrak* /*ijokōrak*/ is to be found in (164) and this nominal does

not represent an exception: in (164), for instance, the BF used in the same context is considered ungrammatical by the speakers. In (165) too, *pīt* shows up in BF before *dich* in a typical FF context, while in (166) the FF is used.

- (163) Ese ihyokōr-ak di-ch masaha pwert
 /ese ijokōr-ak di-~~te~~ masaha pwert/
 that.MS noise-MS.BF big-MS.FF 3.enter house
 ehe-t uje o-ts-akaha.
 /ehe-t uxe o-ts-akaha/
 3.inside-MS.FF SUB P-3-sit
 ‘That big noise entered the house where they were sitting.’
 (Ulrich & Ulrich 2000a: 487)

- (164) O-ch-unt kabehe-t hñit-e ihyokōr-t.
 /o-~~te~~-unt kabehe-t ñit-e ijokōr-t/
 P-3-listen horse-MS.FF 3.foot-FP 3.noise-MS.FF
 ‘They listen to the noise of the horse’s hooves.’
 (Ulrich & Ulrich 1995: 36)

*O-ch-unt kabehe-t hñit-e ihyokōr-ak.
 /o-~~te~~-unt kabehe-t ñit-e ijokōr-ak/
 P-3-listen horse-MS.FF 3.foot-FP 3.noise-MS.BF
 [They listen to the noise of the horse’s hooves.]
 (Ciucci, field notes from)

- (165) S-ehék tort pī-k dī-ch.
 /ts-ehék tort pī-k dī-~~te~~/
 3-cut cake piece-MS.BF big-MS.FF
 ‘He cuts a big piece of cake.’ (Ulrich & Ulrich 1990d: 109)

- (166) Sêhe t-apur owa pi-t.
 /tsêhe t-apur owa pi-t/
 VOL 1S-ask 2S piece-MS.FF
 ‘I want to ask you for a piece (of cake).’
 (Ulrich & Ulrich 1990d: 109)

In (167) one finds an example with the Spanish loanword *chokolate* /tɕokolate/ ‘chocolate’, used as an invariable masculine nominal. In this example *dich* does not modify the head noun *chokolate*, but the adjective *berzt* /berzt/ ‘long’ in BF, although the NP is inflected in plural form, which appears on *dich* (e.g. *deyo* /dejo/). In (168) one finds two possible configurations of the same NP in singular FF: the BF is preferred in the adjective modified by *dich* (168a), although here the FF is also possible (168b).

- (167) Õr pwele o-ho eladito shi itso koja-n
 /õr pwele o-ho eladito ɕi itso koxa-n/
 3P can 3P-drink ice DUR 3.be_like mountain-MP
 de-yo hn chukulate berz-ak le-yo shi
 /de-jo ŋ tɕukulate berz-ak le-jo ɕi/
 big-MP CONJ chocolate big-MS.BF big-MP DUR
 itso dehe-t
 /itso dehe-t/
 3.be_like path-MS.FF
 ‘They can drink ice-cream like big mountains and (eat) very long
 (pieces of) chocolate like a path.’ (Ulrich & Ulrich 1995: 26)⁴⁵⁸

⁴⁵⁸ *Dich* occurs twice in (167). The first occurrence is preceded by the plural of *kojäch* /koxâtɕ/. In this context, both the plural and the BF are possible.

- (168) a. Yok t-aw chokolate berz-ak di-ch.
 /jok t-aw tɛokolate berz-ak di-tɛ/
 1S 1S-eat chocolate large-MS.BF big-MS.FF
 ‘I eat a very large (piece of) chocolate.’ (Ciucci, field notes)
- b. Yok t-aw chokolate berz-t di-ch.
 /jok t-aw tɛokolate berz-t di-tɛ/
 1S 1S-eat chocolate large-MS.BF big-MS.FF
 ‘I eat a very large (piece of) chocolate.’ (Ciucci, field notes)

The adjectives *dich* and *bahlut* /baɭut/ convey the same meaning when they mean ‘big’. In (169) *dich* is the elative marker of *bahlut* in BF. The FF *bahlut* is possible, but the BF is preferred. Since only the element(s) modified by *dich* appear(s) in BF, the NP’s head noun, *hnakirbich* /ɲakirbite/, is in FF, even though it is followed by *bahlut* in BF.

- (169) a. P-ey-ch bahu[?] di-ch.
 /p-ej-tɛ baɭu[?] di-tɛ/
 1S-father-MS.FF big.MS.BF big-MS.FF
 ‘My father is very big.’ (Ciucci, field notes)
- b. Yok tuk-umo hnakirb-ich bahu[?] di-ch.
 /jok tuk-umo ɲakirb-ite baɭu[?] di-tɛ/
 1S 1S-see man-MS.FF big.MS.BF big-MS.FF
 ‘I see a very big man.’ (Ciucci, field notes)

In (170), the NP *pīramit dich* /pīramit diɛ/ shows up in the plural and the head noun *pīramit* in BF. In (171) and (172), one finds possible and impossible configurations of the NP inflected in FF (171) and in plural form (172), as compared with configurations of the NP *pīramit bahlut* /pīramit baɭut/, which practically conveys the same meaning. *Bahlut* is a normal adjectival modifier and

agrees in gender, number and form with the head noun it refers to. In the following examples *piramit* can appear in BF before *dich* (171a) and *deyo* /dejo/ (172b), but not before *bahlut* (171c) and *bahluwo* /baļuwo/ (172f).⁴⁵⁹

(170) Ār-lo e-mchaha-lo pīrami-k de-yo.

/ār-lo e-mtēaha-lo pīrami-k de-jo/

2.cook-P 2-put-P pot-MS.BF big-MP

‘(You) cook (it) putting (it) in big pots!’ (Ulrich & Ulrich, 1990d: 28)

(171) a. Ār-lo, e-mchehe-lo pīrami-k di-ch!

/ār-lo e-mtēhehe-lo pīrami-k di-tē/

2.cook-P 2-put-P pot-MS.BF big-MS.FF

‘(You) cook (it) putting (it) in a big pot!’ (Ciucci, field notes)

b. Ār-lo, e-mchehe-lo pīrami-t di-ch!

/ār-lo e-mtēhehe-lo pīrami-t di-tē/

2.cook-P 2-put-P pot-MS.FF big-MS.FF

‘(You) cook (it) putting (it) in a big pot!’ (Ciucci, field notes)

c. *Ār-lo, e-mchehe-lo pīrami-k bahlu-t!

/ār-lo e-mtēhehe-lo pīrami-k baļu-t/

2.cook-P 2-put-P pot-MS.BF big-MS.FF

[(You) cook (it) putting (it) in a big pot!] (Ciucci, field notes)

d. Ār-lo, e-mchehe-lo pīrami-t bahlu-t!

/ār-lo e-mtēhehe-lo pīrami-t baļu-t/

2.cook-P 2-put-P pot-MS.FF big-MS.FF

‘(You) cook (it) putting (it) in a big pot!’ (Ciucci, field notes)

⁴⁵⁹ *Piramik dich* (171a) is preferred to *piramit dich* (171b).

- (172) a. *Ãr-lo, e-mchaha-lo pîram-o de-yo!*
 /*ãr-lo e-mt̥aha-lo pîram-o de-jo/*
 2.cook-P 2-put-P pot-MP big-MP
 ‘(You) cook (it) putting (it) in big pots!’ (Ciucci, field notes)
- b. *Ãr-lo, e-mchaha-lo pîrami-k de-yo!*
 /*ãr-lo e-mt̥aha-lo pîrami-k de-jo/*
 2.cook-P 2-put-P pot-MS.BF big-MP
 ‘(You) cook (it) putting (it) in big pots!’ (Ciucci, field notes)
- c. **Ãr-lo, e-mchaha-lo pîrami-t de-yo!*
 /*ãr-lo e-mt̥aha-lo pîrami-t de-jo/*
 2.cook-P 2-put-P pot-MS.FF big-MP
 [(You) cook (it) putting (it) in big pots!] (Ciucci, field notes)
- d. *Ãr-lo, e-mchehe-lo pîram-o bahlu-wo!*
 /*ãr-lo e-mt̥ehe-lo pîram-o baɭu-wo/*
 2.cook-P 2-put-P pot-MP big-MP
 ‘(You) cook (it) putting (it) in big pots!’ (Ciucci, field notes)
- e. **Ãr-lo, e-mchehe-lo pîrami-t bahlu-wo!*
 /*ãr-lo e-mt̥ehe-lo pîrami-t baɭu-wo/*
 2.cook-P 2-put-P pot-MS.FF big-MP
 [(You) cook (it) putting (it) in big pots!] (Ciucci, field notes)
- f. **Ãr-lo, e-mchehe-lo pîrami-k bahlu-wo!*
 /*ãr-lo e-mt̥ehe-lo pîrami-k baɭu-wo/*
 2.cook-P 2-put-P pot-MS.BF big-MP
 [(You) cook (it) putting (it) in big pots!] (Ciucci, field notes)

The comparison with *bahlut* /baɭut/ confirms that a noun phrase or an adjectival phrase modified by *dich* can have a syntactic configuration where the modified element is in BF. Especially in the case of NPs modified by *dich*, this could be considered an

archaic construction, since in Ayoreo (§12.6) and Old Zamuco (§14.1) only the last element expresses the number and the form of the whole NP, while the preceding elements are in BF.

§13.7.10 The base-form vs. full-form predominance in selected nominals

The following paragraphs will focus on some particular uses of BF and FF in some nominals. I will present cases where BF and FF are to be observed in non-typical contexts, showing their mutual interaction when one of the two forms predominates. Three high frequency nominals will be examined in detail: *dihlak* /diłak/ ‘night’, *dihirbit* ‘morning’ and *mihnik* /miņik/ ‘bald, evil’. The first two are often used as head noun of a temporal phrase. Temporal phrases differ syntactically from all other types of phrase, because they are not obligatorily preceded by a preposition, even though they are not part of the argument structure of the predicate. They can also be used before the sentence they refer to, which is often introduced by a coordinative conjunction.

***Dihlak* /diłak/.** This noun also has the less frequent FF *dihlich* /diłite/. When a temporal phrase precedes the rest of the sentence, this could be considered a para-hypotactic construction⁴⁶⁰ owing to the coordinative conjunction which introduces the main clause (173), although the latter can be omitted (174). If so, *dihlak* /diłak/ necessarily has the function of a predicate and this explains why it is inflected in BF.

⁴⁶⁰ About para-hypotactical structures in Chamacoco and Ayoreo, see Bertinetto & Ciucci (2012).

- (173) Dihl-ak hn t-ikēra p-uuru-wo, p-ahnim-ita.
 /di_l-ak ŋ t-ikēra p-u:ru-wo p-a_ŋim-ita/
 night-MS.BF CONJ 1S-dream 1S-dream-MP 1S-granddaughter-FS.FF
 ‘At night (lit. ‘it is night and’) I dreamed my dreams, my
 granddaughter.’ (Ciucci, field notes)

- (174) Dihl-ak-e tik-itkēr waa p-ihyã-ta Berna.
 /di_l-ak-e tik-itkēr wa: p-ijã-ta berna/
 night-MS.BF-EPENT 1S-talk DET.FS 1S-friend-FS.FF Berna
 ‘At night (lit. ‘it is night’) I talked to my friend Berna.’
 (Ciucci, field notes)

By contrast, when a temporal phrase is at the end of a clause, it should be considered an adjunct and the FF is expected, for it does not express any predicative function. However, the construction in (173) and (174) is preferred (at least with *dihlak*) over those in (175) and (176). This may explain why the BF (176) tends to be used instead of the FF in this context (175).

- (175) Hn Pedro sh-uu Cornelio ibi-yo o-masaha
 /ŋ pedro e-u: korneljo ibi-jo o-masaha/
 CONJ Pedro 3-let Cornelio 3.servant-MP 3P-enter
 pwert ehe-t par uje o-mu=hu=chis
 /pwert ehe-t par uxe o-mu=hu=teis/
 house 3.inside-MS.FF SUB SUB 3P-sleep=PREP=there
 ese dihli-ch.
 /ese di_li-te/
 that.MS night-MS.FF
 ‘And Peter let Cornelio’s servant enter the house, so that they
 could sleep there that night.’ (Ulrich & Ulrich 2000a: 537)

- (176) Uje o-t-aach=ĩhi wahacha ese dehe-t
 /uxe o-t-a:te=ĩhi wahatea ese dehe-t/
 SUB P-3-arrive=PREP there that.MS path-MS.FF

pehe-t	hn	o-yehe=chis	par	o-mu=hu
/pehe-t	ŋ	o-jehe=teis	par	o-mu=hu/
half-MS.FF	CONJ	3P-stop=there	SUB	3P-sleep=PREP
ese	dihl-ak.			
/ese	diŋ-ak/			
that.MS	night-MS.BF			

‘When they arrived halfway, they stopped in order to sleep there that night.’ (Ulrich & Ulrich 1992a: 159)

In *dihlak* the replacement of the FF by the BF is expected, because the FF contexts are relatively rare with this particular word. When it works as a genitival modifier, the FF is required. For instance, in (177) *dihlich* ‘night’ is the genitival modifier of *pehet* ‘middle’ in *dihlich pehet* /diŋite pehet/ ‘middle of the night’. The BF of this nominal is never observed in such a function. Note that in this context, since the temporal expression follows the verb, the nominal head is expected to appear in FF. However, the BF is used instead of the FF.

(177) Ye	e-raha-lo	kimiji	tak-aach=ĩhi	dihl-ak	o
/je	e-raha-lo	kimixi	tak-a:te=ĩhi	diŋ-ak	o/
NEG	2-know-P	SUB	1S-come=PREP	night-MS.BF	DISJ
kimiji	dihli-ch	pehe-t	o	kimiji	d-eey-ch
/kimixi	diŋi-te	pehe-t	o	kimixi	d-e:j-te/
whether	night-MS.FF	half-MS.FF	DISJ	whether	3-father-MS.FF
hu-ta	o	kimiji	dihirbi-t.		
/hu-ta	o	kimixi	dihirbi-t/		
3.head-FS.FF	DISJ	whether	day-MS.FF		

‘You don’t know whether I came here at night or in the middle of the night, or at the beginning of the day or in the morning.’

(Ulrich & Ulrich 2000a: 204)

***Mihnik* /miɲik/** ‘bad, evil’. This nominal, chosen because of its frequency of occurrences in the corpus, has the FF *mihnt* /miɲt/ and the BF *mihnik* /miɲik/. The latter is more frequent, because it is very often used as a nominal predicate (178). The FF *mihnt* is only used as an adjectival modifier to agree with the head noun in FF (179). When ‘bad, evil’ is the head of an argumental NP, as in (180), one would expect the FF *mihnt*, yet the BF is more frequently used. Apparently, the more frequent form tends to replace the less used one. *Mihnik* can also be found as adjectival modifier. Note that there is no case in which *mihnt* is used instead of *mihnik*. In (181) it could even be interpreted as a reduced relative, a typical BF context also in Ayoreo.

- (178) P-ij-o yiliji o-hn-iyõr uje mihn-ik.
 /p-ix-o jilixi o-ɲ-ijõr uxe miɲ-ik/
 1S-son-MP never P-3.IRLS-do COMP bad-MS.BF
 ‘My sons never do what is bad.’ (Ciucci, field notes)

- (179) Kimiji om uje ese kuchi-t mĩhn-t
 /kimixi om uxe ese kutɛi-t mĩɲ-t
 SUB good.[M/F]BF COMP that.MS thing-MS.FF bad-MS.FF
 ye tĩr yok ich t-ahmur.
 /je tĩr jok itɛ t-aɲmur/
 NEG 3.come 1S CONJ 1S-want
 ‘If it is good that that bad thing does not come to you, I want it.’
 (Ulrich & Ulrich 2000a: 209)

- (180) Atim Porrosh-t uje a-hakõr mihn-ik.
 /a-tim po:ɬoɛ-t uxe a-hakõr miɲ-ik/
 2S-tell God-MS.FF COMP 2S-do bad-MS.BF
 ‘Tell God that you did a bad thing.’ (Ulrich & Ulrich 1998d: 6)

- (181) Yok t-iyokōr kuchi-t mihn-ik
 /jok t-ijokōr kutei-t miŋ-ik/
 1S 1S-do thing-MS.FF bad-MS.BF
 ‘I do something bad.’ (Ciucci, field notes)

***Dihirbit*.** In the case of *dihirbit* ‘morning’, the FF predominates over the BF *dihirbak*. In (§13.7.1) it was observed that the FF can be used instead of the BF in the predication, but the BF continues to be preferred in such a syntactic function. Thus, the use of *dihirbit* could represent more a general tendency of currently spoken Chamacoco than an exception. As seen above (ex. 173-174), when the temporal expression precedes the rest of the sentence, the BF is used, as in (182). In this particular example, the BF is *dihirba* rather than *dihirbak*. The FF can also be used in this context (183), but the BF is definitely preferred. Interestingly, however, the same speakers who preferred the BF in (183), produced the examples in (184), where the FF is used, and in (185), where the BF is to be found. When the temporal expression is at the end of the sentence, only the FF is possible according to some informants (cf. (185) with (186)).⁴⁶¹

- (182) Yehe dihirb-a ich de=chi pwert ebich.
 /jehe dihirb-a ite de=tei pwert ebite/
 still morning-MS.BF CONJ 3.EXIST=there house in_front_of
 ‘It is still morning and he is in front of the house.’
 (Ciucci, field notes)

⁴⁶¹ In *meyo dihirbit* (185), *meyo* /mejo/ comes from Spanish *medio* ‘middle’. The irregular syntactic use of *meyo* depends on the fact that it is a Spanish loan. However, this does not interfere with the choice of the form *dihirbit*.

- (183) a. Dihirb-ak hn t-ish owa.
 /dihirb-ak ŋ t-iɛ owa/
 morning-MS.BF CONJ 1S-meet 2S
 ‘It is morning and I meet you.’ (Ciucci, field notes)

- b. Dihirbi-t hn t-ish owa.
 /dihirbi-t ŋ t-iɛ owa/
 morning-MS.FF CONJ 1S-meet 2S
 ‘It is morning and I meet you.’ (Ciucci, field notes)

- (184) Dihirbi-t=ke ch-imchehe ir; yehe dihl-ak
 /dihirbi-t=ke tɛ-imtɛehe ir jehe diɭ-ak
 morning-MS.FF=PST 3-prepare 3S still night-MS.BF
 ich nihi, nishii ir, ch-imchehe uu
 /itɛ nihi niɛi: ir tɛ-imtɛehe u:
 CONJ 3.wake_up 3.prepare 3S 3-prepare DET.P
 ire polash-o.
 /ire polae-o/
 3S rattle-MP
 ‘On the morning he prepared for the day; it is still night and he
 wakes up, he prepares (lit. ‘he puts himself in order’), he prepares
 his rattles.’ (Ciucci, field notes)

- (185) Dihirb-ak=pa, e-rêt=ihî meyo dihirbi-t.
 /dihirb-ak=pa e-rêt=ihî mejo dihirbi-t/
 morning-MS.BF 2S-come=PREP middle morning-MS.FF
 ‘It is very early in the morning, come here in the middle of the
 morning.’ (Ciucci, field notes)

- (186) *Dihirb-ak=pa, e-rêt=ihî meyo dihirb-ak.
 /dihirb-ak=pa e-rêt=ihî mejo dihirb-ak/
 morning-MS.BF=ELAT 2S-come=PREP middle morning-MS.BF
 [It is very early in the morning, come here in the middle of the
 morning.] (Ciucci, field notes)

§13.7.11 Uses of the indeterminate form

From a syntactic point of view, the IF is used in non-predicative contexts, that is in the same contexts where also the FF is typically used in all Zamucoan languages. The FF tends to replace the BF in the predicative function, but this is not a typical FF context; in such a position, the BF is still preferred. The IF is never found predicatively in positive or negative clauses. From a semantic point of view, the IF is used when there is a non-specific referent. Three cases can be distinguished: (1) The referent exists, or is considered to exist, but is unknown or simply not specified (§13.7.12); (2) There is uncertainty about the existence of the referent (§13.7.13); (3) There is no referent (§13.7.14). Exceptions to the use of the IF are due to the contact with Spanish (§13.7.15). Finally, section §13.7.15 deals with the agreement of nominals in IF-marked NPs.

§13.7.12 Existing referents and the indeterminate form

In (187) the speaker is talking about his grandfather who didn't want the children to play in the river, because there are dangerous animals. The referent of the noun in IF exists, but it is not specified, because there are many animals that could bite or grab people in the river.

(187) Ye	n-ahmuru	yeëk,	teehe,	hmarta,	loship-tik
/je	n-amuru	jë:k	te:he	ṃarta	loɕip-tik/
NEG	3.IRLS-want	someone	INTERJ	drown	animal-MS.IF
t-ehe=chis	awi-t	uu-t,	uu		loshi-tik
/t-ehe=teis	awi-t	u:-t	u:		loɕi-tik/
3-bite=there	water-MS.FF	3.under-MS.FF	DET.MS		animal-MP.IF

ch-ichew.

/tɛ-itɛw/

3-grab

‘He doesn’t want that someone drowns, that an animal bites (someone) under the water, that an animal grabs (someone).’
(Ciucci, field notes)⁴⁶²

In (188-190) the referent of the IF is still unknown at the time of the speech. One could argue that a referent could not even exist in the real world, but the point is that the referent exists in the perception of the speaker: in (188) and (189) it is considered inevitable that the subject will find a husband (188) or a wife (189), although his/her identity is still unknown and then remains unspecified. In (190) the addressee is a young woman who does not have children yet, but who will probably have children. In this case, the IF rather than the FF is used before the clitic copula =/ɛ/.

(188) Deey-ch ye-t nehe nish d-ish
 /de:j-tɛ je-t nehe niɛ d-iɛ/
 day-MS.FF other-MS.FF FUT EPST 3.IRLS-meet
 l-abi-tik uje itso wichi.
 /l-abi-tik uxe itso witei/
 RFL-husband-MS.IF SUB 3.be_like DET.MS
 ‘Someday she will meet a husband who will be like him.’
 (Ciucci, field notes)

(189) Deey-ch ye-t nehe nish t-ish
 /de:j-tɛ je-t nehe niɛ t-iɛ
 day-MS.IF another-MS.FF FUT EPST 1S-meet

⁴⁶² Compare this sentence with ex. (152), in which the animal type is identified and called by its name.

p-irahata-rāk	uje	itso	wate.
/p-irahata-rāk	uxe	itso	wate/
1S-wife-FS.IF	SUB	3.be_like	DET.FS

‘Someday I will meet a wife who will be like her.’
(Ciucci, field notes)

(190) Uje e-yj-ir-i=sh, uje òr o-l-ish
 /uxe e-jx-ir-i=ɕ uxe òr o-l-ic
 SUB 2S-son-MP.IF-EPENT=EXIST SUB 3P P-3.IRLS-meet
 da-bi-lo, ich a-sim òr o-mshi-yo
 /da-bi-lo itɕ a-sim òr o-mei-jo
 RFL-illness-MP CONJ 2S-give 3P GF-medicine-MP
 uu erhe pohir.
 /u: ɛɾɛ pohir/
 DET.P that.P plant.FP
 ‘When you have children, when they are ill, give them these plants
 as medicine.’ (Ciucci, field notes)

The IF is also used in direct or indirect interrogative clauses for questions concerning the identity of someone or something, or to ask about something. The nominal is in IF followed by the enclitic =/ihɪ/. The predication is expressed by the nominal in IF. This is the only case where the IF has predicative value.⁴⁶³ (191-192) feature direct questions, while (193-194) feature indirect questions.

(191) a. Iji-ch-tik=ihi?
 /ixi-te-tik=ihi/
 3.path-MS.FF-MS.IF=INT
 ‘What/which is the path? / What kind of path?’ (Ciucci, field notes)

⁴⁶³ The same occurs in Ayoreo.

b. Ii-tik=ihĩ? / ħrk=ihĩ?
 /i: -tik=ihĩ ħ:rk=ihĩ/
 3.name-MS.IF=INT 3.name.MS.IF=INT
 ‘What is his/her name?’ (Ciucci, field notes)

(192) ‘ġEe-y-tik=ihĩ?’ ‘ġLatikpo?’ ‘ġEe-y-ch!’
 /e: -j-tik=ihĩ latikpo e: -j-tē/
 2S-name-MS.IF=INT what 2S-name-MS.IF
 ‘Wichi ii-ch otsiĩ Luka.’
 /witeĩ i: -tē otsi: luka/
 DET.MS 3.name-MS.FF 3P.QUOT Luca
 ‘What’s your name?’ ‘What?’ ‘Your name!’ ‘His name is Luca.’
 (Ciucci, field notes)

(193) Entons erze Mar-o ye o-d-iraha=pe
 /entons erze Mar-o je o-d-iraha=pe/
 then that.P Paraguayan-MP NEG P-3.IRLS-know=NEG
 keshĩ loship-tik=ihĩ.
 /keci loēip-tik=ihĩ/
 INT animal-MS.IF=INT
 ‘Then the Paraguayan people did not understand what kind of
 animal it was.’ (Barboza 1993: 2)

(194) Sehe d-iraha keshĩ loship-i-tik=ihĩ.
 /tsehe d-iraha keci loēip-i-tik=ihĩ/
 VOL 3.IRLS-know INT animal-EPENT-MS.IF=INT
 ‘He wants to know which kind of animal it is.’
 (Balbuena 1993: 15)

There is another way to use the IF in questions about the referent’s identity. The predicate nominal is in IF followed by the interrogative enclitic =/po/ rather than =/ihĩ/. The construction with =/po/ is less frequent than the construction with =/ihĩ/. In (195) one

finds examples of direct questions. In (195b-e) both *imatak* and *ilarc* /*ilartε*/ mean ‘old’, the latter being far more frequent.

(195) a. Ee-y-tik-i=po?

/e:-j-tik-i=po/

2S.name-MS.IF-EPENT=INT

‘What’s your name?’ (Ciucci, field notes)

b. ȝDik ilar-tik-i=po?

/dik ilar-tik-i=po/

this.MS old-MS.IF-EPENT=INT

ȝNak ila-rã(k-a)=po?

/nak ila-rã(k-a)=po/

this.FS old-FS.IF-EPENT=INT

‘Who is this old man ?’ ‘Who is this old woman ?’

(Ciucci, field notes)

c. Nahu ilar-tijo=po? (MP) / Nehi ilêri=po? (FP)

/nahu ilar-tijo=po nehi ilêri=po/

this.MP old-MP.IF=INT this.MP old-MP.IF=INT

‘Who are these old guys (men)?’ ‘Who are these old guys (women)?’ (Ciucci, field notes)

d. Wichi imati-tik-i=po? (MS)

/witei imati-tik-i=po/

DET.MS old-MS.IF-EPENT=INT

‘Who is this old guy (man)?’

Wate imati-rã(k-a)=po? (FS)

/wate imati-rã(k-a)=po/

DET.FS old-FS.IF-EPENT=INT

‘Who is this old guy (woman)?’ (Ciucci, field notes)

- e. Wir imati-tiyo=po? (MP) / Wir imat-ĩr=po? (FP)
 /wir imati-tijo=po wir imat-ĩr=po/
 DET.P old-MP.IF=INT DET.P old-FP.IF=INT
 ‘Who are these old guys? (men)’ ‘Who are these old guys?
 (women)’ (Ciucci, field notes)

In (196) and (197) one finds examples of indirect interrogative clauses with IF and =/po/. In (197) the interrogative pronoun *otik* is used with =/ihĩ/ (*ye tikiraha otikihichis* /*je tikiraha otikihiteis*/) and the singular IF *loshipitĩk* /*loẽipitĩk*/ is followed by both =/ihĩ/ and =/po/.

- (196) Sehe d-iraha yeẽk=po ihĩ awi-t.
 /tsehe d-iraha jẽ:k=po ihĩ awi-t/
 VOL 3.IRLS-know other.MS.IF=INT 3.drink water-MS.IF
 ‘He wants to know who drinks the water.’ (Balbuena 1993: 13)

- (197) “Kuch-ẽrk yehe tĩrẽt. Ich ye tik-iraha
 /kute-ẽrk jehe tĩrẽt ite je tik-iraha/
 thing-MS.IF now 3.come CONJ NEG 1S-know
 otikihichis. Nos wir loship-o nos tik-iraha.”
 /otik=ihĩ=tẽis nos wir loẽip-o nos tik-iraha/
 IGNOR.MS=PREP=there all DET.P animal-MP all 1S-know
 Sole: “Hn liki nohmira shi ye tik-iraha
 /tsole ŋ liki nomĩra? ei je tik-iraha/
 QUOT CONJ this.MS one.[M/F]S.BF only NEG 1S-know
 petik keshi loshipi-tik-ihĩ=po.”
 /petik keei loẽipi-tik-ihĩ=po/
 at_all INT animal-MS.IF-INT=INT
 “‘Something is going here. I don’t know what kind of thing it is
 there. I know all animals’ He said: ‘I don’t know at all what kind
 of animal this one is.’” (Balbuena 1993: 15)

§13.7.13 Uncertainty about the existence of a referent

The IF can be used for questions concerning the existence of a given referent. The nominal inflected in IF is the subject of the verbal copula *chihi* /*teihi*/ (the irrealis of *de*). The same construction has an existential meaning as well as a possessive meaning when the possessor is expressed (198a-c).

- (198) a. ʒL-ati-rāk *chihi*?
 /l-ati-rāk *teihi*/
 3-mother-FS.IF 3.EXIST.IRLS
 ‘Is there his/her mother?’ ‘Does he/she have a mother?’
 (Ciucci, field notes)

- b. ʒL-ey-tik *chihi*?
 /l-ej-tik *teihi*/
 3-father-FS.IF 3.EXIST.IRLS
 ‘Is there his/her father?’ ‘Does he/she have a father?’
 (Ciucci, field notes)

- c. Abi-tik *chihi*?
 /abi-tik *teihi*/
 3.husband-MS.IF 3.EXIST.IRLS
 ‘Is there your/her husband?’ ‘Do you have a husband?’
 (Ciucci, field notes)

- d. Je o-bi-tik *chihi*?
 /xe o-bi-tik *teihi*/
 INT GF-job-MS.IF 3.EXIST.IRLS
 ‘Is there a job?’ (Ciucci, field notes)

Sometimes the FF is also to be found in this context (199), although the IF is more frequent. In (200) both FF and IF can be used, although the IF is preferred. In (200b-c) *de* is used instead of

chihi /*teihi*/. In some cases the realis *de* is used instead of its irrealis counterpart, but not vice versa. However, *chihi* /*teihi*/ is preferred over *de* in this context.

- (199) a. Je pohnuu eyhi *chihi* ire?
 /xe poŋu: ejhi *teihi* ire/
 INT gun.FP seed.FP 3.EXIST.IRLS 3S
 ‘Are there bullets (lit. ‘seeds of gun’) inside his body?’
 (Ciucci, field notes)

- b. Je hutī-ta ya-ta *chihi* par t-čēt
 /xe hutī-ta ja-ta *teihi* par t-č:t /
 INT book-FS.FF other-FS 3.EXIST.IRLS SUB 1S-copy
 ishir ahwos-o?
 /ieir aŋos-o/
 Chamacoco.MP 3.word-MP
 ‘Is there another (exercise) book to write (lit. ‘copy’) in
 Chamacoco?’ (Ciucci, field notes)

- (200) a. Je kuch-ēr̄k *chihi* poōrc?
 /xe kute-ēr̄k *teihi* pō:rt̄e/
 INT thing-MS.IF 3.EXIST.IRLS above
 ‘Is there anything above?’ (Ciucci, field notes)

- b. Je kuch-ēr̄k de poōrc?
 /xe kute-ēr̄k de pō:rt̄e/
 INT thing-MS.IF 3.EXIST above
 ‘Is there anything above?’ (Ciucci, field notes)

- c. Je kuchi-t *chihi* poōrc?
 /xe kutei-t *teihi* pō:rt̄e/
 INT thing-MS.IF 3.EXIST.IRLS above
 ‘Is there anything above?’ (Ciucci, field notes)

d. Je	kuchi-t	de	poõrc?
/xe	kutei-t	de	põ:rtẽ/
INT	thing-MS.IF	3.EXIST	above

‘Is there anything above?’ (Ciucci, field notes)

§13.7.14 Lack of referent

The IF is also used to state that a given referent does not exist. It is usually preceded by the negation and followed by the enclitic copula =/ẽ/. This is the negation of the existential/possessive construction seen above. Note that nominals followed by =/ẽ/ appear in FF in affirmative and in IF in negative clauses, as one can see in the following examples.

(201)	Yok	p-iyẽrp-ta=sh.	Ye	p-iyẽrp-rã=sh.
	/jok	p-ijẽrp-ta=ẽ	je	p-ijẽrp-rã=ẽ/
	1S	1S-shirt-FS.FF=EXIST	NEG	1S-shirt-FS.IF=EXIST

‘There is my shirt / I have a shirt.’ ‘There is not my shirt / I do not have any/my shirt.’ (Ciucci, field notes)

(202)	Ehni	ye	p-ijĩr=sh,	ich	t-ishew	wir
	/eñi	je	p-ix-ĩr=ẽ	ite	t-icew	wir/
	SUB	NEG	1S-son-MP.IF=EXIST	CONJ	1S-grab	DET.P

uu mam akili-ye.
/u: mam akili-je/
DET.P 1S.mother 3.advice-MP

‘When I didn’t have children, I paid attention to my mother’s advice.’ (Ciucci, field notes)

(203)	Ye	eyuw-ĩr=sh	heke	a-pook.
	/je	eyuw-ĩr=ẽ	heke	a-po:k/
	NEG	3.thought-MP.IF=EXIST	for_this	2S-be_ashamed

‘You don’t think (lit. ‘you do not have thoughts’), that’s why you are ashamed.’ (Ciucci, field notes)

- (204) Umo wate mɪntan-(ta), uje ye vidrɪr-ĩr=sh.
 /umo wate mɪntan-(ta) uxe je bidrɪr-ĩr=ɛ/
 3.see DET.FS window-(FS.FF) SUB NEG glas-MP.IF=EXIST
 ‘He saw that window, which was without glass.’
 (Ciucci, field notes)

When the existential copula =/ɛ/ is used in an interrogative clause, the subject NP generally appears in FF rather than in IF, as one can see in (205a), where the plural (common to BF and FF) is used. The use of the IF in the same context is not accepted (205b). The IF is only used with the clitic =/ɛ/ under negation: a negative question, for instance, requires the IF (205c).

- (205) a. Owa, je aab-o=sh? Yok p-aab-o=sh.
 /owa xe a:b-o=ɛ/ jok p-a:b-o=ɛ/
 2S INT 2S.child-MP=EXIST 1S 1S-child-MP=EXIST
 ‘Do you have children? I have children.’ (Ciucci, field notes)

- b. *¿Owa, je aab-ĩr=sh?
 /owa xe a:b-ĩr=ɛ/
 2S INT 2S.child-MP.IF=EXIST
 [Do you have children?] (Ciucci, field notes)

- c. ¿Je ye aab-ĩr=sh?
 /xe je a:b-ĩr=ɛ/
 INT NEG 2S.child-MP.IF=EXIST
 ‘Do you have children?’ (Ciucci, field notes)

§13.7.15 Exceptions in the use of the indeterminate form

Although the use of the IF usually follows the above described rules, sometimes it doesn’t occur where expected. This has mostly

been noted in the plural and in cases where the IF is not semantically indispensable. One may wonder whether it depends on final-syllable reduction or on linguistic contact with Spanish. In this respect, example (206), from spontaneous speech text, is particularly interesting: the last three nominals (*oposo*, *nihyokot* /*nijokot*/, *yukich* /*jukitɛ*/) do not appear in IF, even though it is a typical “IF context”. Here the negation is not *ye*, but the Spanish loan *naa* /*na:*/ (from Spanish *no*) and the negative coordinator is *hnii* /*ɲi:*/ (from Spanish *ni*). Note also that *yukich* /*jukitɛ*/ appears in FF at the end of the sentence, but at the beginning it is in plural IF. However, despite these examples, the IF is still vital and generally used in its typical contexts of use.

- (206) Ye d-oho yuk-ĩr=pe, ye
 /je d-oho juk-ĩr=pe je/
 NEG 3.IRLS-drink alcoholic_drink-MP.IF=NEG NEG
 t-aak=po=pe. Nĩhyok naa o-pos-o, hnii
 /t-a:k=po=pe nĩjok na: o-pos-o ɲi:/
 3-eat=again=NEG NEG.EXIST NEG GF-food-MP CONJ.NEG
 nihyokot, hnii yuki-ch.
 /nijokot ɲi: juki-tɛ/
 water CONJ.NEG alcoholic_drink-MS.FF
 ‘He does not drink alcoholic drinks, he does not eat; there is
 neither food, nor water, nor alcohol’ (Ciucci, field notes)

§13.7.16 Noun phrase marking: agreement with the indeterminate form

In the previous examples the IF appears in noun phrases without postmodifiers. As seen in §13.7.2, in the case of BF and FF, the adjectival modifier usually agrees in form with the head noun. With the IF, things tend to be different, because only the last nominal of

the NP generally appears in IF. In (207-208) there are examples of NP in masculine and feminine IF, respectively. The IF is usually only marked on the last nominal of the NP, while the preceding elements appear in FF. Two other examples are in (209-210). Note that the head noun and the postmodifier(s) agree in gender and number, even though they do not agree in form.

- (207) a. Ye hnakirb-ich pish-tik-i=sh.
 /je ɲakirb-itɛ piɛ-tik-i=ɛ/
 NEG man-MS.FF ELAT-MS.IF-EPENT=EXIST
 ‘There are no real men.’ (Ciucci, field notes)

- b. Ye hnakirb-o pish-ĩr=sh.
 /je ɲakirb-o piɛ-ĩr=ɛ/
 NEG man-MP ELAT.MP.IF=EXIST
 ‘There are no real men.’ (Ciucci, field notes)

- (208) a. Ye timchar-rza pish-i-rã=sh.
 /je timtɛaɭ-ɭa piɛ-i-rã=ɛ
 NEG woman-FS.FF ELAT-EPENT-FS.IF=EXIST
 ‘There is no real woman.’ (Ciucci, field notes)

- b. Ye timchar-rza pish-i-rãk-a=sh.
 /je timtɛaɭ-ɭa piɛ-i-rãk-a=ɛ/
 NEG woman-FS.FF ELAT-EPENT-FS.IF-EPENT=EXIST
 ‘There is no real woman.’ (Ciucci, field notes)

- c. Ye timchar-rza pishitãk-a=sh.
 /je timtɛaɭ-ɭa piɛ-i-tãk-a=ɛ/
 NEG woman-FS.FF ELAT-EPENT-FS.IF-EPENT=EXIST
 ‘There is no real woman.’ (Ciucci, field notes)

d. Ye timcher pish-ĩr=sh.
 /je timteer piẽ-ĩr=ẽ/
 NEG woman.FP ELAT-MP.IF=EXIST

‘There are no real women.’ (Ciucci, field notes)

(209) Shi o-ts-akaha wahacha pork ye owi-ch
 /ẽi o-ts-akaha wahatea pork je owi-tẽ/
 DUR P-3-remain there because NEG 3.place-MS.FF
 ye-tik-i=sh.
 /je-tik-i=ẽ/
 other-MS.IF-EPENT=EXIST

‘They remained there, because there was not another place.’

(Ulrich & Ulrich 2000a: 232)

(210) Nĩhyok ye owi-ch kinchẽ-tik-i=sh.
 /nĩjok je owi-tẽ kinchẽ-tik-i=ẽ/
 NEG.EXIST NEG 3.place-MS.FF different-MS.IF-EPENT=EXIST

‘There is not a different place.’ (Ulrich & Ulrich 2000a: 842)

In (211) the final element of the NP obligatorily appears in IF, while the first, which in this case is the head noun, can appear in FF (211a) or in IF (211b). The latter possibility is accepted, but the FF is preferred in the non-final elements of the NP, as one can see in (212a) and (212b), where there is a variant of the NP *owich kinchẽtik* /owitẽ kinchẽtik/ shown in example (210). The same alternation is to be observed in (213), where the head noun is feminine. In (213a) *hutita yinak* /hutita jinak/ appears to be the preferred configuration, but (213b) is also possible. The final element of the phrase must appear in IF. The head noun cannot appear in IF if the final element of the NP does not appear in IF too (213c).

- (211) a. Deeych yečk hn tak-āha.
 /de:j-tɛ jẽ:k ŋ tak-āha/
 day-MS.FF other.MS.IF CONJ 1S-go

‘I will go another day.’ (Ciucci, field notes)

- b. Deey-ch-tik yečk hn takāha.
 /de:j-tɛ-tik jẽ:k ŋ tak-āha/
 day-MS.FF-MS.IF other.MS.IF CONJ 1S-go

‘I will go another day.’ (Ciucci, field notes)

- (212) a. Owi-ch-tik ye-tik-i=sh.
 /owi-tɛ-tik je-tik-i=ɛ/
 3.place-MS.FF-MS.IF other-MS.IF-EPENT=EXIST

‘Another place.’ (Ciucci, field notes)

- b. Owi-tik ye-tik-i=sh.
 /owi-tik je-tik-i=ɛ/
 3.place-MS.IF other-MS.IF-EPENT=EXIST

‘Another place.’ (Ciucci, field notes)

- c. Owi-tik kihnehẽ-tik-i=sh.
 /owi-tik kiŋehẽ-tik-i=ɛ/
 3.place-MS.IF different-MS.IF-EPENT=EXIST

‘Another place.’ (Ciucci, field notes)

- (213) a. Je hutɪ-ta yi-nak chihi par t-čɛt
 /xe hutɪ-ta ji-nak tɛihi par t-ẽ:t/
 INT book-FS.FF other-FS.IF 3.EXIST.IRLS SUB 1S-copy
 ishɪr ahwos-o?
 /iɛɪr aɯos-o/
 Chamacoco.MP 3.word-MP

‘Is there an (exercise) book to write in Chamacoco?’

(Ciucci, field notes)

b. Je	huti-rāk	yi-nak	chihi	par	t-ēet
/xe	huti-rāk	ji-nak	teihi	par	t-ē:t/
INT	book-FS.IF	other-FS.IF	3.EXIST.IRLS	SUB	1S-copy
	ishir	ahwos-o?			
	/iei	awos-o/			
	Chamacoco.MP	3.word-MP			

‘Is there an (exercise) book to write in Chamacoco?’

(Ciucci, field notes)

c. *Je	huti-rāk	ya-ta	chihi	par	t-ēet
/xe	huti-rāk	ja-ta	teihi	par	t-ē:t/
INT	book-FS.IF	other-FS.FF	3.EXIST.IRLS	SUB	1S-copy
	ishir	ahwos-o?			
	/iei	awos-o/			
	Chamacoco.MP	3.word-MP			

[Is there an (exercise) book to write in Chamacoco?]

(Ciucci, field notes)

Final-syllable reduction can occur on the NP in IF (214). In (215) the head noun of the phrase *iluuta kinahirāk* /ilu:ta kinahirāk/ consists of the root. In (216) one finds all possible configurations of the phrase inflected in singular IF. The first element consists of the root (216c), but cannot coincide with the plural (216d).

(214) Ye	yok	huti-t	wihi-rā=sh.
/je	jok	huti-t	wihi-rā=ε/
NEG	1S	book-FS.FF	red-FS.IF=EXIST

‘I do not have any red book.’ (Ciucci, field notes)

(215) ĞJe	iluu	kinahi-rāk	chihi	par	ishi	yok
/xe	ilu:ʔ	kinahi-rāk	teihi	par	iei	jok/
INT	3.way	different-FS.IF	3.EXIST.IRLS	SUB	3.payer	1S

hnitew=ihi Porrosh-t?
 /ɲitew=ihi po:ɬoɕ-t/
 debt.FP=PREP God-MS.FF

‘Is there another way to pay my debts with God?’ (adapted from:
 Ulrich & Ulrich 1998d: 3)

- (216) a. Hluu-ta kihnahi-rāk.
 /ɪlu:-ta kiŋahi-rāk/
 3.way-FS.FF different-FS.IF
 ‘Different way.’ (Ciucci, field notes)

- b. Hluu-rāk kihnahi-rāk.
 /ɪlu:-rāk kiŋahi-rāk/
 3.way-FS.IF different-FS.IF
 ‘Different way.’ (Ciucci, field notes)

- c. Hluu? kihnahi-rāk.
 /ɪlu:? kiŋahi-rāk/
 3.way.FS.BF different-FS.IF
 ‘Different way.’ (Ciucci, field notes)

- d. *Hluu kihnahi-rāk.
 /ɪlu: kiŋahi-rāk/
 3.way.FP different-FS.IF
 [‘Different way.’] (Ciucci, field notes)

In (216) the root of *iluuta* /ɪlu:ta/ coincides with the BF, but this does not mean that the BF can appear on the head noun when the adjectival modifier is inflected in IF. In (217) one finds possible and impossible configurations of the phrase *loshipit yetik* /loɕipit jetik/ in the clause ‘there is no other animal to eat’. In this context the IF is obligatory and has to be marked on the last element, otherwise the clause is ungrammatical, as in (217d-e). The head

noun can consist of the root, but cannot appear in BF (217f), which in this case is different from the root.

- (217) a. Ye loshipi-t ye-tik-i=sh par y-ahu.
 /je loɕipi-t je-tik-i=ɕ par j-ahu/
 NEG animal-MS.FF other-MS.IF-EPENT=EXIST SUB 1PI-eat
 ‘There is no other animal to eat.’ (Ciucci, field notes)
- b. Ye loship-tik ye-tik-i=sh par y-ahu.
 /je loɕip-tik je-tik-i=ɕ par j-ahu/
 NEG animal-MS.IF other-MS.IF-EPENT=EXIST SUB 1PI-eat
 ‘There is no other animal to eat.’ (Ciucci, field notes)
- c. Ye loship ye-tik-i=sh par y-ahu.
 /je loɕip je-tik-i=ɕ par j-ahu/
 NEG animal other-MS.IF-EPENT=EXIST SUB 1PI-eat
 ‘There is no other animal to eat.’ (Ciucci, field notes)
- d. *Ye loship-tik ye-t par y-ahu.
 /je loɕip-tik je-t par j-ahu/
 NEG animal-MS.IF other-MS.FF SUB 1PI-eat
 [There is no other animal to eat.] (Ciucci, field notes)
- e. *Ye loshipi-t ye-t-i=sh par y-ahu.
 /je loɕipi-t je-t-i=ɕ par j-ahu/
 NEG animal-MS.FF other-MS.FF-EPENT=EXIST SUB 1PI-eat
 [There is no other animal to eat.] (Ciucci, field notes)
- f. *Ye loshipi-k ye-tik-i=sh par y-ahu.
 /je loɕipi-k je-tik-i=ɕ par j-ahu/
 NEG animal-MS.BF other-MS.IF-EPENT=EXIST SUB 1PI-eat
 [There is no other animal to eat.] (Ciucci, field notes)

In some cases the adjectival modifier cannot be inflected or cannot inflect for IF. The irregular nominal *yet* /jet/ ‘other’, for instance, can only appear in IF if the noun it refers to is animate. The use of *yet* /jet/ in plural IF after an inanimate entity is not considered correct by the speakers (218a). In this case, the preceding element of the phrase appears in IF and *yet* /jet/ is inflected in FF (218b, d). Note that in this context the IF is not obligatory (218c).

- (218) a. * Je o-pos-tiyo yě-riyo chihi?
 /xe o-pos-tijo jě-rijo tɛihi/
 INT GF-food-MP.IF other-MP.IF 3.EXIST.IRLS

[Is there other food?] (Ciucci, field notes)

- b. Je opos-tiyo / o-pos-ĩr ye-wo chihi?
 /xe o-pos-tijo o-pos-ĩr je-wo tɛihi/
 INT GF-food-MP.IF GF-food-MP.IF other-MP 3.EXIST.IRLS

‘Is there other food?’ (Ciucci, field notes)

- c. Je o-pos-o / o-pos-ĩr ye-wo chihi?
 /xe o-pos-o o-pos-ĩr je-wo tɛihi/
 INT GF-food-MP.IF GF-food-MP.IF other-MP 3.EXIST.IRLS

‘Is there other food?’ (Ciucci, field notes)

- d. Je hut-ĩr yě-re chihi par t-ĉet
 /xe hut-ĩr jě-re tɛihi par t-ĉ:t/
 INT book-FS.IF other-FP 3.EXIST.IRLS SUB 1S-copy
 ishir ahwos-o?
 /iɛir aɣos-o/
 Chamacoco.MP 3.word-MP

‘Is there an (exercise) book to write in Chamacoco?’

(Ciucci, field notes)

Otik is a pronoun or adjectival modifier with only IF inflection. When it behaves as an adjectival modifier, its function and meaning are equivalent to that of an IF suffix, although it is syntactically the last nominal of the NP, so that the head noun generally appears in FF (219-221).

- (219) Yok abuel n-ahmur Baa-ch otik
 /jok abwel n-aṃur ba:-te otik/
 1S grandmother 3.IRLS-love Paraguayan-MS.FF IGNOR.MS
 ich=ni entonse papa t-ãra
 /ite=ni entonse papa t-ãra/
 CONJ=PST then 1S.father 3-come

‘My grandmother fell in love with an unknown Paraguayan, and then my father was born.’ (Ciucci, field notes)

- (220) Entons esee=kite ye oy-iraha=pe ese loshipi-t
 /entons ese:=kite je oj-iraha=pe ese locipi-t/
 then DM=PST NEG 1PE-know=NEG that.MS animal-MS.FF
 otik je s-eem ire ich hno yaka.
 /otik xe ts-e:m ire ite ɲo jaka/
 IGNOR.MS COMP 3-move_up 3S CONJ 3.go 3.sink

‘And then we didn’t know what was this animal (lit. ‘this unknown animal’) that moved up and down (through the water).’

(Barbosa 1993: 2)

- (221) a. Ye tik-iraha huti-ta otĩrak.
 /je tik-iraha huti-ta otĩrak/
 NEG 1S-know book-FS.FF IGNOR.FS

‘I do not know what book.’ (Ciucci, field notes)

- b. Ye tik-iraha hutĩ-rak.
 /je tik-iraha hutĩ-rak/
 NEG 1S-know book-FS.IF

‘I do not know what book.’ (Ciucci, field notes)

The preferred structure of the IF-marked NP in Chamacoco reminds that of Ayoreo (see §12.6) and Old Zamuco (see §14.1), where only the final element of the NP carries the morphological information concerning number and form, while all preceding elements appear in singular BF. In Chamacoco, when the NP appears in IF, all elements agree in gender and number, but in the preferred configuration only the last element carries the relevant morphological information concerning the form (cf. §13.7.9). Thus, only the last element marks the IF, while all preceding ones appear in FF.

§13.8 The inflection of the possessive classifier *uhut*

As noted in (§10.9), the possessive classifier *uhut* agrees in gender, number and form with the possessee. The inflection follows the same rules described in (§13.1).

- (222) *uhut* (3.MS.FF) *uho* (3.MP) / *uhu* (3.[M/F]P)
 uhu[?] (3.[M/F]S.BF)
- uhuta* (3.FS.FF) *uhu* (3.[M/F]P)
 uhu[?] (3.[M/F]S.BF)

The singular BF is epicene. The singular FF takes the masculine suffix *-t/* in the masculine and the feminine *-ta/*. The plural *uhu*, which differs from the BF owing to the lack of final glottalization, is epicene. The masculine also shows the alternative plural *uho*, where the suffix *-o/* replaces */u/* (*/uhu/-* + *-o/* = *uho*).

In (223) *uhut* agrees with the possessee in BF. In (224) and (225), both *uhut* and the possessee are in FF, while in the subsequent examples *uhut* is used in MP (225-226) and FP (227).

- (223) a. P-uhu[?] hnakirap.
 /p-uhu[?] ṇakirap/
 1S-PCL_fellow.MS.BF man.MS.BF
 ‘He is my companion (male)’ (Ciucci, field notes)

- b. Uhu[?] hnakirap.
 /uhu[?] ṇakirap/
 2S.PCL_fellow.MS.BF man.MS.BF
 ‘You are my companion (male).’ (Ciucci, field notes)

- (224) Yok tuk-umo p-uhu-t ilar-c.
 /jok tuk-umo p-uhu-t ilar-te/
 1S 1S-see 1S-PCL_fellow-MS.FF old-MS.FF
 ‘I see my old companion.’ (Ciucci, field notes)

- (225) Yok tuk-umo p-uhu-t hnakirb-ich /
 /jok tuk-umo p-uhu-t ṇakirb-ite/
 1S 1S-see 1S-PCL_fellow-MS.FF man-MS.FF
 p-uh-o hnakirb-o.
 /p-uh-o ṇakirb-o/
 1S-PCL_fellow-MP man-MP
 ‘I see my companion / my companions (male).’
 (Ciucci, field notes)

- (226) Yok tak-aha t-itĩr kwela hõr p-uhu hnakirb-o.
 /jok tak-aha t-itĩr kwela hõr p-uhu ṇakirb-o/
 1S 1S-go 1S-go_to school with 1S-PCL_fellow.MP man-MP
 ‘I go to the school with my companions (male).’
 (Ciucci, field notes)

- (227) Owa bu e-tĩr kwela hõr uhu timcher.
 /owa bu e-tĩr kwela hõr uhu timt̥eər/
 2S 2S.go 2S-go_to school with 2S.PCL_fellow.FP woman.FP
 ‘You go to the school with your companions (female).’
 (Ciucci, field notes)

§13.9 Chamacoco numerals

This section describes the Chamacoco numeral system. Section §13.9.1 deals with the use of numerals in distributive expressions. The number ‘one’ *nohmira* /noḡmiraʔ/ has a rich inflection, whose FF, BF and IF are addressed in §13.9.2. Section §13.9.3 deals with the diminutive of *nohmira* /noḡmiraʔ/, which also has some inflected forms not to be found in the other nominals (§13.9.4). Finally, Chamacoco numerals are compared with AY and O.Z numerals (§13.9.5).

The CH numerals are morphology-wise nominals which follow the noun they refer to (229). The original CH numeral system is now reduced to the number ‘one’ (*sohmira* /tsom̐iraʔ/ or *nohmira* /noḡmiraʔ/) and ‘two’ (*osiyer* /osijer/). Only these numbers have inflection; the forms above are the unmarked ones used to count.

- (228) Nohmira hn nohmira ich osiyer.
 /noḡmiraʔ ḡ noḡmiraʔ it̥e osijer/
 one.[M/F]S.BF CONJ one.[M/F]S.BF EMPH two.M
 ‘One and one is two.’ (Ulrich & Ulrich 1990c: 110)

Nowadays, CH speakers only use Spanish numbers for every number higher than two.

- (229) O-shim òryok o-terp-e sey.
 /o-ɛim òrjok o-terp-e sej/
 3P-give 1PE GF-pant-MP six
 ‘They gave us six pairs of pants.’
 (adapted from: Balbuena 1991: 12)

- (230) Simon d-eshib-o o-de òr sinko hn
 /simon d-ɛɛib-o o-de òr sinko ɲ/
 Simon 3-brother-MP P-3.EXIST 3P five CONJ
 n-anim-e òr tre.
 /n-anim-e òr tre/
 3-sister-FP 3P three
 ‘Simon has five brothers and three sisters.’
 (Ulrich & Ulrich 1991: 88)

Only old people remember the original numeral system, which is very similar to the one reported in Baldus (1932: 394).⁴⁶⁴ Apart from the still surviving *sohmira* /tsomira²/ and *osiyer* /osijer/, numbers higher than two were formed by the combination of three possible elements: *toho* ‘one’, *arĩ* ‘two’ or *sharĩ* /ɛarĩ/ ‘two’. The numeral system was thus based on the addition of ‘two’ and ‘one’. For instance, ‘three’ was *arĩ toho* (literally ‘two-one’); ‘four’ was *arĩ sharĩ* /arĩ ɛarĩ/ (literally ‘two-two’). The latter elements presuppose a rigid order: *arĩ* ‘two’ is only used at the beginning of the series, in all other cases *sharĩ* /ɛarĩ/ is used. If the number is odd, the last element is obligatorily *toho* ‘one’. In (231) the original numeral system is reported. (232) is an example from an elderly speaker.

⁴⁶⁴ Unfortunately Baldus only offers complete data for Tomarãho.

- (231) *tsom̩ira*[?] / *nom̩ira*[?] ‘one’
osijer ‘two’
arĩ *toho* ‘three’
arĩ earĩ ‘four’
arĩ earĩ toho ‘five’
arĩ earĩ earĩ ‘six’
arĩ earĩ earĩ toho ‘seven’
arĩ earĩ earĩ earĩ ‘eight’
arĩ earĩ earĩ earĩ toho ‘nine’

- (232) O-shaa=ki arĩ, sharĩ, toho kotsirbo=ko ich
/o-ɕa:=ki arĩ earĩ toho kotsirbo=ko itɕ/
3P-give=PST two two one 3.bag-MP=PST CONJ
too: “Ėhe, nisht!”.
/to: ėhe niɕt/
1S.QUOT yes enough
‘They give me five (lit. ‘two, two, one’) bags and I say: “Ok, that’s enough!”. ’ (Gonzales *et al.* 1999: 13)

§13.9.1 Distributive expressions

Numerals and adjectives can be duplicated in order to indicate the distribution of a certain quantity in equivalent sets: *nohm̩ir nohm̩ir* /*nom̩ir*/ ‘one by one’ (233), *osiyer osiyer* /*osijer osijer*/ ‘two by two’ (234). In this context, for ‘one’ and ‘two’ only the forms *nohm̩ir* /*nom̩ir*/ (or *sohm̩ir* /*tsom̩ir*/) and *osiyer* /*osijer*/ are to be found. *Nohm̩ir* /*nom̩ir*/ is supposedly the pure root or a reduced form of *nohm̩ira* /*nom̩ira*[?]/.

- (233) Ese ir ibi-ch nos t-ibii nohm̩ir nohm̩ir erze
/ese ir ibi-tɕ nos t-ibi: nom̩ir nom̩ir erɕɕe/
that.MS 3P 3.servant-MS.FF all 3-call one one that.P

uje	õr	hnitew	de	ir	y-insir-c.
/uxe	õr	ɲitew	de	ir	j-insir-tɛ/
SUB	3P	debt.FP	3.EXIST	3S	3-employer-MS.FF

‘This servant called one by one all those who had debts with his employer.’ (Ulrich & Ulrich 2000a: 323)

(234) Erze	loship-o	uje	masaha	ehe-t	shi
/erʒɛ	loɕip-o	uxe	masaha	ehe-t	ɕi/
that.P	animal-MP	SUB	3.enter	3.inside-MS.FF	DUR
iteēt-ak	hn	timchar	osiyer	osiyer.	
/itē:t-ak	ɲ	timtɛarʔ	osijer	osijer/	
male-MS.BF	CONJ	woman.FS.BF	two.M	two.M	

‘Those animals that entered inside [the boat] were male and female, two by two.’ (Ulrich & Ulrich 1992a: 20)

§13.9.2 *Nohmira* /noɲmiraʔ/

Nohmira /noɲmiraʔ/ (or *sohmira* /tsomiraʔ/) ‘one’ has a rich paradigm, including some derived forms. Both *sohmira* and *nohmira* are equivalent: they only differ in the first consonant. The alternation between /ts/ and /n/ is free in this context (Ulrich and Ulrich 2000b: 11). The same is true for any form related to *sohmira* / *nohmira*.⁴⁶⁵ The inflection of *nohmira* and its derived forms is provided in (235).⁴⁶⁶

⁴⁶⁵ In my corpus, the forms beginning with /n/ have more occurrences. For this reason, in the prosecution of this paragraph I will indicate the forms beginning with /n/-, also referring to the forms beginning with /ts/-.

⁴⁶⁶ Ulrich & Ulrich (1990d: 59-63) collected many examples on the use of these forms, in order to begin a systematic analysis of them. Nevertheless, they did not complete their grammatical studies and only listed these forms in a table in Ulrich & Ulrich (2000b: 11) without any further systematization.

- (235) a. *noṃira*? ([M/F]S.BF), *noṃet* (MS.FF), *noṃata* (FS.FF)
 ‘one; only one, alone’
 b. *tsoṃiro* (MP), *soṃire* ([M/F]P) ‘some’
 c. *noṃira:p* (DIM.[M/F]S.BF), *noṃira:mit* (DIM.MS.FF),
 noṃira:mita (DIM.FS.FF) ‘one’
 d. *noṃira:mo* (DIM.MP), *noṃire:me* (DIM.FP) ‘some’
 e. *noṃireiro* (MP), *noṃireire* ([M/F]P) ‘only a few’
 f. *noṃireira:mo* (DIM.MP), *noṃireire:me* (DIM.MP) ‘only a few’

There is a distinction between BF and FF. *Nohmira* is epicene: the FFs are *nohmet* /*noṃet*/ (236) for masculine and *nohmata* /*noṃata*/ for feminine (235a). *Nohmira* is also used to mean the ‘only one’ or ‘alone’, as in (237), where the BF is used for secondary predication (i.e. small clauses).

- (236) ‘Sēhe t-apuru owa jamun, nam.’ ‘Ēhe, tok-osim
 /tsēhe t-apuru owa xamun nam ēhe tok-osim/
 VOL 1S-ask 2S soap my_sister yes 1S-give
 nohme-t par owa.’
 /noṃe-t par owa/
 one-MS.FF for 2S
 ‘I want to ask you for the soap, my sister.’ ‘Yes, I’ll give you one
 for you.’ (Ciucci, field notes)

- (237) Ye n-ahmūru l-akahachis shi sohmira=pe.
 /je n-aṃūru l-akahateis ei tsoṃira=pe/
 NEG 3.IRLS-love 3.IRLS-remain DUR one.[M/F]S.BF=NEG
 ‘He didn’t like to remain there alone.’ (Ulrich & Ulrich 1995: 24)

Nohmira also has two plural forms which refer to few elements: *sohmiro* /*tsoṃiro*/ ‘some’ (MP) (238) or *sohmire* /*tsoṃire*/ ‘some’ ([M/F]P) (239). The latter is epicene. In the plural, there is no contrast between BF and FF.

- (238) Ñr ihyu-wo noñir-o de wahacha.
 /ñr iju-wo noñir-o de wahatea/
 3P 3.house-MP one-MP 3.EXIST there
 ‘There are some houses there.’ (Ulrich & Ulrich 1990c: 60)

- (239) Popi nohmīr-e de wahacha.
 /popi nohmīr-e de wahatea/
 surubí_fish.FP one-FP 3.EXIST there
 ‘Some female of surubí fish are there.’ (Ulrich & Ulrich 1990c: 60)

For *nohmira* and its derived forms the IF is also available (240).⁴⁶⁷ In this example, the speaker uses the singular IF to underline the impossibility that any of them could eat anything dangerous.

- (240) Kēhe eyok nohme-tik t-ew, ich nos y-ahu,
 /kēhe ejok noñe-tik t-ew ite nos j-ahu/
 SUB 1PI one-MS.FF 3-eat CONJ all 1PI-eat
 per y-itil-lo.
 /per j-itil-lo/
 but 1PI-be_afraid-GP
 ‘If one of us ate (it), we all would eat (it) but we are afraid.’
 (adapted from: Ulrich & Ulrich 1990c: 62)

§13.9.3 Diminutive forms of *nohmira*

Diminutive forms are obtained by adding the suffix *-a:p/* to *nohmira* /noñira²/. The use of such forms is related to the

⁴⁶⁷ For reasons of simplicity, the IFs have not been indicated in (235).

pragmatic context and can indicate endearment (241-243) or attenuation (17).

- (241) Sehe t-uu e-ychim p-iji-t. Shi nohmir-aap.
 /tsehe t-u: e-jteim p-ixi-t ei nomir-a:p/
 VOL 1S-make 2S-see 1S-son-MS.FF only one-DIM.[M/F]S.BF

‘I want you to see my son. He is the only one.’

(Ulrich & Ulrich 1990c: 282)

- (242) Hnoy sh-uu Prinsesa_Blanka t-ekir=ihî hmont
 /ɲoj ɛ-u: prinsesa_blanka t-ekir=ihî mɔnt/
 3.bring 3-make Snow_White 3-walk=PREP woods
 ehe-t hn iim=ihî=chis. Wate shî
 /ehe-t ɲ i:m=ihî=teis wate ei/
 3.inside-MS.FF CONJ 3.leave=PREP=there DET.FS only
 nohmir-aap.

/nomir-a:p/

one-DIM.[M/F]S.BF

‘He brought (Snow White) and made (Snow White) walk into the woods and he abandoned her there. She remained alone.’

(Ulrich & Ulrich 1995: 31)

- (243) Ye arhâk wich=pe ese e-yji-t nohmir-aam-it.
 /je aɾâk wite=pe ese e-jxi-t nomir-a:m-it/
 NEG 2S.spare DET=NEG that.MS 2S-son-MS.FF one-DIM-MS.FF

‘You didn’t spare your only son.’ (Ulrich & Ulrich 1992a: 68)

- (244) Lika ôr ihyu-wo nohmir-aam-o.
 /lika ôr iju-wo nomir-a:m-o/
 here 3P 3.house-MP one-DIM-MP

‘There are some houses here.’ (Ulrich & Ulrich 1990c: 100)

§13.9.4 Other derived forms of *nohmira*

The plurals of *nohmira* /noṃiraʔ/ yield other derived forms, used to indicate that there are only a few entities, usually less than the speaker's expectation (245-247). These forms probably resulted from fusion with the adverb *shi* /ɕi/ 'only'. As in *nohmira* /noṃiraʔ/ and *nohmire* /noṃire/ 'some' the MP is *nohmirshiro* /noṃireiro/, while *nohmirshire* /noṃireire/ is epicene. These forms also have a diminutive (*nohmirshiraamo* /noṃireira:mo/ (MP) and *nohmirshireeme* /noṃireire:me/ (FP)) with the same uses as the diminutive of *nohmira* /noṃiraʔ/ (248-249). These forms are not to be observed in the other Zamucoan languages and are semantically reminiscent of the grammatical category of frustrative, widespread in Tupí-Guaraní languages and other Amazonian languages (see Dietrich 2006).

(245) E-yuhu o-pos-o nohmirshir-o.

/e-juhu o-pos-o noṃireir-o/

2S-remove GF-food-MP only_one-MP

'Remove only a bit of food.' (Ulrich & Ulrich 1990c: 61)

(246) Juan sh-iyeru kabater-o shi s-huu nohmirshir-o.

/xwan ɕ-ijeru kabater-o ɕi ɕ-u: noṃireir-o/

John 3-catch pacu_fish-MP only 3-make only_one-MP

'John caught pacu fish but only a few.' (Ulrich & Ulrich 1990c: 62)

(247) Wichi ch-iyuhu mantij-o nohmirshir-e.

/witei tɕ-ijuhu mantix-o noṃireir-e/

DET.MS 3-take manioc-MP only_one-[M/F]P

'He took manioc but only a few.' (Ulrich & Ulrich 1990c: 61)

- (248) Juan sh-iyeru popi shi sh-uu
 /xuan ɛ-ijeru popi ɛi ɛ-u:/
 John 3-catch surubí_fish.FP only 3-make
 nohmírshir-eem-e.
 /nomĩɾɛir-ɛ:m-e/
 only_one-DIM-[M/F]P
 ‘John caught surubí fish but only a few.’
 (Ulrich & Ulrich 1990c: 61)

- (249) Juan sh-iyeru kabater-o shi sh-uu nohmírshir-aam-o.
 /xuan ɛ-ijeru kabater-o ɛi ɛ-u: nomĩɾɛir-a:m-o/
 John 3-catch pacu_fish-MP only 3-make only_one-DIM-MP
 ‘John caught pacu fish but only a few.’
 (Ulrich & Ulrich 1990c: 62)

Osiyer /osijer/ ‘two’ agrees in gender with the noun it refers to. *Osiyer* is the masculine form (250). It is also the unmarked form used to count and to refer to entities of unspecified gender. The feminine form is *otiyer* /otijer/ (251). In *osiyer*, needless to say, the BF vs. FF distinction is not morphologically expressed, since in Chamacoco such a distinction is only observed in the singular.

- (250) Shi porpah-o uu-lo osiyer de-yo de=chi
 /ɛi porpah-o u:-lo osijer de-jo de=ɬɛi/
 only wasp-MP nest-MP two.M big-MP 3.EXIST=there
 pwert ehe-t.
 /pwert ehe-t/
 house 3.inside-MS.FF
 ‘There are two big wasp nests there in the house.’
 (Ciucci, field notes)

- (251) Hn wahacha shakir-rza ehe-t pish-t
 /n̥ wahatẽa ɕakiɫ-ɭa ehe-t piɕ-t/
 CONJ there garden-FS.FF 3.inside-MS.FF ELAT-MS.FF
 pohir de otiyer.
 /pohir de otijer/
 tree.FP 3.EXIST two.M
 ‘And there, at the very centre of the garden there were two trees.’
 (Ulrich & Ulrich 1992a: 5)

§13.9.5 Old Zamuco, Ayoreo and Chamacoco numerals

Examples (252-253) report the AY and O.Z numerals up to ‘five’. CH *sohmira* /tsom̩ira²/ ‘one’ corresponds to AY *chojmarā* /tɕom̩ara/ ‘one’ and O.Z *chomarâ* ‘one’. In all Zamucoan languages the number one has nominal inflection (254). As observed in (§13.9.2), /n/ or /ts/ are free variants in Chamacoco. According to Chomé (1958: 136), in Old Zamuco the number one begins with /tɕ/- in the BF and with /n/- in the FF (254). In other words, /tɕ/- and /n/- were considered morphologically relevant in Old Zamuco.⁴⁶⁸

- (252) Ayoreo (Bertinetto 2009: 16)

tɕom̩ara ‘one’
 gare ‘two’
 gadiok ‘three’
 gagaɲi ‘four’
 tɕeɲa ɲimanaj ‘five’

⁴⁶⁸ For a detailed comparison of AY and O.Z numerals, see Kelm (1964: 512-515).

(253) Old Zamuco (Chomé 1958: 136)

chomarâ ‘one’

gar ‘two’

gadioc ‘three’

gahagani ‘four’

chuena yimanaitie ‘five’

(254) Ay. *ṭeom̩araj* (MS.FF), *ṭeom̩ara* (MS.BF) ‘one’

Ch. *nom̩et* (MS.FF), *nom̩ira*⁴⁶⁹ ([M/F]S.BF), *nom̩ire* / *nom̩iro* (MP) ‘one’

O.Z. *nomar̩tie* (MS.FF), *chomar̩ã* (MS.BF) ‘one’

AY *gare* and O.Z *gar* ‘two’ correspond to CH *arĩ* ‘two’ and indirectly to *sharĩ* /*ɛarĩ*/ ‘two’, which derives from *arĩ*. In Ayoreo and Old Zamuco the numbers up to ‘four’ have regular nominal inflection⁴⁶⁹ and express the distinction between BF and FF, while no inflection is observed in the CH numbers *arĩ* ‘two’ *sharĩ* /*ɛarĩ*/ ‘two’ and *toho* ‘one’. This is due to the fact that these numerals are no longer known by all speakers, but also to the fact that the distinction BF vs. FF has been lost in Chamacoco. In *osiyer* /*osijer*/ ‘two’, only gender is expressed.

§13.10 Conclusions

This chapter has analyzed the nominal suffixation of Chamacoco. In Chamacoco the BF vs. FF opposition is only to be found in the singular (with few exceptions, see §13.7.1, ex. 118-119). In the masculine, two suffixes are used to form the singular FF: *-/t/* and *-/tɛ/*, corresponding to the feminine FF suffixes *-/ta/* and *-/tɛa/*.

⁴⁶⁹ They only lack the singular FF, because they refer to more than one entity, but have the singular BF, which is the form used to count and is provided in examples (252) and (253).

The suffixes *-ta/* and *-tɛa/* are still productive. The IF shows considerable variability, because there are alternating suffixes which can be added to different forms of the word. This suggests that the system of the IF is collapsing. The diminutive suffix *-a:p/* corresponds to the suffix *-ap/*, to be found in Ayoreo. As in Ayoreo, the diminutive suffix is added to the singular BF. The uses of BF, FF and IF are very similar to those of the forms in Ayoreo, but there are two remarkable differences: (1) In Chamacoco one can often observe final-syllable reduction, which makes the forms indistinguishable. (2) In Ayoreo, when the NP head is followed by adjectival modifiers, number and form are only marked on the final element of the NP, while the previous nominals appear in singular BF. By contrast, in Chamacoco the NP head and the adjectival modifiers agree in number and form. However, in Chamacoco the singular BF is preferred before the adjective *dich* /dite/. When the NP is inflected in IF and the head is followed by one or more adjectival modifiers, the last nominal of the NP is in IF, while the singular FF is preferred in the other nominals. The comparison with Ayoreo suggests that these are archaic structures and that the agreement between the head and the adjectival modifiers is a CH innovation. Finally the numbers ‘one’ and ‘two’ show some similarities in the Zamucoan languages, but in Chamacoco there are three words for ‘two’: *arĩ*, corresponding to AY *gare* and O.Z *gar*, *sharĩ* /ɛarĩ/ (derived from the former) and *osiyer* /osijer/, which is a CH innovation.

§14 Nominal suffixation in the Zamucoan languages: a comparison

This chapter compares the nominal suffixation of Ayoreo, Chamacoco and Old Zamuco, showing that all Zamucoan languages share the same morphological categories and use similar suffixes. Section §14.1 briefly describes the morphology and the uses of BF, FF and IF in Old Zamuco. Although Ayoreo has a noteworthy innovation in the singular FF, it is very close to Old Zamuco. For this reason, their BF and FFs are compared in §14.2. Then, the BF and FF of Ayoreo and Old Zamuco are compared with those of Chamacoco in §14.3. Section §14.4 deals with the morphology of the IF. Finally, I discuss the non-numeric quantifier ‘all’ in the Zamucoan languages in §14.5.

§14.1 Reinterpreting Chomé’s grammar: base form, full form and indeterminate form in Old Zamuco

The aim of this section is to demonstrate that in Old Zamuco there is a distinction between BF, FF and IF. In order to do that, one has to reinterpret Chomé’s grammatical description, based on Latin grammars.⁴⁷⁰ In Old Zamuco there is no morphological distinction between nouns and adjectives: “Todos los nombres, aora sean substantiuos, aora adjectiuos, se declinan del modo dicho” (Chomé 1958: 124). The classical definition of *nomen* is quite appropriate.

⁴⁷⁰ A first attempt to interpret Chomé’s data on nominal suffixation and a very detailed comparison with Ayoreo can be found in (Kelm 1964: 469-488).

Nominals are described as having six cases, like Latin. There is a masculine (1) and a feminine (2) declension (Chomé 1958: 123-124).

(1)	Masculine singular	Masculine plural	desi ‘boy’
NOM.	desi	desio	
GEN.	desitie	desioddoe	[regime case]
DAT.	omedesitie	ome desioddoe	
ACC.	desitie	desioddoe	[regime case]
VOC.	desia	desiacha	
ABL.	ihi desitie	ihi desioddoe	
	ahã desitie	ahã desioddoe	
(2)	Feminine singular	Feminine plural	cheque ‘woman’
NOM.	cheque	chequei	
GEN.	chequetae	chequeyie	[regime case]
DAT.	omechequetae	ome chequeyie	
ACC.	chequetae	chequeyie	[regime case]
VOC.	chequea	chequeacha	
ABL.	ihi chequetae	ihi chequeyie	
	ahã chequetae	ahã chequeyie	

Ome in the dative and *ihi* or *ahã* in the ablative are adpositions.⁴⁷¹ In the vocative, *-a* and *-acha* (*-/ate/a/*) are epistemicity markers (the former one still to be observed in Ayoreo). This implies that no specific dative, vocative or ablative form actually existed in Old Zamuco. Since the genitive is always identical to the accusative, one can reduce the “case” declension to two forms: nominative vs. genitive/accusative. For reasons which

⁴⁷¹ About the corresponding Ayoreo elements, see Bertinetto (2009: 45).

will soon become obvious, the latter will be referred to as “regime” case. In the second chapter of the grammar, Chomé introduces a new case, the regime, which corresponds to all (direct and indirect) arguments of the verb (Chomé 1958: 125). The regime has three tenses according to Chomé (1958: 125). As one can see, the “past” corresponds to the regime of the nominal declension in (1-2).

(3)	Masculine singular	Masculine plural
Past	-tie	-ddoe, -nnoe
Present	-rê, -dde, -nne	-ao, -iao
Future	-ric, -tic, -nic	-igo [that is: -rigo, -tigo, -nigo]
	Feminine singular	Feminine plural
Past	-tae	-yîè, -ñie
Present	-ac	-ai
Future	-rac	-rigui

The opposition nominative vs. genitive/accusative turns into a nominative vs. regime opposition, the latter allegedly showing nominal tense declension. The regime “present” has no corresponding forms in the currently spoken Zamucoan languages: it was probably rarely used already in Chomé’s time, because this form seldom occurs in Chomé’s grammar and the author himself writes: “La terminacion de preterito muchas vezes la usan por la de présente, y diran, *yacotetae no*, por *yacoteac no*. se fue mi muger: pero la de futuro la suelen usar, sin confundirla” (Chomé 1958: 125). Apparently, the regime “present” has been replaced by the regime “past” (corresponding to the FF). Chomé specifies that the regime “past” is properly a “past perfect”, because the “past imperfect” also exists (Chomé 1958: 125), but, like the regime “present” it has few occurrences in the grammar and does not correspond to any form in Ayoreo and Chamacoco. Both regime

“present” and “past imperfect” occur in the same context where the FF would be expected.⁴⁷²

By contrast, the regime “future” was vital: “la [terminación] de futuro la suelen usar, sin confundirla” (Chomé 1958: 126). The regime “future” is actually the Ayoreo IF, as one can see in (3) (for more details, see Chomé 1958: 127-128 and §14.4.1). The use is exactly the same as the Ayoreo and Chamacoco IFs. In (4) there is no specific referent, while in (5) and (6) the referent does not even exist. Note that the existential construction with =uz (=us/) in (5-6) is very similar to the AY and CH ones (see §13.7.6, §13.7.14).⁴⁷³

(4) Agu cucha-tic.

1S-eat thing-MS.IF

‘I eat something.’ (unspecified) (Chomé 1958: 132)

(5) Ca y-a-tic uz.

NEG 1S-child-MS.IF EXIST

‘I don’t have any son.’ (Chomé 1958: 164)

(6) Ca yo-tic uz.

NEG water-MS.IF EXIST

‘There is no water.’ (Chomé 1958: 164)

In chapter §1.4 Chomé describes the use of the regime case.⁴⁷⁴ The difficulty in understanding Chomé’s pages depends on the fact that his use of the grammatical terminology turns out to be

⁴⁷² In this work the regime present and the past imperfect will be considered full-form present (FFP) and full-form imperfect (FFI), respectively, while the regime past of Chomé will be glossed as full form (FF).

⁴⁷³ O.Z =uz (=us/) is generally represented as an enclitic copula, but in examples (5-6) =uz has been separated from the nominal it refers to.

⁴⁷⁴ Chomé (1958: 128-129).

ambiguous. On the one hand, he describes the use of the regime, by making an implicit distinction between regime vs. non-regime. On the other hand, he uses terms such as nominative, genitive, etc., which in this context do not refer to a specific morphological form, but to its syntactic function in the sentence. Chomé is conditioned by the linguistic framework of his time. The same applies to the realis vs. irrealis distinction in verb morphology, described as a future vs. non-future distinction.

In the following paragraphs Chomé's data on Old Zamuco will be reanalyzed in order to show that the distinction non-regime vs. regime is actually a BF vs. non-BF distinction (that is, FF and IF). Leaving aside the IF, which should be considered the "marked" counterpart of the FF, I will focus on the contrast between BF and FF. It is important to keep in mind that the shape of the Old Zamuco plural FF cannot be analyzed in all its aspects, because two fundamental pages of Chomé's manuscript are lost (the pages 9-10, see Chomé 1958: 127).

The Old Zamuco BF (called nominative by Chomé) is used to mark the NP which has the function of predicate, such as *uomio* (/womio/) in (7) and *uomipuz* (/womipuz/) in (8). The subjects of (7) and (8) appear in FF (corresponding to the regime); an NP in FF has never predicative function in Old Zamuco, and the fundamental difference between predication (expressed by the BF) and non-predication, common to all Zamucoan languages, is thus confirmed.

- (7) Nani-onnoe uom-io.
 indigenous_man-MP.FF good-MP.BF
 'The indigenous people are good.' (Chomé 1958: 128)

- (8) Tupade uom-i-puz ñari, ch-iachêre ñoc.
 God good-EPENT-ELAT.MS.BF MOD 3-punish 1P
 'God punishes us, because he is so good.' (Chomé 1958: 129)

In examples (9-10), the FF is used for argumental NPs, featuring subject (9), direct object (10) or adjunct (such as the temporal adjunct *guetosi-tie nez* /getosi-tie nes/ in (11)). In the last case, *nez* /nes/ ‘all’ is an uninflectable element and consequently *guetositie* /getosidie/ is the only inflected element of the NP.

(9) Desi-oddoe dac.

boy-MP.FF 3.come

‘The boys come.’ (Chomé 1958: 128)

(10) Toria gueda-ddoe.

3.steal corn-MP.FF

‘They steal corn.’ (Chomé 1958: 128)

(11) A-irauz guetosi-tie nez.

1S-weed month-MS.FF all

‘I have weeded all month.’ (Chomé 1958: 129)

As anticipated in the previous chapters, when there are two or more inflected elements in an NP, gender, number and form are only marked on the last one. The previous elements appear in singular BF, whatever the form and number required by the NP. For instance, if the nominals of example (7), *nani* ‘indigenous man’ and *uom* /wom/ ‘good’, belong to one and the same NP in predicative function, thus requiring the MP-BF, only *uom* inflects for plural, while *nani* appears in singular BF (12). As Chomé himself indicates, number agreement with the latter element is ungrammatical (13). As in Ayoreo and Chamacoco, the adjectival modifiers follow the NP head.

- (12) Nani uom-io.
indigenous_man.MS.BF good-MP.BF
‘Good indigenous people.’ (Chomé 1958: 129)

- (13) *Nani-o uom-io.
indigenous_man-MP.BF good-MP.BF
[Good indigenous people.] (Chomé 1958: 129)

The NP *dire garocioddoe* (/dire garosiodoe/) ‘a few days’ (14) requires the (masculine) plural FF, which only appears in the latter element, *garododdoe* (/garodoe/), while *dire* is in singular BF. The same occurs in (15), where *desi yidai ogazoriao* (/desi jidaj ogasorio/) ‘the boys of my village’ is the subject of the nominal predicate and appears in FF “present”, while all preceding elements are in singular BF (in this example *yidai* /jidaj/ and *ogazoriao* /ogasorio/ form a compound). The same occurs in (16), where the NP head is a feminine nominal and *garihi* appears in FP-FF. Numerals behave as nominals. As in (11), in (17) the final element of the NP, the determiner *udda* (/uda/), does not inflect for BF and FF, so that the FF is marked on the NP head.

- (14) A-igusi ide dire garoci-oddoe.
1S-stay here day.MS.BF few-MP.FF
‘I’ve been here since a few days.’ (Chomé 1958: 129)

- (15) Desi y-idai ogazori-ao,
boy.MS.BF 1S-village.MS.BF person_living-MP. FFP
udazu-cho ñari.
coward -MP.BF MOD
‘The boys living in my village are cowards.’ (Chomé 1958: 129)

- (16) A-roc cheque gar-ihí-yie.
 2.IRLS-send woman.FS.BF two-five-FP.FF
 ‘Send seven women!’ (Chomé 1958: 136)

- (17) A-rahu porí-tae udda.
 2.IRLS-cut tree-FS.FF DET.FS
 ‘Cut this tree!’ (Chomé 1958: 140)

An embedded NP, generally expressing the possessor, appears in FF when the main NP is inflected in BF (18-20). A dependent NP may appear in FF even if the main NP is in FF (21-22), but in this case the BF is also possible and even preferred according to Chomé (23). In this case, one wonders whether the subordinate NP and the main NP form a compound.

- (18) Chuguper-i-tie unnoc.
 bird-EPENT-MS.FF wing.MS.BF
 ‘Bird’s wing.’ (Chomé 1958: 128)

- (19) Nai-tie azore.
 indigenous_man-MS.FF lance.FS.BF
 ‘Indigenous man’s lance.’ (Chomé 1958: 128)

- (20) Y-ai-tie igueda.
 1S-father-MS.FF 3.house.MS.BF
 ‘My father’s house.’ (Chomé 1958: 128)

- (21) Eram-i-tie yu-tie.
 woods-EPENT-MS.FF toward-MS.FF
 ‘Toward the woods.’ (Chomé 1958: 129)

- (22) Ahu chuguper-i-tie unno-tie.
 1S.peel bird-EPENT-MS.FF wing-MS.FF
 ‘I peel a bird’s wing.’ (Chomé 1958: 128)

- (23) Ahu chugupêre unno-tie.
 1S.peel bird.MS.BF wing-MS.FF
 ‘I peel a bird’s wing.’ (Chomé 1958: 128)

In conclusion, O.Z nominal suffixation can be reinterpreted according to the scheme provided by Chomé at the beginning of his grammar (Chomé 1958: 123), needless to say, according to grammatical categories not used by him:

(24)	desi ‘boy’ (MS.BF)	desi-o ‘boy’ (MP.BF)
	desi-tie ‘boy’ (MS.FF)	desi-oddœ ‘boy’ (MP.FF)
	cheque ‘woman’ (FS.BF)	cheque-i ‘woman’ (FP.BF)
	cheque-tae ‘woman’ (FS.FF)	cheque-yie ‘woman’ (FP.FF)

The singular BF is the basis of nominal inflection. In all Zamucoan languages it tends to be the lighter form phonologically speaking. The MS-FF suffix *-tie/* is reminiscent of the Chamacoco FF suffixes *-t/* and *-tɛ/*, while the feminine *-tae/* is reminiscent of the Chamacoco FF suffixes *-ta/* and *-tea/*. The MP-BF suffix *-o/* corresponds to the Chamacoco MP. Ayoreo shows no direct correspondence with the Chamacoco and Zamuco singular FF suffixes, but the plural suffixes are very similar. Compare the following AY suffixes with the O.Z ones in (24): *-o/* or *-jo/* (MP.BF), *-i/* (FP.BF), *-ode/* (MP.FF), *-(i)die/* (FP.FF). The IF will be discussed in (§14.4).

§14.2 Ayoreo and Old Zamuco: a comparison⁴⁷⁵

At the morphological level, one can note that the O.Z nominative corresponds to the Ayoreo BF. In (25-43), a comparison between Chomé's examples (Chomé 1958: 124-125) and the corresponding AY nominals is provided. When no corresponding AY example is reported, a morphologically similar case is shown, whenever possible. The singular BF usually coincides with the root. The shape of the plural is almost identical in both languages. As one can see, the plural BF suffixes are generally *-o/* or *-jo/* for the masculine and *-i/* for the feminine in both languages. In both languages, the MP-BF suffix *-o/* is applied to roots ending in a vowel, while *-jo/* (or *-io/*) is applied to roots in consonants. The morphophonological processes are more or less the same as those already described for Ayoreo, with a few differences: for instance, the Ayoreo MP-BF suffix *-o/* deletes if it is preceded by */a/*, while it is preserved in Old Zamuco (25). When the root ends in *-k/* (26), *-t/* (27-28) or *-r/* (29, 31-32), these consonants are palatalized by the MP-BF suffix *-jo/*. AY masculine nominals with root in *-r/* always show plural BF in *-jo/*, regardless of nasal harmony (cf. §12.1.7), while O.Z nominals in *-r/* exhibit plural BF in *-yo* (*-jo/*) or in *-ño* (*-jo/*), depending on lack vs. presence of nasalization (31-32). Note that in O.Z *nacar* (31), */k/* blocks the spread of nasalization.

One can observe palatalization of final *-k/*, *-t/* and *-r/* in O.Z feminine nominals (38-39 and 42-43) which display the (infrequent) FP-BF allomorph *-yi* (*-ji/*), *-ñi* (*-ji/*) under nasal harmony (43). Note that AY root-final */r/* is always preserved in the

⁴⁷⁵ Kelm (1964: 469-488) provides a very detailed comparison between AY and O.Z nominal suffixation.

FP-BF (42). By contrast, also AY feminine nominals with singular BF in *-t/* show a relic of the allomorph *-/ji/*, which causes palatalization of final */t/* (39, cf. §12.2.3). To sum up, the feminine BF is characterized by more variability in Old Zamuco than in Ayoreo (37-43).

- (25) Ay. *gigiña* (GF.MS.BF), *gigiña* (GF.MP.BF) ‘house’
O.Z. *guigueda* (GF.MS.BF), *guiguedao* (GF.MP.BF) ‘house’
- (26) Ay. *Ø*
O.Z. *daparebec* (MS.BF), *daparebecho* (MP.BF) ‘beggar’
cf. Ay. *gipek* (3.MS.BF), *gipetɛo* (3.MP.BF) ‘bag’
- (27) Ay. *pit* (MS.BF), *pitɛo* (MP.BF) ‘stick’
O.Z. *pit* (MS.BF), *picho* (MP.BF) ‘stick’
- (28) Ay. *ipesut* (3.MS.BF), *ipesutɛo* (3.MP.BF) ‘what is done’
O.Z. *pipiazup* (MS.BF), *pipiazubio* (MP.BF) ‘work’
- (29) Ay. *imeserãșôr* (3.MS.BF), *imeserãșoɲo* (3.MP.BF) ‘one who prefers’
O.Z. *pimecêrazore* (GF.MS.BF), *pimecerazoño* (GF.MP.BF)
‘one who loves’
- (30) Ay. *erãp* (MS.BF), *eramio* (MP.BF) ‘world, woods’
O.Z. *erãp* (MS.BF), *eramio* (MP.BF) ‘woods’
- (31) Ay. *ɲakar* (MS.BF), *ɲakaɲo* (MP.BF) ‘young man’
O.Z. *nacar* (MS.BF), *nacayo* (MP.BF) ‘young man’
- (32) Ay. *ɲar* (MS.BF), *ɲaɲo* (MP.BF) ‘flea’
O.Z. *unnâr* (MS.BF), *unnaño* (MP.BF) ‘flea’

- (33) Ay. wom (MS.BF), omio (MP.BF) ‘good’⁴⁷⁶
 O.Z. uom (MS.BF), uomio (MP.BF) ‘good’
- (34) Ay. Ø
 O.Z. ducau (MS.BF), ducaddo / ducauo (MP.BF) ‘interval’
 cf. Ay. uru (3.MS.BF), uruo (3.MP.BF) ‘word’
- (35) Ay. abere (MS.BF), aberej (MS.BF) ‘sterile’
 O.Z. abera (FS.BF), aberai (FP.BF) ‘sterile’
- (36) Ay. gapu (MS.BF), gapuj (MP.BF) ‘girl’
 O.Z. gapu (FS.BF), gapui (FP.BF) ‘girl’
- (37) Ay. Ø
 O.Z. uraramiecoda (FS.BF), uraramiecodai (FP.BF) ‘talker’
- (38) Ay. Ø
 O.Z. guiorac (FS.BF), guiorachi (FP.BF) ‘little rabbit of the woods’
- (39) Ay. Ø
 O.Z. tugut (FS.BF), tuguchi (FP.BF), tuguiyie /tuguijie/ (FP.FF) ‘horn’
 cf. Ay. kikuhat (FS.BF), kikuhat̕i (FP.FF) ‘ancestor’
- (40) Ay. disap (DIM.FS.BF), disabi (DIM.FP.BF) ‘little girl’
 O.Z. desap (DIM.FS.BF), desabi (DIM.FP.BF) ‘little girl’

⁴⁷⁶ This nominal is irregular in Ayoreo, because in the MS-BF, its root *om* turns into /wom/-: *omi* (MS.FF), *uom* /wom/ (MS.BF), *omío* (MP.BF), *omone* (MP.FF) (Higham *et al.* 2000: 626). The comparison with Old Zamuco suggests that this exception is a preservation of the original root. Kelm (1964: 473) reports the forms *ũôm* /wom/ (MS.BF) and *ũômíô* /womio/ (MP.BF) in Ayoreo. The corresponding CH nominal (*om*) is irregular and has the forms *omo* or *oomo* /o:mo/ in the MP. /o:/ in the plural corresponds to /wo/- in Ayoreo and Old Zamuco.

(41) Ay. Ø

O.Z. caz (FS.BF), cazi (FP.BF) ‘clod’

(42) Ay. por (FS.BF), poria (FS.FF), pori (FP.BF), poridie (FP.FF) ‘tree’

O.Z. pore (FS.BF), poritae (FS.FF), poyi (FP.BF), poriyie (FP.FF) ‘tree’

(43) Ay. asõre (3.FS.BF/FF), asõrej (3.FP.BF) ‘lance’

O.Z. azore (FS.BF), azoritae (FS.FF), azoñi (FP.BF) ‘lance’⁴⁷⁷

In the MP-FF there is correspondence between the O.Z suffixes *-oddoe* (-/odoe/) or *-onnoe* (-/onoe/) and AY *-/ode/* or *-/one/* (44-52). Note that according to Chomé the suffixes are *-ddoe* (-/doe/) and *-nnoe* (-/noe/), as added to the plural BF (Chomé 1958: 126-127). However, as one can see, especially in examples (44-45), in Old Zamuco (as in Ayoreo) the plural FF derives from the singular, rather than from the plural BF. Note that AY /o/ deletes after /a/. This occurs when the suffix *-/o/* or *-/ode/* is added to a root ending in *-/a/* (45). In Old Zamuco this is not always the case, because the first /o/ of *-oddoe* (-/odoe/) drops (*guiguedaddoe* /*gigedadoe/*), while it is preserved when /o/ is the MP-BF suffix (*guiguedao* /*gigedao/*).

(44) Ay. erãp (MS.BF), eramio (MP.BF), eramone (MP.FF) ‘world, woods’

O.Z. erãp (MS.BF), eramio (MP.BF), eramonnoe (MP.FF) ‘woods’

(45) Ay. gigaña (GF.MS.BF), gigaña (GF.MP.BF), gigañane (GF.MP.FF)
‘house’

O.Z. guigueda (GF.MS.BF), guiguedao (GF.MP.BF),
guiguedaddoe (GF.MP.FF) ‘house’

⁴⁷⁷ Final <e> in O.Z *pore* (42) and *azore* (43) stands for the vocoid [e], added to recreate the syllable structure CV.

- (46) Ay. ipesut (3.MS.BF), ipesuteo (3.MP.BF), ipesudode (3.MP.FF)
 ‘what is done’
 O.Z. pipiazup (GF.MS.BF), pipiazubio (GF.MP.BF), pipiazutoddoe /
 pipiazuboddoe (GF.MP.FF) ‘work’
- (47) Ay. disi (MS.BF), disio (MP.BF), disiode (MP.FF) ‘boy’
 O.Z. desi (MS.BF), desio (MP.BF), desioddoe (MP.FF) ‘boy’
- (48) Ay. Ø
 O.Z. unnotac (MS.BF), unnotacho (MP.BF), unnotaddoe (MP.FF) ‘bird’
- (49) Ay. tarek (MS.BF), tareteo (MP.BF), taregode (MP.FF) ‘lazy person’
 O.Z. tarec (MS.BF), tarecho (MP.BF), taregoddoe (MP.FF) ‘useless’
- (50) Ay. dahek (GF.MS.BF), dahetéo (GF.MP.BF), daheode (GF.MP.FF)
 ‘path’
 O.Z. dahec (GF.MS.BF), dahecho (GF.MP.BF), daheddoe (GF.MP.FF)
 ‘path’
- (51) Ay. arek (3.MS.BF), areteo (3.MP.BF), areode (3.MP.FF) ‘tongue’
 O.Z. arêc (MS.BF), arêcho (MP.BF), arennoe (MP.FF) ‘tongue’
- (52) Ay. pit (MS.BF), piteo (MP.BF), pidode (MP.FF) ‘stick’
 O.Z. pit (MS.BF), picho (MP.BF), pidoddoe (MP.FF) ‘stick’

The Old Zamuco FP-FF suffixes *-yie* (*-/jie/*) or *-ñie* (*-/nie/*) correspond to the AY suffixes *-/die/* (53) or *-/nie/* (depending on nasalization). Old Zamuco also has the FP-FF allomorph *-iyie* (*-/ijie/*), added to feminine roots ending in consonant (see 39 and 42), like AY *-/idie/* (cf. §12.2.2-§12.2.4). The comparison with O.Z also suggests that in AY the FP-FF suffixes *-/die/* and *-/idie/* have assimilated to the masculine *-/ode/*. The formation of the Ayoreo FP-FF is less complex than the masculine one. Unfortunately, the part of Chomé’s grammar dealing with the formation of the FS-FF has been lost (along with other important data on O.Z inflectional

morphology), so that some of its morphological characteristics still remain obscure (cf., however, the O.Z and AY nominals in 42-43).

- (53) Ay. gapu (FS.BF), gapua (FS.FF), gapuj (FP.BF), gapudie (FP.FF) ‘girl’
O.Z. gapu (FS.BF), gaputae (FS.FF), gapui (FP.BF), gapuyie (FP.FF)
‘girl’

§14.3 Base form vs. full form in the Zamucoan languages

The previous section has demonstrated that in Old Zamuco there was a distinction between BF, FF and IF and that there is a syntactic and morphological correspondence between these forms in Ayoreo and Old Zamuco. Table 14.1 sums up the suffixes expressing BF, FF, IF and diminutive form in the Zamucoan languages. Note that in Chamacoco the MS.BF suffixes *-/k/* and *-/ak/*, the MP suffix *-/e/* and some FS-BF suffixes derive from the reinterpretation of the original root (see §14.3.1 and §13.3.9).

	Old Zamuco	Ayoreo	Chamacoco
MS.BF	Ø	Ø	-/k/, -/ak/
MS.FF	-/tie/	-/i/	-/t/, -/tɛ/
MP.BF	-/o/, -yo (-/jo/)	-/o/, -/jo/	-/o/, -/e/, -/tso/, -/lo/
MP.FF	-oddoe (-/odoe/)	-/ode/	
FS.BF	Ø	Ø, -/e/ (cf. §12.4)	Ø, -/a ² /, -/e ² /, -/o ² /, -/i ² / ⁴⁷⁸
FS.FF	-/tae/	Ø, -/e/, -/a/, -/ia/	-/ta/, -/tɛa/, -/ɭa/
FP.BF	-/i/, -yi (-/ji/)	-/i/ (-/ji/ cf. 12.2.3)	-/e/
FP.FF	-yie (-/jie/), -iyie (-/iyie/)	-/die/, -/idie/	
DIM.BF	-/ap/	-/ap/	-/a:p/

Table 14.1. Nominal suffixes in the Zamucoan languages

The following sections will compare Ayoreo (and Old Zamuco) with Chamacoco (§14.3.1). The diminutive will not be discussed, because its morphology follows the same rules as nominals with root in -/p/. In the Zamucoan languages the diminutive suffix is attached to the singular BF and derives from the Proto-Zamucoan word for ‘child’: cf. AY *ap* (3.[M/F]S.BF) ‘child’, CH *aap* /a:p/ (3.[M/F]S.BF) ‘child’ and O.Z *yap* /jap/ (1S.MS.BF) ‘child’.⁴⁷⁹ The Ayoreo singular FF suffix is innovative (§14.3.2). Some Chamacoco FFs are the result of reinterpretation of the root, because they correspond to Ayoreo BFs (§14.3.3). The Chamacoco MP suffix /o/ was originally a MP-BF suffix, as one can see in Ayoreo and Old Zamuco (§14.3.4). The comparison between CH

⁴⁷⁸ -/a²/, -/e²/, -/o²/ and -/i²/ are also used as epicene BF suffixes.

⁴⁷⁹ See also §13.3.4, ex. (110).

plurals in *-/jo/* and *-/wo/* with Ayoreo and Old Zamuco shows that these pre-final semiconsonants are often part of the original root, while in other cases they are insertions (§14.3.5). The origin of the CH plural suffix *-/lo/* is discussed in (§14.3.6). The rare CH plural suffix *-/tso/* corresponds to the AY plural ending in *-/tso/* (§14.3.7). Section §14.3.8 deals with CH nominals in *-/ehet/*. Section §14.3.9 demonstrates that the Chamacoco MP suffix *-/e/* derives from the reinterpretation of the last root-vowel, because CH *-/e/* corresponds to */a/* in the root of the cognate AY nominals (§14.3.9). The plural of some CH nominals show intervocalic */r/*, not to be found in the rest of the paradigm, but present in the cognate AY nominals (§14.3.10). Chamacoco BFs in *-/s/* correspond to Ayoreo BFs in *-/s/* (§14.3.11). Section §14.3.12 deals with some traces of introflexional morphology to be found in Ayoreo and Chamacoco. The irregular CH adjective *dich* */ditə/* is compared with its AY and O.Z cognates. Finally, section §14.3.13 shows that the Ayoreo and Old Zamuco 2P-suffix, and the MP-BF suffix have the same suffix and go together with similar morphophonological processes.

§14.3.1 The base form and the full form in Ayoreo and Chamacoco

This section compares the Ayoreo BFs and FFs with Chamacoco.⁴⁸⁰ The discussion will be limited to the singular, since

⁴⁸⁰ It is difficult to compare directly CH and O.Z nominals, because there are few data available for the latter language. Moreover, O.Z data are often incomplete and there is a low percentage of lexical similarity between the two languages, in spite of remarkable morphological similarities. However, given the similarities between Ayoreo and Chamacoco, the comparison between AY and CH nominals may be seen as an indirect comparison

in Chamacoco there is no such a contrast in the plural. The Ayoreo and Old Zamuco MS-BF coincide with the root, while the final consonant of the Chamacoco MS-BF has been reinterpreted as a suffix or part of it.

In examples (54-64) masculine nominals with BF in *-/k/* are compared. The Ayoreo and Chamacoco singular BF are identical and there is correspondence between the Ayoreo and Chamacoco singular BFs in *-/ak/* (54-64). Synchronically, CH */a/* should be analyzed as part of the BF suffix, because it is not preserved in either the singular or plural FF. In Ayoreo, */a/* is present in both singular BF and singular FF. The comparison shows that CH */a/* is a conservative element stemming from the original root, which has been simplified or deleted in the singular FF. In the following examples, one can see that the Ayoreo and Chamacoco BFs are closer to each other than the FFs. This is especially true of the morphological devices used, since in the masculine there is no direct correspondence between the Ayoreo singular FF suffix *-/i/* and the Chamacoco FF suffixes *-/t/* and *-/tɛ/*. In (58) the Chamacoco FF has probably undergone changes, but the original structure emerges in the singular BF.

(54) Ay. *aberaj* (MS.FF), *abarak* (MS.BF) ‘sterile’

Ch. *ebirt* (MS.FF), *ebirak* (MS.BF) ‘sterile’

(cf. O.Z *abera* ‘sterile’ (FS.BF))

(55) Ay. *hokarāj* (MS.FF), *hokarāk* (MS.BF) ‘noise’

Ch. *ijokōrt* (3.MS.FF), *ijokōrak* (3.MS.BF) ‘noise’

(56) Ay. *uteaj* (3.MS.FF), *uteak* (3.MS.BF) ‘dung’

between Old Zamuco and Chamacoco with regard to the BF.

Ch. *it̥eit* (3.MS.FF), *it̥eak* (3.MS.BF) ‘dung’

(57) Ay. *dehaj* (MS.FF), *dehak* (MS.BF) ‘night’

Ch. *d̥i̯l̥it̥e* (MS.FF), *d̥i̯l̥ak* (MS.BF) ‘night’

O.Z. *dehac* / *dehaque* ‘night’ (MS.BF)

(58) Ay. *nasaraj* (3.MS.FF), *nasarak* (3.MS.BF) ‘son-in-law’

Ch. *las̥ē:t* (3.MS.FF), *lasirã(k)* (3.MS.BF) ‘son-in-law’

Examples (59-64) provide other nominals whose BF is marked by a velar element. /k/ is the Chamacoco MS-BF suffix, corresponding to the AY root-final consonant. In Chamacoco, the preceding vowel /i/ (often an epenthetic vowel or the result of vowel reduction, as in ex. 59-61) corresponds to AY /e/ (59-61). The Chamacoco BF *tok* (62) is an exception, because final /k/ should be considered part of the root, reinterpreted as /w/ in the rest of the paradigm (see §13.1, ex. 9k-l).

(59) Ay. *aharamej* (MS.FF), *aharamek* (MS.BF) ‘armadillo’

Ch. *aṃurmit̥* (MS.FF), *aṃurmik* (MS.BF) ‘armadillo’

(60) Ay. *dosipej* (MS.FF), *dosipek* (MS.BF) ‘animal’

(edible from the woods)

Ch. *l-/do̯eip̥it̥* (MS.FF), *l-/do̯eip̥ik* (MS.BF) ‘animal’

(61) Ay. *pej* (MS.FF), *pek* (MS.BF) ‘piece’

Ch. *p̥it̥* (MS.FF), *p̥ik* (MS.BF) ‘piece’

(62) Ay. *tarej* (MS.FF), *tarek* (MS.BF) ‘lazy

Ch. *towit* (MS.FF), *tok* / *to:k* (MS.BF) ‘lazy’

(63) Ay. *uri* (3.MS.FF), *urik* (3.MS.BF) ‘dream’

Ch. *u:r̥t̥e* (3.MS.FF), *u:r̥k* (3.MS.BF) ‘dream’

- (64) Ay. *toj* (MS.FF), *tok* (MS.BF) ‘dead’
 Ch. *topit* (MS.FF), *topik* (MS.BF) ‘dead’

In both Ayoreo and Chamacoco there is a group of nominals with singular BF in *-s/* (65). The BF coincides with the root in both languages and the comparison shows that */s/* usually turned into */ε/* in the Chamacoco FF.

- (65) Ay. *gosi* (MS.FF), *gos* (MS.BF) ‘someone, anyone’
 Ch. *oet* (MS.FF), *os* (MS.BF) ‘person’

Another and larger group of nominals sharing common morphological properties consists of nominals with singular BF ending in *-p/* (66) (as for Old Zamuco, see example (44)). In all Zamucoan languages, diminutives have singular BF in *-p/*, which voices word-internally (and nasalizes in nasal-harmony contexts). In (67) *ijaabit* /ixa:bit/ and *ajámi* /ahami/ are probably not cognates, because the first is originally a diminutive of the Spanish loan *hijo* (*ijit* /ixit/ in Chamacoco), while the second is an indigenous word. However, their morphological behaviour is the same as in (66).

- (66) Ay. *aṇami* (3.MS.FF), *aṇap* (3.MS.BF) ‘grandson’
 Ch. *aṇimite* (3.MS.FF), *aṇap* (3.[M/F]S.BF) ‘grandson’
- (67) Ay. *ahami* (MS.FF), *ahamia* (FS.FF), *ahãp* ([M/F]S.BF) ‘little’
 Ch. *ixa:bit* (MS.FF), *ixa:pta* / *ixa:bita* (FS.FF), *ixa:p* ([M/F]S.BF) ‘little’

Sometimes, the Chamacoco MS-BF ends in a vowel. This is generally due to dropping of final *-k/*, but not always, as in (68).

- (68) Ay. *kedeṇaj* (MS.FF), *kedeṇa* ([M/F]S.BF) ‘strange, different’
 Ch. *kinet* (MS.FF), *kinaha*? ([M/F]S.BF) ‘strange, different’

While in Chamacoco the most representative MS-BF usually takes the suffix *-/k/*, the morphology of the Ayoreo BF exhibits more variability. In (69-70) Ayoreo singular BFs ending in a vowel correspond to Chamacoco MS-BFs in *-/k/* or *-/ak/*. (69) is another example in which the CH suffix *-/ak/* preserves the last vowel of the original Zamucoan root, as shown by its AY counterpart.

- (69) Ay. kirakiraj (MS.FF), kirakira (MS.BF) ‘type of bird’
(*Caracara plancus*)
Ch. dīteikjêrit (MS.FF), dīteikjêrak (MS.BF) ‘type of bird’
(*Caracara plancus*)

- (70) Ay. i (3.MS.FF), i (3.MS.BF) ‘name’
Ch. i:te (3.MS.FF), i:k (3.MS.BF) ‘name’

In Ayoreo a BF coinciding with the nominal root may end in *-/t/*, while this is not possible in Chamacoco, where such BFs have been reinterpreted as FFs and a new BF was created (more on this in §14.3.2).

- (71) Ay. otadi (MS.FF), otat (MS.BF) ‘liquid’
Ch. otite (MS.FF), otik (MS.BF) ‘liquid’

In (72-73) one finds examples of cognates with different inflection in the BF. This could be due to the fact that in Chamacoco a diminutive suffix indicating endearment has probably been added to the root, although nowadays these words are no longer analyzable as diminutives.

- (72) Ay. dahate / dahaj (3.MS.FF), dahat (3.MS.BF) ‘brother (of a woman)’
Ch. dehebite (3.MS.FF), dahap (3.MS.BF) ‘brother (of a woman)’

- (73) Ay. desaj (3.MS.BF), desak (3.MS.BF) ‘brother (younger of a man)’

Ch. *leɛibite* (3.MS.FF), *leɛap* (3.MS.BF) ‘brother (of a man)’

(74) Ay. *neri* (3.MS.FF), *nerat* (3.MS.BF) ‘uncle’ (mother’s brother)

Ch. *nermite* (3.MS.FF), *nerap* (3.MS.BF) ‘uncle’

In AY feminine nominals, the singular BF and the singular FF coincide. The Ayoreo FS-FF does not have (at least no longer, see §14.3.2) suffixes comparable to CH *-ta/* or *-tea/* (75-76). The Ayoreo FS-BF thus coincides with the root (77-78).⁴⁸¹ Word-final glottalization (cf. §2.3) is only indicated in Chamacoco when it is morphologically relevant, i.e. when it helps to distinguish the FS-BF from the plural, as in (75-76) and (78-80). The FP suffix *-e/* corresponds to the Ayoreo and Old Zamuco FP suffix *-i/*, used to form the plural BF. Apparently, the Chamacoco FP derives from a plural BF in the proto-language.⁴⁸²

(75) Ay. *abere* (FS.FF), *abere* (FS.BF) ‘sterile’

Ch. *ebiɽa* (FS.FF), *ebirʔ* (FS.BF), *ebir / ebire* (FP) ‘sterile’

(76) Ay. *pare* (FS.FF), *pare* (FS.BF) ‘closed, stopped up’

Ch. *paɽa* (FS.FF), *para / pareʔ* (FS.BF), *parʔ* ([M/F]S.BF) ‘virgin’,
cf. *pare* (FP)

(77) Ay. *gapupita* (FS.FF), *gapupita* (FS.BF) ‘young teenager’

Ch. *apibitita* (FS.FF), *apibitaʔ* (FS.BF) ‘young teenager’

(78) Ay. *kedeña* (FS.FF), *kedeña* ([M/F]S.BF) ‘different, strange’

Ch. *kinahata* (FS.FF), *kinehe / kinaha* (FP), *kinahaʔ* ([M/F]S.BF)
‘different, strange’

⁴⁸¹ Unless it is derived from a MS-BF by attaching the suffix *-e/* (§12.4).

⁴⁸² As will be shown in (§14.3.4), also the vast majority of Chamacoco MPs was originally a plural BF in the proto-language.

(79) Ay. *toge* (FS.FF), *toge* (FS.BF) ‘dead’

Ch. *topita* (FS.FF), *topiʔ* (FS.BF) ‘dead’ cf. *topi* / *tope* (FP)

(80) Ay. *tarege* (FS.FF), *tarege* (FS.BF) ‘lazy’

Ch. *towita* (FS.FF), *towiʔ* / *toweʔ* (FS.BF) ‘lazy’ cf. *towi* / *towe* (FP)

The nominals in (81) are derived by means of the same irregular process in both languages. /s/ in the masculine turns into /t/ in the feminine. In (82) both AY *ijaroi* /i^haroj/ and CH *ilarc* /i^hartɛ/ have epicene BF with /o/ as last vowel. The BF of *ijaroi* /i^haroj/ is regular, but final /-oʔ/ in *ilaro* /i^haroʔ/ is unexpected given the FFs *ilarc* /i^hartɛ/ and *ilarrza* /i^hlaɽa/. Synchronically it should be considered a FS-BF suffix, but the comparison with Ayoreo shows that originally it was part of the root and deleted in the Chamacoco FF. In (83) the words clearly have the same root, but the comparison with Ayoreo shows that in Chamacoco a diminutive suffix has been included in the word.

(81) Ay. *goto* (FS.FF), *goto* (FS.BF) ‘someone, anyone’; cf. *gosi* (MS.FF)

Ch. *otita* (FS.FF), *oto* (FS.BF) ‘person’; cf. *oet* (MS.FF)

(82) Ay. *i^haroj* (MS.FF), *i^haro* (FS.FF) → *i^haro* ([M/F]S.BF) ‘old’

Ch. *i^hartɛ* (MS.FF), *i^hlaɽa* (FS.FF) → *i^haroʔ* ([M/F]S.BF) ‘old’

(83) Ay. *nena* (3.FS.FF), *nena* (3.FS.BF) ‘sister’ (of a brother)

Ch. *nanimitea* (3.FS.FF), *nanap* (3.FS.BF) ‘sister’

(cf. other kinship nouns)

§14.3.2 The Ayoreo full-form suffix *-i/*: a possible explanation

Given the current Ayoreo and Chamacoco FFs, it would be impossible to identify a morphological connection between them if data from Old Zamuco were not available. The comparison between Old Zamuco and Chamacoco shows that Ayoreo is innovative with regard to the singular FF suffix *-i/*. This paragraph will try to explain the Ayoreo state of affairs.

O.Z. nominals with singular BF ending in a vowel add the suffix *-tie/* to obtain the singular FF (84). Nominals in *-k/* (85) lose this consonant in the singular FF, as in (86), an exception according to Chomé (1958: 126). The root-final consonant also drops in the singular FF of nominals in *-t/* (87-88) (with the exception of *-Vit/*, see ex. 94-95). In this case, there is */i/* insertion before the FF suffix, which is not needed if the singular BF ends in *-it/*. In this case, */i/* corresponds to CH epenthetic */i/* or */i/*, because it precedes *-tie/*, corresponding to the Chamacoco FF suffixes *-t/* or *-tɛ/*. Therefore, Old Zamuco not only had a FF suffix corresponding to the CH ones, but also the same epenthetic vowel. In (89), by contrast, there is no need for epenthesis.

- (84) Ay. putuguto (MS.BF), putugutoj (MS.FF) ‘jaguar’
 O.Z. putugutto (MS.BF), putuguttotie (MS.FF) ‘jaguar’

- (85) Ay. Ø
 O.Z. gadubec (MS.BF), gadubetie (MS.FF) ‘baton’

- (86) Ay. garajap (DIM.MS.BF), garajabi (DIM.MS.BF) ‘little field’
 O.Z. ugarap (DIM.MS.BF), ugaratie (DIM.MS.BF) ‘little field’⁴⁸³

⁴⁸³ On the diminutive, see §14.3.

- (87) Ay. jot (MS.BF), jodi (MS.FF) ‘water’
 O.Z. yot (MS.BF), yoitie (MS.FF) ‘water’

- (88) Ay. Ø
 O.Z. pagarãt (MS.BF), pagaraitie (MS.FF) ‘captain’

- (89) Ay. Ø
 O.Z. pibidit (MS.BF), pibiditie (MS.FF) ‘host’

The epenthetic vowel is also to be found in other nominals (90-91), especially in O.Z nominals with singular BF ending in *-p/* (92-93) or *-/Vit/* (94-95). In examples (92-95) the last radical consonant voices (*/p/ > /b/*, */t/ > /d/*) and possibly nasalizes (*/b/ > /m/*, */d/ > /n/*), as in Ayoreo.

As one can see in examples (90-95), when the comparison is possible, O.Z epenthetic */i/* is also present in Ayoreo, where the singular FF corresponds to the Old Zamuco FF minus *-/tie/*.⁴⁸⁴ There is, however, a notable difference. In Ayoreo, */i/* is no longer an epenthetic vowel, but rather the singular FF suffix. In other words, a suffix corresponding to O.Z *-/tie/* has dropped in Ayoreo and the epenthetic vowel has been reinterpreted as a MS-FF suffix. The newly created suffix */i/* was then extended to all masculine nominals, so that now it is also present in AY words whose O.Z

⁴⁸⁴ Another possible interpretation is to consider O.Z epenthetic */i/* part of the MS-FF allomorph *-/itie/*. However, the presence of */i/* is due to the need to avoid a consonantal cluster, so that, even though one could propose two allomorphs for the MS-FF, *-/itie/* and *-/tie/*, */i/* was originally an epenthetic vowel. By contrast, the allomorphy between *-/o/* and *-/jo/* in both AY and O.Z, for instance, is not motivated by phonotactic constraints. Similar considerations apply to the (rarely documented) O.Z feminine nominals with FS-FF ending in *-/itae/* (42-43).

cognates have no epenthesis, as in (84). This process has extended to all AY words. In examples (86) and (87), the last consonant of the Old Zamuco singular BF drops in the singular FF, while in the AY counterparts the last consonant simply voices (86) and, when required, nasalizes (87).

(90) Ay. *ẽp* (MS.BF), *emi* (MS.FF) ‘wind’

O.Z. *em* (MS.BF), *emitie* (MS.FF) ‘wind’

(91) Ay. *juɲor* (3.MS.BF), *juɲori* (3.MS.FF) ‘killer’

O.Z. *chugore* (MS.BF), *chugoritie* (MS.FF) ‘killer’

(92) Ay. *erãp* (MS.BF), *erami* (MS.FF) ‘woods’

O.Z. *erãp* (MS.BF), *eramitie* (MS.FF) ‘woods’

(93) Ay. *ipesut* (3.MS.BF), *ipesudi* (3.MS.FF) ‘what is done’

O.Z. *pipiazup* (MS.BF), *pipiazubitie* / *pipiazutitie* (MS.FF) ‘work’

(94) Ay. *gait* (3.MS.BF), *gaidi* (3.MS.FF) ‘purpose, intention’

O.Z. *gait* (MS.BF), *gaiditie* (MS.FF) ‘end of the outward journey’

(95) Ay. *itihabait* (3.MS.BF), *itihabaidi* (3.MS.FF) ‘cause of amazement’

O.Z. *pinãrait* (MS.BF), *pinãrãinitie* (MS.FF) ‘amazing’

In conclusion, the data from Old Zamuco shade new light into the origin of the Ayoreo MS-FF suffix and also show an unexpected indirect connection between the Ayoreo MS-FF suffix and the CH epenthetic vowel (/i/ or /i/) in masculine nominals.

The hypothesis that this AY innovation is due to the loss of the O.Z suffix *-tie/* (or equivalent) is confirmed by feminine nominals. If one assumes that the original nominal inflection of Ayoreo was similar to the O.Z one, then also a suffix corresponding to Old Zamuco *-tae/* and CH *-ta/* or *-tea/* must have disappeared in the

FS-FF. However, while the original Ayoreo singular FF suffixes have been lost and a new suffix has originated in the MS-FF, nothing of the sort occurred in the FS-FF, which, differently from the other Zamucoan languages, in many cases does not have any specific morphological marker.⁴⁸⁵ Interestingly, the original singular FF suffixes are to be found in Old Zamuco and Chamacoco, with a low percentage of lexical similarity, whereas this is not the case in Ayoreo, despite its remarkable similarity to Old Zamuco.

§14.3.3 The Chamacoco full form and the Ayoreo base form

The Chamacoco MS-FF takes the suffix *-/t/* or *-/tɛ/*. The FF in *-/t/* of some CH nominals may coincide with the BF of the corresponding AY nominals, as in (96-99). Note that for the CH nominals in (97-99) no BF is observed. This suggests that the FF was originally a BF.⁴⁸⁶ In (99) the CH plural *ihĩrtso* corresponds to the AY plural in *-/tɛo/* (on this plural, see §14.3.7).

- (96) Ay. *adi* (3.MS.FF), *at* (3.MS.BF), *atɛo* (3.MP.BF) *adode* (3.MP.FF)
 ‘body’
 Ch. *a:t* (3.MS.FF), *a:ʔ* (3.MS.BF), *a:lo* (3.MP) ‘smell; body’

- (97) Ay. *gateidi* (3.MS.FF), *gateit* (3.MS.BF), *gateitɛo* (3.MP.BF),

⁴⁸⁵ The Old Zamuco and Chamacoco FS-FF suffixes (*-/tae/* and *-/ta/*, *-/tea/*) differ from their masculine counterparts (*-/tie/* and *-/t/*, *-/tɛ/*) in final or pre-final */a/*, which in Old Zamuco is opposed to */i/* in the masculine. In the IF suffixes of all Zamucoan languages, */i/* (or */i:/*) is associated to the masculine, and */a/* to the feminine (see §14.4.1-§14.4.2). The Ayoreo FS-FF morpheme */a/* clearly derives from this element.

⁴⁸⁶ If this is so, the BF of *aat* */a:t/* could be a newly created form.

gateidode (3.MP.FF) ‘pet, domesticated animal; vehicle’

Ch. eteit (3.MS.FF), eteiyo (3.MP), eteo (3.MP)

‘pet, domesticated animal’

(98) Ay. udi (3.MS.FF), ut (3.MS.BF), uteo (3.MP.BF), udode (3.MP.FF)

‘under, below, underneath’

Ch. u:t (3.MS.FF), u:lo (3.MP) ‘under, below, underneath’

O.Z. uitie (MS.FF), uddi (MS.BF), uddio (MP.BF), udoddoe (MP.FF)

‘below, behind’

(99) Ay. weradi (MS.FF), werat (MS.BF), werateo (MP.BF),

weradode (MP.FF) ‘pretty, nice’

Ch. ihĩrt (MS.FF), ihĩrtso (MP) ‘handsome’

The same occurs when the Chamacoco FF ends in *-/tɛ/*, which corresponds to the Ayoreo BF in *-/t/* (100-106). In some cases, a variant of the Chamacoco FF in *-/t/* is also observed, although less used than the *-/tɛ/* variant.

AY nominals with singular BF in *-/tɛ/* or *-/t/* have plural BF in *-/tɛo/*. The same also occurs in Old Zamuco (see *pitie* (103)).⁴⁸⁷ This alternation between */t/* and */tɛ/* in the AY root reminds of the alternation between the Chamacoco FF suffixes *-/t/* and *-/tɛ/*. One can wonder whether the presence of two FF suffixes, *-/t/* and *-/tɛ/*, in Chamacoco depends on the same phenomenon which caused the alternation between */t/* and */tɛ/* in the root of AY and O.Z nominals. The correspondence between Chamacoco FF and Ayoreo BF suggests that in some cases the former probably derives from an original BF and that the morphological boundary was probably reanalyzed. If this is so, the original Chamacoco FF has been lost.

⁴⁸⁷ “Todos los terminados en *c*, o en *t*, hazen *cho*. *Daparebec*... pedigueño, *Daparebecho*... pedigueños. *pit*... palo. *picho*... palos” (Chomé 1958: 124).

This explains why in several nominals no BF is reported. In the following examples there are no CH plurals corresponding to the AY plurals in *-təo/*. In (103-105) *-o/* is probably added after the reanalysis of the morphological boundaries and the disappearance of the suffix **-/jo/* in Chamacoco (see §14.3.7), otherwise the plural would end in *-tso/* as in (99), while in (100-102) and (106) the CH plural does not correspond to the Ayoreo plural BF (see §14.3.6).

- (100) Ay. *kukarani* (MS.FF), *kukarāt* (MS.BF), *kukarātəo* (MP.BF),
kukaranone (MP.FF) ‘mountain, hill’
 Ch. *koxātə* / *koxāt* (MS.FF), *koxano* (MP) ‘mountain, stone’
 O.Z. *cucaraitie* (MS.FF) ‘stone’
- (101) Ay. *otadi* (MS.FF), *otat* (MS.BF), *otatəo* (MP.BF), *otadode* (MP.FF)
 ‘juice, broth, liquid’
 Ch. *otitə* / *otit* (MS.FF), *otik* (MS.BF), *otilo* (MP) ‘liquid, juice’
- (102) Ay. *hogadi* (3.MS.FF), *hogat* (3.MS.BF), *hogatəo* (3.MP.BF),
hogadode (3.MP.FF) ‘place, location’
 Ch. *owitə* / *owit* (3.MS.FF), *owilo* (3.MP) ‘place’
- (103) Ay. *pidi* (MS.FF), *pit* (MS.BF), *pitəo* (MP.BF), *pidode* (MP.FF)
 ‘stick, firewood (in the plural)’
 Ch. *pitə* (MS.FF), *pijo* (MP) ‘stick, firewood, wood’
 O.Z. *pitie* (MS.FF), *pit* (MP.BF), *picho* (MS.BF), *pidoddoe* (MP.FF)
 ‘stick, wood’
- (104) Ay. *purudi* (GF.MS.FF), *purut* (GF.MS.BF), *purutəo* (GF.MP.BF),
purudode (GF.MP.FF) ‘shade’
 Ch. *pu:rtə* (MS.FF), *pu:rk* (MS.BF), *pu:ruwo* / *puruwo* (MP) ‘shade,
 shadow’
- (105) Ay. *etarudi* (3.MS.FF), *etarut* (3.MS.BF), *etarútəo* (3.MP.BF),

etarúdode (3.MP.FF) ‘thigh, part of the leg between hip and thigh’
Ch. itertε (3.MS.FF), iterk (3.MS.BF), itero (3.MP) ‘thigh’

- (106) Ay. ugutadi (3.MS.FF), ugutat (3.MS.BF), ugutateo (3.MP.BF),
ugutadode (3.MP.FF) ‘pillow, cushion’
Ch. itite (3.MS.FF), itilo (3.MP) ‘pillow’

§14.3.4 Chamacoco nominals with plural in -/o/

In Chamacoco there is no difference between BF and FF in the plural, although the proto-language probably had two plural forms. Actually, the few CH plurals in -/tso/ seem to be used in BF contexts (see §13.7.1, ex. 118-119), while the standard MP suffix is -/o/. The latter suffix is used in Old Zamuco and Ayoreo as MP-BF (107-109). Ayoreo and Old Zamuco have the MP-FF suffixes -/ode/ and -/oddoe/ (-/odoe/), respectively. Note the correspondence between the Chamacoco and Ayoreo BF.

- (107) Ay. usuguruj (3.MS.FF), usuguru (3.MS.BF), usuguruo (3.MS.BF),
usuguruode (3.MP.FF) ‘fingernail, claw, hoof’
Ch. duεurtε (3.MS.FF), duεurk / duεur[?] (MS.BF), duεuro (3.MP)
‘nail, claw, hoof’

- (108) Ay. igiosi (3.MS.FF), igios (3.MS.BF), igioso (3.MP.BF),
igiosode (3.MP.FF) ‘relative’
Ch. i:sit (3.MS.FF), i:s (3.MS.BF), i:so (3.MP) ‘relative’

- (109) Ay. iharoj (MS.FF), iharo ([M/F]S.BF), iharo (MP.BF), iharode (MP)
‘old’
Ch. ilartε (MS.FF), ilaro[?] ([M/F]S.BF), ilaro (MP) ‘old’

In examples (107-109) the correspondence between the CH plural and the Ayoreo plural BF in -/o/ is evident, but the AY or O.Z

plural BF does not always correspond exactly to the CH plural, because AY and O.Z nominals with consonant-ending root show the plural BF suffix *-/jo/* (or *-/io/*), as in (110-114).⁴⁸⁸ In this case, one wonders whether such CH plurals correspond to Ayoreo or Old Zamuco plural BFs in *-/io/* or to plural FFs with dropping of the last syllable *-/de/*. The answer is that the CH plurals in (110-114) were originally plural BFs, since AY and O.Z *-/jo/* (or *-/io/*) and *-/o/* are allomorphs.

- (110) Ay. *abi* (3.MS.FF), *ap* (3.MS.BF), *abio* (3.MP.BF), *abode* (3.MP.FF)
 ‘child’

Ch. *a:p* (3.[M/F]S.BF), *a:bo* (3.MP) ‘child’

O.Z. *yabitie* (1S.MS.FF), *yap* (1S.MS.BF), *yaboddoe* (1S.MP.FF)
 ‘child’

- (111) Ay. *aṇami* (3.MS.FF), *aṇap* (3.MS.BF), *aṇamio* (3.MP.BF),
 aṇamone (3.MP.FF) ‘grandson’

Ch. *aṇimite* (3.MS.FF), *aṇap* (3.[M/F]S.BF), *aṇimo* (3.MP) ‘grandson’

- (112) Ay. *kuteabi* (GF.MS.FF), *kuteap* (GF.MS.BF), *kuteabio* (GF.MP.BF),
 kuteabode (GF.MP.FF) ‘little thing’

Ch. *kuteabit* (MS.FF), *kutea:p* (MS.BF), *kutea:bo* (MP) ‘little thing’

- (113) Ay. *ṇumi* (MS.FF), *ṇup* (MS.BF), *ṇumio* (MP.BF), *ṇumone* (MP.FF)
 ‘earth; ground; floor; dust’

Ch. *ṇimite* (MS.FF), *ṇimo* (MP) ‘land, ground’

O.Z. *numitie* (MS.FF) ‘earth; dust, clay’, *nup* (MS.BF),
 numonnoe (MP.FF)

- (114) Ay. *erubi* (3.MS.FF), *erup* (3.MS.BF), *erubio* (3.MP.BF),
 erubode (3.MP.FF) ‘urine’

⁴⁸⁸ For similar O.Z examples, see §14.2, ex. (30) and (33).

Ch. *ihirbite* (3.MS.FF), *ihirap* (3.MS.BF), *ihirbo* (3.MP) ‘urine’

Some morphophonological processes take place in the AY and O.Z plurals when /jo/ is added. For instance, in (115-120) *-jo/* palatalizes the root-final consonant, yielding *-jpo/*.⁴⁸⁹ This does not occur in Chamacoco, where *-o/* is used. In (115-120) there is a general correspondence between the Ayoreo and Chamacoco singular BFs, although in Chamacoco there is a tendency to regularize the masculine BF by adding the suffix *-k/*.

(115) Ay. *ikasisōri* (3.MS.FF), *ikasisōr* (3.MS.BF), *ikasisojpo* (3.MP.BF),
ikasisorone (3.MP.FF) ‘opponent who is not afraid; challenger in
a battle’

Ch. *asipsĩrte* (3.MS.FF), *asipsĩrʔ* (3.[M/F]S.BF), *asipsĩro* (3.MP)
‘opponent in combat’

(116) Ay. *uṇari* (3.MS.FF), *uṇar* (3.MS.BF), *uṇapo* (3.MP.BF),
uṇariṇone (3.MP.FF) ‘breath, respiration’

Ch. *ijerte* (3.MS.FF), *ijero* (3.MP) ‘breath, breathing’

(117) Ay. *osōrasōri* (3.MS.FF), *osōrasōr* (3.MS.BF), *osōrasōjpo* (3.MP.BF),
osōrasōrone (3.MP.FF) ‘one who is merciful, compassionate’

Ch. *josĩrsĩrte* (MS.FF), *josĩrsĩrk* / *josĩrsĩrʔ* (MS.BF), *josĩrsĩro* (MP)
‘liberator, merciful person’

(118) Ay. *juṇori* (3.MS.FF), *juṇor* (3.MS.BF), *juṇorone* (3.MP.FF),
juṇojpo (3.MP.BF) ‘killer; winner in a game’

Ch. *juwĩrte* / *juwĩr* (MS.FF), *juwĩrʔ* ([M/F]S.BF) / *juwĩrk* (MS.BF),
juwĩro (MP) ‘killer’

(119) Ay. *gaṇesōri* (3.MS.FF), *gaṇesōr* (3.MS.BF), *gaṇesojpo* (3.MP.BF),

⁴⁸⁹ For similar O.Z. examples, see §14.2, ex. (29) and (31-32).

gaṇesōrone (3.MP.FF) ‘owner, master, possessor’
 Ch. jinsĩrte (3.MS.FF), jinsĩrk / jinsĩrʔ (3.MS.BF), jinsĩro (3.MP)
 ‘master / owner / employer’

(120) Ay. jusōri (3.MS.FF), jusōr (3.MS.BF), jusōṇo (3.MP.BF),
 jusōrone (3.MP.FF) ‘killer; winner in a game’
 Ch. irsĩrte (3.MS.FF), irsĩrʔ / irsĩrk (3.MS.BF), irsĩro (3.MP)
 ‘winner’

Examples (121-125) feature AY nominals with MP-BF in *-/təo/* which correspond to CH nominals with the MP suffix *-/o/*. Ayoreo and Old Zamuco MP-BFs in *-/təo/* are yielded by palatalization of root-final */t/* and */k/* before the MP-BF suffix *-/jo/*. This mechanism is no longer to be found in Chamacoco, where the ending *-/tso/*, rarely preserved, was reinterpreted as a MP suffix (see §14.3.7) and most nominals have the MP suffix *-/o/*. However, the presence of plurals in *-/tso/* suggests that **-/jo/* was also present in Chamacoco. The AY nominals in (121-125) show singular BF in *-/k/*, also to be observed in Chamacoco, where final */k/* was reinterpreted as a singular BF suffix and, consequently, is not preserved in the MP.

(121) Ay. arej (3.MS.FF), arek (3.MS.BF), aretəo (3.MP.BF),
 areode (3.MP.FF) ‘tongue’
 Ch. ahĩrte (3.MS.FF), ahĩrk (3.MS.BF), ahĩro (3.MP) ‘tongue’

(122) Ay. ahamej (MS.FF), ahamec (MS.BF), ahametəo (MP.BF),
 ahameone (MP.FF) ‘armadillo’
 Ch. aṃurmit (MS.FF), aṃurmik (MS.BF), aṃurmo (MP) ‘armadillo’

(123) Ay. uṇoj (3.MS.FF), uṇok (3.MS.BF), uṇotəo (3.MP.BF),
 uṇoṇone (3.MP.FF) ‘wing of bird’
 Ch. ihĩt (3.MS.FF), ijō (3.MP), ijāk (3.MS.BF) ‘wing; leaf’
 (variant: ijĩt)

- (124) Ay. *pej* (MS.FF), *pek* (MS.BF), *peteo* (MP.BF), *peode* (MP.FF) ‘piece’
Ch. *pīt* (MS.FF), *pik* (MS.BF), *po* (MP) ‘piece’

- (125) Ay. *erōj* (3.MS.FF), *erok* (3.MS.BF), *eroteo* (3.MP.BF),
erogode (3.MP.FF) ‘firewood’
Ch. *urte* (3.MS.FF), *uro* (3.MP), *urk* (3.MS.BF) ‘piece of wood’

§14.3.5 Nominals with plural in *-/jo/* or *-/wo/*

CH nominals exhibit plural in *-/jo/* when the root ends in *-/j/* or *-/i/*.⁴⁹⁰ In the former case the corresponding AY nominals also have root in *-/j/* and both languages show the plural suffix *-/o/* (126-128). In the latter case, */j/* of *-/jo/* is an insertion in Chamacoco (129-131). In these examples, CH root-final */i/* is also to be observed in the AY root, but not necessarily in root-final position.⁴⁹¹

- (126) Ay. *abaj* (3.MS.FF), *abaj* (3.MS.BF), *abajo* (3.MP.BF),
abajode (3.MP.FF) ‘husband’
Ch. *abitē* (3.MS.FF), *abejʔ* (3.MS.BF), *abijo* (3.MP) ‘husband’

- (127) Ay. *daj* / *daje* (3.MS.FF), *daj* (3.MS.BF), *dajo* (3.MP.BF),
dajode (3.MP.FF) ‘father’
Ch. *dejte* (3.MS.FF), *dejʔ* (3.MS.BF), *dejo* (3.MP) ‘father’
O.Z. *daitie* (3.MS.FF), *dai* (3.MS.BF) ‘father’

- (128) Ay. *gaj* (3.MS.FF), *gaj* (3.MS.BF), *gajo* (3.MP.BF),
gajode (3.MP.FF) ‘over’
Ch. *e:jte* (3.MS.FF), *e:jo* (3.MP) ‘on, over; surface, roof’

⁴⁹⁰ Leaving aside final glottalization.

⁴⁹¹ On the reinterpretation of the root in Chamacoco, see §14.3.9.

- (129) Ay. orotabidi (3.MS.FF), orotabit (3.MS.BF), orotabiteo (3.MP.FF),
 orotabidode (3.MP.FF) ‘rib’
 Ch. aṭṭibite (3.MS.FF), aṭṭibijo (3.MP) ‘rib’
- (130) Ay. pidi (MS.FF), pit (MS.BF) piteo (MP.BF), pidode (MP.FF)
 ‘stick, firewood (in the plural)’
 Ch. pite (MS.FF), pijo (MP) ‘stick, firewood, wood’
 O.Z. pitie (MS.FF), pit (MP.BF), picho (MS.BF), pidoddoe (MP.FF)
 ‘stick, wood’
- (131) Ay. abuhi (3.MS.FF), abuhi (3.MS.BF), abuhio (3.MP.BF),
 abuhiode (3.MP.FF) ‘nephew, woman’s brother’s son’
 Ch. debihit / debihite (3.MS.FF), debijo (3.MP), debihik (3.MS.BF)
 ‘nephew’ (also: debuhute (3.MS.FF))

This does not imply that all AY cognates in (126-131) have their plural BF ending in *-/jo/* or *-/io/*. Plurals in *-/təo/* are also to be found (129-130), but this kind of plural is rarely observed in Chamacoco (see §14.3.7) where the suffix *-/o/* is generally used. However, in (129-130) a CH plural in *-/jo/* corresponds to an AY plural with the suffix *-/jo/*, but CH */j/* is an insertion. The same applies to (133). In (132) */i/* is obviously part of the root. In (133) no trace of */i/* is to be found in the FF *imisht* /imiet/, but it emerges in the plural *imishiyo* /imicijo/ and this is confirmed by the comparison with AY *bisit*. The same can be observed in (134), where */r/* is absent in the FF *aach* /a:tə/, although it belongs to the root of its AY cognate and re-emerges in the CH plural *aaryo* /a:rjo/. In (135) epenthetic */j/* shows up in the plural owing to phonotactic reasons, that is in order to avoid the sequence **/io/*, which is illegal in Chamacoco. Note that in the BF */diteikiri:jak/*, */a/* of the suffix originally belonged to the root, as one can see in the corresponding AY nominal.

- (132) Ay. i (3.MS.FF), i (3.MS.BF), io (3.MP.BF), iode (3.MP.FF) ‘name’
 Ch. i:te (3.MS.FF), i:jo (3.MP), i:k (3.MS.BF) ‘name’
- (133) Ay. bisidi (MS.FF), bisit (MS.BF), bisiteo (MP.BF), bisidode (MP.FF)
 ‘medicine’
 Ch. imiet (3.MS.FF), imieijo (3.MP) ‘medicine’
- (134) Ay. garaj (MS.FF), garaj (MS.BF), garajo (MP.BF), garane (MP.FF)
 ‘open space in village or woods; field’
 Ch. a:te (MS.FF), a:rjo (MP) ‘field’
- (135) Ay. kirakiraj (MS.FF), kirakira (MS.BF), kirakira (MP.BF),
 kirakirade (MP.FF) ‘type of bird’ (*Caracara plancus*)
 Ch. ditekĩri:t (MS.FF), ditekĩri:jak (MS.BF), ditekĩri:jo (MP)
 ‘type of bird’ (*Caracara plancus*)

CH /i/ may correspond to AY /u/, as in (136). By contrast, CH /u/ (or /i/) corresponds to AY /i/ in (137-138), where both vowels belong to the root. CH /w/ is an insertion before the plural suffix -/o/ when /u/ is part of the plural root (138). In (139) /u/ is the root-final vowel in both languages, at least in the plural. In (138) and (139) the CH root vowel /u/ only emerges in the plural.

- (136) Ay. ugui (3.MS.FF), uguk (3.MS.BF), uguteo (3.MP.BF),
 ugugode (3.MP.FF) ‘path’
 Ch. ixite (3.MS.FF), ixik (3.MS.BF), ixijo (3.MP) ‘path’
- (137) Ay. idaj (3.MS.FF), idaj (3.MS.BF), idajo (3.MP.BF), idajode (MP.FF)
 ‘village; town’
 Ch. dit / dut (MS.FF), duwo (MP) ‘village’
- (138) Ay. uri (3.MS.FF), urik (3.MS.BF), uriteo (3.MP.BF),

urigode (3.MP.FF) ‘dream’⁴⁹²

Ch. u:rte (3.MS.FF), u:rk (3.MS.BF), u:ruwo (3.MP) ‘dream’

(139) Ay. purudi (GF.MS.FF), purut (GF.MS.BF), puruteo (GF.MP.BF),
purudode (GF.MP.FF) ‘shade’

Ch. pu:rte (MS.FF), pu:rk (MS.BF), pu:ruwo / puruwo (MP)
‘shade, shadow’

Occasionally, CH /w/ (or /w̃/) corresponds to AY /r/, as in (140-142). In (142) the CH plural shows the alternation of /r/ and /w/ in the root.

(140) Ay. orerāj (MS.FF), orerāk (MS.BF), orerāteo (MP.BF),
orerāne (MP.FF) ‘valuable, precious’

Ch. oruhut (MS.FF), oruwo (MP) ‘precious’

(141) Ay. tarej (MS.FF), tarek (MS.BF), tareteo (MP.BF), taregode (MP.FF)
‘lazy person’

Ch. towit (MS.FF), tok (MS.BF), towo (MP) ‘lazy, idle’

(142) Ay. ũriaroj (3.MS.FF), ũriaro (3.MS.BF), ũriaro (3.MS.FF),
ũriarone (3.MP.FF) ‘molar; hinge of jawbone’

Ch. irürt / irürte (MS.FF), irürk (MS.BF), irüwo (MP) ‘tooth’⁴⁹³
(also: urürte)

Apparently, in Chamacoco there is a tendency to regularize the plurals in *-/jo/*, which turn into plurals in *-/o/*. In (143), the AY root is *-/ateit/*. Accordingly, in its CH cognate *echit /eteit/*, */i/* or */i/* is expected to be part of the root and indeed the plural *echiyo /eteijo/* is observed. However, the more “regular” plural *echo /etéo/* is also

⁴⁹² “Usually used in the plural *urigode*” (Higham *et al.* 2000: 840).

⁴⁹³ A plural form *irüro* is also found, but is not accepted by all speakers.

to be found, since most CH nominals in *-/it/* take *-/o/* in the plural without glide insertion. In (144-145), the comparison with AY nominals with root in *-/i/* shows that CH */i/* or */i/* was originally a root vowel, although it is not preserved in the plural.

- (143) Ay. *gateidi* (3.MS.FF), *gateit* (3.MS.BF), *gateiteo* (3.MP.BF),
gateidode (3.MP.FF) ‘pet, domesticated animal; vehicle’
 Ch. *eteit* (3.MS.FF), *eteijo* (3.MP), *eteo* (3.MP)
 ‘pet, domesticated animal’

- (144) Ay. *dakide* / *daki* (3.MS.FF), *daki* (3.MS.BF), *dakio* (3.MP.BF),
dakiode (3.MP.FF) ‘grandfather’
 Ch. *dekite* (3.MS.FF), *deko* (3.MP) ‘grandfather’

- (145) Ay. *orieteki* (MS.FF), *orieteki* (MS.BF), *orietekio* (MP.BF),
orietekiode (MP.FF) ‘robber’
 Ch. *eteikit* (MS.FF), *eteiko* (MP), *eteiki*’ ([M/F]S.BF) ‘thief’

In most case, however, when Ayoreo or Old Zamuco show the MP-BF */io/*, the CH plural forms do not end in *-/jo/*, but in *-/o/*, because */i/* is not part of the root.

- (146) Ay. *ɲumi* (MS.FF), *ɲup* (MS.BF), *ɲumio* (MP.BF), *ɲumone* (MP.FF)
 ‘earth; ground; floor; dust’
 Ch. *ɲimite* (MS.FF), *ɲimo* (MP) ‘land, ground’

- (147) Ay. *erubi* (3.MS.FF), *erup* (3.MS.BF), *erubio* (3.MP.BF),
erubode (3.MP.FF) ‘urine’
 Ch. *ihirbite* (3.MS.FF), *ihirap* (3.MS.BF), *ihirbo* (3.MP) ‘urine’

§14.3.6 The Chamacoco plural suffix *-/lo/*

Some CH nominals take the plural suffix *-/lo/* or *-/no/*. This is the case in (148-153); the corresponding AY nominals have root in *-/t/*.

By contrast, in (154-156) one finds CH nominals with plural in *-/lo/* or *-/no/* with no such correspondence in Ayoreo.

Let us begin by analyzing the nominals in (148-153). AY root-final */t/* voices into */d/* when the plural FF suffix *-/ode/* is added, corresponding to O.Z *-(o)ddoe /odoe/*.⁴⁹⁴ Unfortunately, the very page where Chomé described the plural FF of nominals with root in *-/t/* has been lost. Nevertheless, some paradigms, such as *piperocaiditie /piperokaiditie/* (150) and *pitie* (157), can be extracted from Chomé's grammar. In (150) and (157), the Old Zamuco plural FF is very similar to the AY one: */t/* voices into */d/* and the suffix *-oddoe (-/odoe/)* is added. In examples (148-153), the CH plurals in *-/lo/* or *-/no/* correspond to Ayoreo and Old Zamuco plural FFs via loss of *-/de/* and *-ddoe (-/doe/)*, respectively. With regard to this connection, three hypotheses emerge.

The first hypothesis, based on examples (148-153), claims that, from a proto-language more similar to Old Zamuco than to Ayoreo or Chamacoco, a suffix reduction process consisting in the loss of *-/de/* or *-ddoe (-/doe/)* took place: O.Z *d-oddoe /d-odoe/* → AY */d-ode/* → CH **-/d-o/* > *-/lo/*. Then, the original Proto-Zamucoan suffix would have reduced to *-/o/* in Chamacoco, where the morpheme boundary was reanalyzed, giving rise to the new morpheme *-/lo/*, with */l/* coming from */d/*. */l/* and */d/* are indeed related to each other, for in word-initial position they are free-variant allophones. Moreover, */l/* has no phonematic status in Ayoreo and in Old Zamuco. In (149) *-/no/* is the nasalized counterpart of *-/lo/*; this is a rare trace of the nasalization process

⁴⁹⁴ Here O.Z data are reported in Chomé's orthography, where the double consonant <dd> does not seem to correspond to a geminated consonant [dd], but it was probably used to indicate that the preceding vowel was a short one (Kelm 1964: 462).

widely observed in Old Zamuco and Ayoreo plural FFs.

- (148) Ay. adi (3.MS.FF), at (3.MS.BF), ateo (3.MP.BF), adode (3.MP.FF)
 ‘body’
 Ch. a:t (3.MS.FF), a:ʔ (3.MS.BF), a:lo (3.MP) ‘smell; body’
- (149) Ay. kukarāni (MS.FF), kukarāt (MS.BF), kukarāteo (MP.BF),
 kukarānone (MP.FF) ‘mountain, hill’
 Ch. koxāte / koxāt (MS.FF), koxāno (MP) ‘mountain, stone’
 O.Z. cucaraitie (MS.FF) ‘stone’
- (150) Ay. hogadi (3.MS.FF), hogat (3.MS.BF), hogateo (3.MP.BF),
 hogadode (3.MP.FF) ‘place, location’
 Ch. owite / owit (3.MS.FF), owilo (3.MP) ‘place’
 cf. O.Z. piperocaiditie (MS.FF), piperocait (MS.BF),
 piperocacho (MP.BF), piperocaidoddoe (MP.FF) ‘place where you
 go for something’
- (151) Ay. otadi (MS.FF), otat (MS.BF), otateo (MP.BF), otadode (MP.FF)
 ‘juice, broth, liquid’
 Ch. otite / otit (MS.FF), otik (MS.BF), otilo (MP) ‘liquid, juice’
- (152) Ay. udi (3.MS.FF), ut (3.MS.BF), uteo (3.MP.BF), udode (3.MP.FF)
 ‘under, below, underneath’
 Ch. u:t (3.MS.FF), u:lo (3.MP) ‘under, below, underneath’
 O.Z. uitie (MS.FF), uddi (MS.BF), uddio (MP.BF), uddoddoe (MP.FF)
 ‘below, behind’
- (153) Ay. ugutadi (3.MS.FF), ugutat (3.MS.BF), ugutateo (3.MP.BF),
 ugutadode (3.MP.FF) ‘pillow, cushion’
 Ch. itite (3.MS.FF) ‘pillow’, itilo (3.MP)
- (154) Ay. diri (MS.FF), dir (MS.BF), dijo (MP.BF), dirode (MP.BF) ‘day’
 Ch. de:jte (MS.FF), da:lo (MP) ‘day’
 O.Z. diritie (MS.FF) dire (MS.BF), diyo (MP.BF) ‘day’

- (155) Ay. *erami* (MS.FF), *erãp* (MS.BF), *eramio* (MP.BF), *eramone* (MP.FF)
 ‘earth, world, woods, land’
 Ch. *ormit* (MS.FF), *ormo* / *ormilo* (MP), *ormik* (MS.BF)
 ‘woods’
 Ch. *irmit* (MS.FF) ‘edge’, *irmino* (MP) ‘edge’, *irmo* (MP) ‘world’,
irmik (MS.BF)⁴⁹⁵
 O.Z. *eramtie* (MS.FF), *erãp* (MS.BF), *eramio* (MP.BF),
eramonnœ (MP.FF) ‘woods’
- (156) Ay. *poti* (3.MS.FF), *pos* (3.MS.BF), *poso* (3.MP.BF),
posode (3.MP.FF) ‘food’
 Ch. *poet* (3.MS.FF), *pos* (3.MS.BF), *poso* / *posilo* (rare) (3.MP) ‘food’
 O.Z. *yibosoddœ* (1S.MP.FF) ‘food’
- (157) Ay. *pidi* (MS.FF), *pit* (MS.BF) *pitœo* (MP.BF), *pidode* (MP.FF)
 ‘stick, firewood (in the plural)’
 Ch. *pitœ* (MS.FF), *pijo* (MP) ‘stick, firewood, wood’
 O.Z. *pitie* (MS.FF), *pit* (MP.BF), *picho* (MS.BF),
pidoddœ (MP.FF) ‘stick, wood’

The fact that, by hypothesis, the original FF suffix reduced to *-o/* in Chamacoco, made it coincide with the original plural BF suffix *-o/*. This could explain the loss of the BF vs. FF contrast in the plural.

The first hypothesis, however, does not take into account nominals such as those in (154-156), which display the suffix *-no/* or *-lo/* not deriving from the root, because the latter does not end in *-t/* here. There is a second hypothesis concerning the origin of CH

⁴⁹⁵ The AY word *erámi* ‘woods, world’ corresponds to two CH words *ormit* ‘woods’ and *irmit*, whose plural *irmo* means ‘world’. Both *erámi* and its CH counterparts, *ormit* and *irmit*, have no possessive inflection.

plurals in *-/lo/* or *-/no/*. The suffixes *-/lo/* or *-/no/* might result from the suffix *-(o)ddoe* (*-(o)doe/*), rather than from the final part of the root. One can surmise that in the nominals in (148-153), the original root-final consonant (*/t/*) had already been reinterpreted, so that voicing into */d/* was no longer possible. In (158) the possible evolution of the CH suffixes corresponding to O.Z *-/tae/* and *-(o)ddoe* (*-(o)doe/*) is proposed. O.Z final */e/* is not preserved in Chamacoco, as one can see in the feminine FF suffix (158). The same could have occurred with the final */e/* of *(o)ddoe* *-(o)doe/*. The CH suffix *-/lo/* or *-/no/* would thus correspond to the O.Z suffix *-(o)ddoe* (*-(o)doe/*), just like the AY suffix *-(o)de/*.

- (158) *-tae* (O.Z) → *-ta* (Ch)
-(o)ddoe (*-(o)doe/*) (O.Z) → **-do* > *-lo* (Ch)
-(o)ddoe (*-(o)doe/*) (O.Z) → *-(o)de* (Ay)⁴⁹⁶

A third hypothesis is that *-/lo/* has originated from the MP-BF suffix *-/jo/*, in analogy with verbs showing alternation between */l/* and */j/* root-initially (§5.4.9), but the fact that */l/* in most cases corresponds to AY and O.Z. */d/* (for instance, in the 3-irrealis prefix) suggests that *-/lo/* was originally a plural FF suffix.

According to the first hypothesis, the last part of the original root has been preserved and reanalyzed in Chamacoco, while in the second one the root underwent simplification. The second hypothesis is to be preferred, because the CH suffix *-/lo/* or *-/no/* does not only emerge in nominals whose original BF ended in *-/t/*

⁴⁹⁶ In (158), I do not mean that the AY and CH suffixes *-(o)de/* and *-/lo/* or *-/no/* derive from the O.Z ones, but that in this case the O.Z suffix *-(o)ddoe* (*-(o)doe/*) is probably the most similar to the MP-FF suffix in Proto-Zamucoan. As shown in Ciucci (2014b), the Proto-Zamucoan MP-FF suffix is probably the result of language contact with other Chaco languages.

(see §14.3.3). In the CH plurals corresponding to the AY and O.Z plurals in *-/tɛo/*, the last consonant of the original BF is not preserved in most cases: only the suffix *-/o/* is added. This is an indirect confirmation of the second hypothesis. If this is correct, one may also surmise that in the CH nominals with an original BF in *-/t/* haplology occurred: **/dodoe/ > /dodo/ > /do/ > /lo/*.

In conclusion, the CH suffix *-/lo/* or *-/no/* directly corresponds to the O.Z suffix *-(o)ddoe* (*-(o)doe/*) and to the AY suffix *-(o)de/*. Although the difference between BF and FF has been lost in Chamacoco and the original BF suffix is unconditionally used to form the plural, some plural forms definitely derive from an original plural FF. These are probably traces of the existence of the plural BF vs. plural FF contrast in an earlier phase of the language.

The suffix *-/lo/* is also used as plural or greater plural marker in personal pronouns and in verb morphology. In the other Zamucoan languages, no plural suffix used in personal pronouns or in verb morphology shows similarities with any FF affix. On the contrary, the 2P-person suffixes used for plural persons of O.Z and AY verb inflection possibly derive from plural BF suffixes (see §14.3.14).

§14.3.7 Plurals in *-/tɛo/* and *-/tso/*

In most cases, Chamacoco MPs take the suffix *-/o/*, stemming from the Ayoreo and Old Zamuco MP-BF suffix *-/o/*. The exceptions are the plurals in *-/lo/* or *-/no/*. Ayoreo and Old Zamuco often show plural BFs in *-/tɛo/*. The corresponding CH plural has usually regularized into an ordinary plural in *-/o/*. Nevertheless, a few CH plurals in *-/tso/* (or *-/tɛo/*) are to be observed. In (159) only *-/tso/* is reported, while in (160) *-/tso/* is rare and *-/o/* is preferred (about these plurals, see also §13.7.1, ex. 118-119 and §14.3.7). Since AY and O.Z *-/tɛo/* is yielded by the root-final consonant */t/* or */k/* which

palatalizes before the plural suffix *-/jo/*, the presence of CH plural in *-/tso/* suggests that the same also occurred in Chamacoco. Here the original root-final consonant has been reinterpreted as a FF suffix (159)⁴⁹⁷ or as a BF suffix (160)⁴⁹⁸ and the plural suffix **-/jo/* has disappeared.

- (159) Ay. *weradi* (MS.FF), *werat* (MS.BF), *werateo* (MP.BF),
weradode (MP.FF) ‘pretty, nice, beautiful’
 Ch. *ihĩrt* (MS.FF), *ihĩrtso* (MP) ‘beautiful, handsome’

- (160) Ay. *dosipej* (MS.FF), *dosipek* (MS.BF), *dosipeteo* (MP.BF),
dosipeode (MP.FF) ‘animal’
 Ch. *loẽipit* (MS.FF), *loẽipik* (MS.BF), *loẽipo* / *loẽiptso* (MP) ‘animal’

The correspondence between AY, O.Z */tɛ/* and CH */ts/* is also witnessed by verb inflection (161). Indeed, the CH prefixes */tɛ/* and */ts/* occasionally alternate in the same verb (see §5.4.13).

- (161) Ay. *tɛ-i-mesẽre* (3) ‘to want, to prefer’⁴⁹⁹
 Ch. *ts-a-m̃ur* (3) ‘to love, to like’
 O.Z. *ch-i-mecêre* (3) ‘to love’

§14.3.8 Nominals in *-/ehet/*

CH masculine nominals in *-/ehet/* alternate */e/* in the FF with */a/* in the BF and in the plural. The comparison with Ayoreo shows in which CH form(s) the change has taken place. *-/ehet/* corresponds to AY *-/ahej/* (162-163): originally the first */e/* was */a/*, which re-emerges in CH plurals in *-/aho/*. In (164) both CH */e/* correspond

⁴⁹⁷ See §14.3.3.

⁴⁹⁸ See §14.3.1.

⁴⁹⁹ Cf. also AY. *chijnóra* */tɛĩnora/* ‘to love, to prefer’.

to AY /a/ (-/ehet/ vs. -/ahãj/): here too, /a/ is still to be found in the Chamacoco BF and in the plural.

- (162) Ay. dahej (GF.MS.FF), dahek (GF.MS.BF), daheode (GF.MP.FF),
 dahetœo (GF.MP.BF) ‘path’
 Ch. dehet (MS.FF), dehek (MS.BF), daho (MP) ‘path’
 O.Z. dahec (GF.MS.BF), dahecho (GF.MP.BF), daheddoe (GF.MP.FF)
 ‘path’
- (163) Ay. ahej (3.MS.FF), ahe (3.MS.BF), aheode (3.MP.FF), aheo (3.MP.BF)
 ‘inside’
 Ch. ehēt (3.MS.FF), aho (3.MP) ‘inside’
- (164) Ay. kutamurahãj (MS.FF), kutamurahã (MS.BF),
 kutamurahã (MP.BF), kutamurahane (MP.FF) ‘Ayoreo clan name’
 Ch. kutimrehet (MS.FF), kutimraho (MP), kutimraha² ([M/F]S.BF)
 ‘Chamacoco clan name’ (variant: kutumrehet)

The last syllable of *kinehet* (-/het/) should be compared with AY -/ɲaj/ (165): again, CH /e/ in the FF corresponds to AY /a/ and this vowel is preserved in the Chamacoco BF. However, and exceptionally, the first /e/ in the Chamacoco FF corresponds to AY /e/. The CH word *laseêt* /lasẽ:t/ (166) does not include the termination -/ehet/, yet it is one more example of a nominal where /a/ turned into /e/ in the FF, as the comparison with AY indicates. The same alternation between /e/ (in the FF) and /a/ (in the BF and in the plural) is reported in the CH nominals in (167) and (168), which unfortunately cannot be compared with their AY cognates in this respect, because these words have a different ending. Nevertheless, the AY nominal *umajósõri* /umahosõri/ can be segmented into *umajó* /umaho/ and -/sõri/ (the masculine animate agentive suffix), so that one can compare AY /umaho/- with CH *imaho* (3.MP), with /a/ in both Ayoreo and Chamacoco (168).

- (165) Ay. kedeṇai (MS.FF), kedeṇa ([M/F]S.BF), kedeṇa (MP.BF),
 kedeṇane (MP.FF) ‘strange, foreign’
 Ch. kinehet (MS.FF), kinaha’ ([M/F]S.BF), kinaho / kinahu (MP)
 ‘different’
- (166) Ay. nasaraj (3.MS.FF), nasarak (3.MS.BF), nasarane (3.MP.FF),
 nasarateo (3.MS.BF) ‘son-in-law’
 Ch. lasēt / dasēt (3.MS.FF), lasērak / lasīrak (3.MS.BF), lasīre /
 dasēre (3.MP) ‘son-in-law’ (also: lasē:t)
- (167) Ay. kesej (MS.FF), kese (MS.BF), keso (MP.BF), kesoode (MP.FF)
 ‘knife, sword’
 Ch. kiskirehet (MS.FF), kiskiraha’ ([M/F]S.BF), kiskiraho (MP)
 ‘knife, machete’
- (168) Ay. umahosōri (3.MS.BF) ‘enemy’
 Ch. imehet (3.MS.FF), imaha’ (3.[M/F]S.BF), imaho /
 imahatso (3.MP) ‘enemy’

In conclusion, the comparison between Ayoreo and Chamacoco shows that a synchronically subregular plural formation in Chamacoco has a diachronic explanation. Although there are relatively few comparable examples, it appears that in CH nominals in *-ehet/*, */a/* in the plural and in the BF is a conservative element (162-164), while */e/* in the singular is a CH innovation.

§14.3.9 The masculine plural suffix *-/e/*

The standard Chamacoco MP suffix is *-/o/*, but sometimes *-/e/* is to be observed, which in some cases alternates with *-/o/*. The following examples list CH masculine nominals with the plural suffix *-/e/*, as compared with their AY counterparts. Most nominals

in *-e/* have BF in *-ak/* and, importantly, all CH nominals in (169-177) correspond to AY nominals with root in *-a/*. The latter have plural BF in *-a/* rather than in *-o/*, because the BF-MP suffix *-o/* is replaced by the last root-vowel. Something similar has probably occurred also in Chamacoco, where the original MP suffix *-o/* has been lost. This correlation between the Chamacoco MP suffix *-e/* and the AY nominals with root in *-a/* suggests that *-e/* was originally part of the root and has been reanalyzed as a suffix. The FP suffix *-e/* (which has a different origin) has probably exerted an influence on this process. Also the CH number ‘one’ (177) has the plural form meaning ‘some, few’ which can take the suffix *-e/*. Although this possibility is not observed for its AY counterpart, the latter has root in *-a/*.

(169) Ay. dehaj (MS.FF), dehak (MS.BF), dehade (MP.FF), dehateo (MP.BF)
‘night’

Ch. diḷite (MS.FF), diḷak (MS.BF), diḷe (MP) ‘night’

(170) Ay. ṇakaripitaj (MS.FF), ṇakaripita (MS.BF), ṇakaripita (MP.BF),
ṇakaripitade (MP.BF) ‘young teenaged man’

Ch. ṇakirbitit (MS.FF), ṇakirbitak (MS.BF), ṇakirbito / ṇakirbite (MP)
‘young man’

(171) Ay. hōraj (3.MS.FF), hōra (3.MS.BF), hōra (3.MP.BF),
hōrane (3.MP.FF) ‘friend’

Ch. ijēt (3.MS.FF), ijērak (3.MS.BF), ijēre (3.[M/F]P) / ijēro (3.MP)
‘friend, companion’

(172) Ay. kuteaj (GF.MS.FF), kutea (GF.MS.BF), kutea (GF.MP.BF),
kuteade (GF.MP.FF) ‘thing’

Ch. kuteit (MS.FF), kutee (MP) ‘thing’

(173) Ay. nasaraj (3.MS.FF), nasarak (3.MS.BF), nasarane (3.MP.FF),

- nasarateo (3.MS.BF) ‘son-in-law’
 Ch. lasēt / dasēt (3.MS.FF), lasērak / lasīrak (3.MS.BF), lasīre /
 dasēre (3.MP) ‘son-in-law’ (also: lasē:t)
- (174) Ay. pātaraj (3.MS.FF), pātarak (3.MS.BF), pātarane (3.MP.FF),
 pātarateo (3.MP.BF) ‘tooth’
 Ch. potēt / potē:t (3.MS.FF), potērak (3.MS.BF), potēro /
 potēre (3.MP) ‘tooth’
- (175) Ay. uteaj (3.MS.FF), uteak (3.MS.BF), uteateo (3.MP.BF),
 uteade (3.MP.FF) ‘excrement, feces, dung’
 Ch. iteit (3.MS.FF), iteak (3.MS.BF), itee / iteo (3.MP) ‘dung’
- (176) Ay. iṇiekade (3.MP) ‘songs, chants, vocal music’
 Ch. iṇē:t (3.MS.FF) ‘song’, iṇē:rak (3.MS.BF), iṇē:ro / inē:re (3.MP)
- (177) Ay. teomaṛaj (MS.FF), teomaṛa (MS.BF) ‘one’
 Ch. noṃet (MS.FF), noṃira[?] (MS.BF), noṃire / noṃiro (MP) ‘one’
 O.Z. nomarâtie (MS.FF), chomarâ (MS.BF) ‘one’

Not all masculine AY nominals with root-final /a/ correspond to CH masculine nominals with plural in /-e/ (see ex. 178-181). In (179), both the Ayoreo singular and plural BF end in /-a/, and the CH plural ends in /-a:ʔ/ too. If one assumes that AY *casecai* /kasekaj/ is more conservative, in CH *kasaat* /kasa:t/ the long vowel possibly originated via /k/ deletion. In (180) the MP takes the suffix /-o/, while in (181) one finds alternation between /-e/ and /-o/.

- (178) Ay. ṃanekaj (3.MS.FF), ṃaneka (3.MS.BF), ṃaneka (3.MP.BF),
 ṃanekade (3.MP.FF) ‘arm, wrist to elbow, forearm’
 Ch. ṃejkit (3.MS.FF), ṃejki[?] (3.MS.BF), ṃejko (3.MP) ‘arm’
- (179) Ay. kasekaj (MS.FF), kaseka (MS.BF), kaseka (MP.BF),

kasekade (MP.FF) ‘ant’

Ch. kasa:t (MS.FF), kasa:ʔ / kasa:k (MS.BF), kasa: (MP) ‘ant’

(180) Ay. aberaj (MS.FF), aberak (MS.BF), aberade (MP.FF),
 aberateo (MP.FF) ‘sterile’

Ch. ebirt (MS.FF), ebiro (MP), ebirak (MS.BF) ‘sterile’

(181) Ay. hokarâj (MS.FF), hokarâk (MS.BF), hokarâteo (MP.BF),
 hokarâne (MP.FF) ‘noise’

Ch. ijokôrt (3.MS.FF), ijokorâk (3.MS.BF), ijokôro / ijokôre (3.MP)
 ‘noise’

§14.3.10 The dropping of word-internal /r/

AY intervocalic /r/ tends to drop. In some CH nominals /r/ emerges in the plural and in the BF, but it is not to be found in the FF. The comparison shows that /r/ is to be observed in the whole AY paradigm (182-187). There is thus a diachronic motivation for the presence of /r/ in some Chamacoco BFs and plurals, while the lack of /r/ in the singular FF is a CH innovation. Note that in currently spoken Chamacoco there is no tendency to drop etymological /r/, as is often the case in currently spoken Ayoreo.

(182) Ay. garaj (MS.FF), garaj (MS.BF), garajo (MP.BF), garane (MP.FF)
 ‘open space in village or woods; field’

Ch. a:tɛ (MS.FF), a:rjo (MP) ‘field’

(183) Ay. daterama (3.FS.FF), daterama (3.FS.BF), dateramaj (3.FP.BF),
 dateramanie (3.FP.FF) ‘aunt, mother’s sister’
 (also: daterâ, dateramia)

Ch. d-/latermîtea (3.FS.FF) ‘aunt’, latirme (3.FP), latirmeʔ (3.FS.BF)
 (also: d-/late:mtea (3.FS.FF))

(184) Ay. hõraj (3.MS.FF), hõra (3.MS.BF), hõra (3.MP.BF),

hōrane (3.MP.FF) ‘friend’

Ch. ijēt (3.MS.FF), ijērak (3.MS.BF), ijēre (3.[M/F]P), ijēro (3.MP)
‘friend, companion’

(185) Ay. nasaraj (3.MS.FF), nasarak (3.MS.BF), nasarane (3.MP.FF),
nasarateo (3.MS.BF) ‘son-in-law’

Ch. lasēt / dasēt (3.MS.FF), lasērak / lasīrak (3.MS.BF), lasīre /
dasēre (3.MP) ‘son-in-law’ (also: lasē:t)

(186) Ay. teomaraj (MS.FF), teomara (MS.BF) ‘one’

Ch. nomēt (MS.FF), nomīra? ([M/F]S.BF), nomīre / nomīro (MP) ‘one’
O.Z. nomarâtie (MS.FF), chomarâ (MS.BF) ‘one’

(187) Ay. pātaraj (3.MS.FF), pātarak (3.MS.BF), pātarane (3.MP.FF),
pātarateo (3.MP.BF) ‘tooth’

Ch. potēt / potē:t (3.MS.FF), potērak (3.MS.BF), potēro /
potēre (3.MP) ‘tooth’

§14.3.11 Nominals in -s/

Some CH nominals show a root alternation /s/ vs. /ɛ/ between BF and plural, and FF. /s/ appears in the BF coinciding with the root and in the plural. The corresponding AY and O.Z nominals have /s/ in both BF and FF (/ɛ/ does not exist in these languages). This suggests that CH /ɛ/ in the FF is an innovation (/s/+t/ > /ɛt/).

AY *poti* is a rare case of root allomorphy. It has root-final /t/ in the MS-FF and root-final /s/ in the rest of the paradigm. The comparison with CH *posht* /poɛt/, showing the FF suffix -/t/, suggests the following scenario: in AY *poti*, /t/ might be the ancient MS-FF suffix, reinterpreted as a part of the root replacing the original /s/ which underwent phonetic erosion.

(188) Ay. gosi (MS.FF), gos (MS.BF), gosode (MP.BF), gosode (MP.FF)

‘anyone, someone’

Ch. oet (MS.FF), os (MS.BF), oso (MP) ‘person’

(189) Ay. poti (3.MS.FF), pos (3.MS.BF), poso (3.MP.BF), posode (3.MP.FF)
‘food’

Ch. poet (3.MS.FF), pos (3.MS.BF), poso / posilo (rare) (3.MP) ‘food’

O.Z. yibosoddoe (1S.MP.FF) ‘food’

(190) Ay. utasi (3.MS.FF), utas (3.MS.BF), utaso (3.MP.BF),
utasode (3.MP.FF) ‘vein, artery’

Ay. etasi (3.MS.FF), etas (3.MS.BF), etaso (3.MP.BF),
etasode (3.MP.FF) ‘root’

Ch. utuet (3.MS.FF), utus (3.MS.BF), utuso (3.MP) ‘root; vein’
(also: itiet)

§14.3.12 Traces of nonconcatenative morphology in the Zamucoan languages?

Consider the following pairs of AY (191) and CH nouns (192). In *daquerã* /dakerã/ or *daterã* (191a) and *osiyer* /osijer/ or *otiyer* /otijer/ (192a) the gender difference is not expressed by a morpheme, but through the change of a consonant word-internally. *Daquerã* /dakerã/ ‘uncle’ (191a) has an irregular FF which does not take the suffix *-i/*, so that it is only distinguished from its feminine counterpart by root allomorphy. The following contrasts emerge: /s/ vs. /t/ in (191b-d, 192) and /k/ vs. /t/ in (191a). In (191b-d) and (192b-c), gender is also identifiable through suffixes, but one can observe the same consonantal contrasts in both languages: /s/ (or /ɕ/) ⁵⁰⁰ in the masculine vs. /t/ in the feminine. In all examples below, /t/ is used word-internally to express the feminine, generally

⁵⁰⁰ About the alternation between /ɕ/ and /s/ in Chamacoco, see (§13.1.7).

in contrast with /s/, and in one case with /k/ (191a). (191b) is an example of word derived by means of the suffixes *-sõri/* (MS.FF) and *-to/* (FS.FF). This pair of suffixes is very frequent in AY morphology and the masculine vs. feminine contrast is associated with the contrast between /s/ and /t/ word-internally.

(191) Ayoreo

- a. *dakerã* (3.MS.FF) ‘uncle’, *daterã* (3.MS.FF) ‘aunt’
- b. *gaṇesõri* (3.MS.FF) ‘owner, master’, *gaṇeto* (3.FS.FF) ‘owner, mistress’
- c. *gosi* (MS.FF) ‘anyone, someone’, *goto* (FS.FF) ‘anyone, someone’
- d. *igiosi* (3.MS.FF) ‘relative’, *igiotto* (3.FS.FF) ‘relative’

(192) Chamacoco

- a. *osijer* (M) ‘two’, *otijer* (F) ‘two’
- b. *oet* (MS.FF), *os* (MS.BF), *oso* (MP) ‘person’
→ *otita* (FS.FF), *oto?* (FS.BF), *ote* (FP) ‘person’
- c. *i:sit* (3.MS.FF), *i:s* (3.MS.BF), *i:so* (3.MP) ‘relative’
→ *i:tita* (3.FS.FF), *i:to?* (3.FS.BF), *i:te* (3.FP) ‘relative’

This might be interpreted as a mechanism of nonconcatenative morphology, no longer productive and of obscure origin. Also the fact that this occurs in cognates (cf. 191c and 192b, 191d and 192c) indicates that this feature can be traced back to Proto-Zamucoan. In Chamacoco a similar case can be found for the realis vs. irrealis distinction in the verb *itso* (193a) and the related adverb *itsorz* /*itorz*/ (193b). Word-internal /ts/ vs. /l/ expresses realis vs. irrealis. /ts/- and /l/- are prefixes widely used in verb morphology (§5) for the realis vs. irrealis distinction. These nonconcatenative mechanisms probably have different origins.

- (193) a. *itso* (RLS) ‘to seem, to be like’ vs. *ilo* (IRLS) ‘to seem, to be like’
- b. *itsorz* (RLS) ‘so this way’ vs. *ilorz* (IRLS) ‘so this way’

§14.3.13 *Dich* /dite/

The CH adjective *dich* /dite/ has an irregular plural, with alternation between /i/ and /e/ opposing the singular to the plural. No BF vs. FF contrast is observed. One can compare these forms with the corresponding AY forms and with O.Z. *dieda* (FS.BF), unfortunately the only form of this adjective reported by Chomé. The CH forms *dich* /dite/ and *data*, which should now be considered FFs, were probably BFs at an earlier stage and were reinterpreted as FFs. In the feminine, Ayoreo and Chamacoco are closer to each other than to Old Zamuco. In the plural, CH /e/ corresponds to AY /a/ (as it often occurs). The CH plural probably originated by analogical levelling caused by the reinterpretation of *dich* /dite/ and *data* as FFs and the subsequent reanalysis of the morphological boundaries in the singular. In the CH plural, /j/ is an insertion.

- (194) Ay. *datej* (MS.FF), *date* (FS.FF), *date* (MS/F.BF), *dateo* (MP.BF),
dateode (MP.FF) ‘big, large, great’
 Ch. *dite* / *dite* (MS.FF), *dejo* ([M/F]P), *data* (FS.FF) ‘big, large, great’
 O.Z. *dieda* (FS.BF)

§14.3.14 The plural base-form suffix and the second person plural suffix

In the Zamucoan languages, the 2S-prefix and the 2P-prefix tend to be identical. A suffix is added in the 2P-person in order to distinguish the two forms, the exception being the Ayoreo 2P-realis (but not the irrealis) which has the prefix /wak/-, resulting from the fusion of the personal pronoun *uac* /wak/ (2P) with the verb. In all Zamucoan languages there is a remarkable correspondence

between the plural suffixes used in nominal morphology and those used to form the 2P-person in verb morphology. The same element tends to be used in both cases. In Old Zamuco and Ayoreo, the 2P-suffix in verb morphology was originally a generic plural suffix, while the 1P-suffix is specific for verb morphology.⁵⁰¹

In Chamacoco, the 2P-suffix *-lo/* is properly a plural suffix. It is also used for the greater plural of the 1PI-person (that is the ‘plural’ of the inclusive person), for the plural of free pronouns and occasionally for the MP in nominal morphology.

In O.Z and AY verb morphology the situation is more complex, owing to greater variability of suffixes and morphophonological processes. In both languages the 2P-suffix corresponds to the MP-BF suffix in nominal morphology and the morphophonological processes are the same. In (195) O.Z data concerning the MP-BF are reported (Chomé 1958: 124).⁵⁰²

- (195) a. *guigueda* (GF.MS.BF) → *guiguedao* (GF.MP.BF) ‘house’
 b. *daparebec* (MS.BF) → *daparebecho* (MP.BF) ‘beggar’
 c. *pit* (MS.BF) → *picho* (MP.BF) ‘stick’
 d. *erâp* (MS.BF) → *eramio* (MP.BF) ‘woods’
 e. *pipiazup* (GF.MS.BF) → *pipiazubio* (GF.MP.BF) ‘work’
 f. *uom* (MS.BF) → *uomio* (MP.BF) ‘good’
 g. *nacar* (GF.MS.BF) → *nacayo* (GF.MP.BF) ‘young man’
 h. *unnâr* (MS.BF) → *unnaño* (MP.BF) ‘flea’
 i. *pimecêrazore* (GF.MS.BF) → *pimecerazoño* (GF.MP.BF)
 ‘one who loves’

The formation of the Old Zamuco MP-BF is summarized in Table 14.2, along with the formation rules of the 2P-person in verb

⁵⁰¹ In Chamacoco the 1P-person has a specific prefix and no suffix.

⁵⁰² These nominals have been compared with Ayoreo in §14.2.

morphology (see data in §6.1). Table 14.2 features the final elements of the nominal/verb root which are substituted or undergo a morphophonological change in the plural.⁵⁰³ The symbol Ø indicates that no final element is modified and the root remains unchanged. The plural termination of the nominal/verb is provided after the arrow. The suffixes used for the Old Zamuco MP-BF are *-o/* (after vowel) and *-jo/* (after consonant). In verb morphology, the suffix */o/* is used for the 2P-person when no substitution occurs, while the suffixes appearing with mobile syllables stem from the suffix *-jo/*, to be found when the root ends in *-r/* or *-re/*. In nominal and verb morphology, *-jo/* can nasalize into */ɲo/*. Not all terminations are observed in nominal and verb morphology. However, when the nominal/verb root ends in *-k/*, the same morphophonological changes occur: namely, when *-jo/* is added, */k/* palatalizes into */tɕ/*. The same process has probably yielded *-tɕo/* in verb morphology.

⁵⁰³ It depends on how the process is interpreted.

Old Zamuco	
Nominal morphology	Verb morphology
masculine singular base form → masculine plural base form	verb root → second person plural suffix
Ø → -o	Ø → -o
-re / -r → -yo / -ño	-re / -r → -yo / -ño
/	-z, -zu, -zi → -zo
-p → -bio / -mio	/
-/t/ → -cho	/ ⁵⁰⁴
-c → -cho	-c → -cho

Table 14.2

The AY suffix *-jo/* is the standard suffix used for the 2P-person when the root does not end in a mobile syllable. This directly corresponds to the MP-BF suffix *-jo/* used with nominals ending in a consonant. Not all cases of AY mobile syllables are reported in Table 14.3. In AY nominal morphology, when a root in *-t/* or *-k/* takes the MP-BF suffix *-jo/*, *-t/* and *-k/* palatalize into */tɕ/*, yielding */tɕo/*. The same process probably occurred in AY verbs ending in *-t/* or *-k/*, where the last consonant is replaced by *-tɕo/*, supposedly yielded by palatalization before *-jo/*. However, in Ayoreo the correspondence between the 2P-person and the MP-BF is weaker than in Old Zamuco. In AY verb morphology, the suffix *-tɕo/* is not only used when */t/* or */k/* are in final position (or

⁵⁰⁴ In Chomé's grammar there is no indication about the plural forms of verbs ending in *-t/* (or *-te/*, considering that euphonic */e/* can be added). By contrast, verbs ending in *-p/* are not to be found in either Old Zamuco or Ayoreo.

followed by the euphonic vocoid /e/), but also with the syllables -/da/, -/di/, -/ga/, -/go/, -/gu/, -/gi/, -/ŋa/, -/ŋo/ and -/ŋu/, namely with all mobile syllables, excluding -/sa/, -/se/, -/si/, -/so/ and -/su/.⁵⁰⁵ For instance, in AY verb morphology, -/re/ is not replaced by -/ŋo/, just as in AY and O.Z nominal morphology, but by -/tɛo/. This indicates that -/tɛo/, has been reinterpreted as an independent suffix in AY verb morphology.

In AY nominals in -/s/, the MP-BF suffix -/jo/ is added, but final /s/ replaces /j/, yielding the MP-BF in -/so/. The same probably occurred in O.Z and AY verb morphology, where, however, -/so/ should be considered a suffix on its own. In AY and O.Z verb morphology not only final -/s/⁵⁰⁶ in the singular corresponds to /so/ in the plural, but also the AY mobile syllables -/sa/, -/so/, -/si/ and -/su/ and O.Z -/si/ (<zi>) and -/su/ (<zu>) are replaced by -/so/ (<zo>).

⁵⁰⁵ For an inventory of the mobile syllables, see §4.8.1.

⁵⁰⁶ Here the vocoid /e/ can be added to re-create the syllabic structure CV.

Ayoreo	
Nominal morphology	Verb morphology
masculine singular base form → masculine plural base form	verb root → second person plural suffix
Ø → -o	Ø → -jo
-re → -jɲo	-re → -tɕo
-s → -so	-s → -so ⁵⁰⁷
-p → -bio	/
-t → -tɕo	-t → -tɕo
-k → -tɕo	-k → -tɕo

Table 14.3

In conclusion, one can observe remarkable correspondences between verb and nominal suffixation. In Ayoreo and Chamacoco, the suffix originally used for the 2P-person coincides with one of the MP-BF suffixes used in nominal morphology. The original suffixes used for the 2P-person in verb morphology were *-o/* and *-jo/* in Old Zamuco and *-jo/* in Ayoreo. The suffix *-jo/* is to be found in Old Zamuco when the verb ends in *-r/* or *-re/*, while in the other cases AY and O.Z *-jo/* yielded the suffixes *-tɕo/* and *-so/* used for the 2P-person in AY and O.Z verb morphology.

⁵⁰⁷ Although */s/* is preserved in the 2P-person, this case has been inserted in the table, because the full substitution of *-s(V)/* is to be observed in the 1P-person.

§14.4 The indeterminate form in the Zamucoan languages: a comparison

The following sections deal with the IF in the Zamucoan languages. After a short introduction on the Old Zamuco IF, the following section compares the masculine IF suffixes (§14.4.1). The IF of feminine nominals are addressed in §14.4.2. Section §14.4.3 compares two Ayoreo and Chamacoco IFs which have been reanalyzed as interrogative or indefinite pronouns.

§14.4.1 The masculine indeterminate form in the Zamucoan languages

In Old Zamuco, despite the scarcity of paradigms, one can have a clear idea of the IF morphology, which is almost identical to that of Ayoreo, as one can see in Chomé's grammar.⁵⁰⁸

Masculine indeterminate form: “Todos los acabados en *m R Re* cuya *e* no se pronuncia como son todos los participios activos, se mudan en *nic* y para el plural en *nigo*. *pahirizore*. El que mira... *pahirizonic*... el que ha de mirar. *pahirizonigo*... los que han &c. *nacar*... mozo. *nacanic*... El que ha de ser mozo. *nacanigo* los que &c. *Êm*... viento. *ca Enicuz*... no ay viento. v supra. todos los acabados En *C, p, t, y, z*, la mudan en *tic*, y en el plural en *tigo*. *canirac*... diligente, *caniratic*... el que ha de ser &c. *caniratigo*... Los que han &c. *carup*. soga. *carutic*... la que ha &c. *pit*. palo. *pit[i]c* el que ha &c... *noz* cuña... *notic*... la que ha de ser. todos los en vocal házen *Ric*. Añadido a la vocal, y *rigo*, en el plural. Excipe: *dai*... padre, que haze *nanic*, y todos los demas acabados en *ai*. *manai*. mano *mananic*. *idai*. pueblo. *Inanic*.” (Chomé 1958: 128)

Feminine indeterminate form: “Se haze con Añadir *Rac*, a la ultima del nombre, y *Rigui*, para el plural. *Acote*. Esposa. *Acoterac*... la que ha de ser. &c.

⁵⁰⁸ Of course, Chomé does not use the term *indeterminate form*, but calls it “future of the regime case”. For a detailed comparison between the Ayoreo and Old Zamuco IFs, see (Kelm 1964: 483-486).

Acoterigui. las que han &c. si se acabaren en *t*, Antes la muden en *de*; si en *c*, la mudan en *Gue*, y si en *z* se mudan en *ze*. *Azore*, lanza. haze *Azonac*. como tambien los de essa terminacion.” (Chomé 1958: 128)

Ayoreo and Old Zamuco have three series of masculine IF suffixes (Table 14.4). In Chamacoco there are only two series of suffixes, with a few exceptions to analyze below.

Ayoreo	
-tik (MS.IF), -tigo (MP.IF)	-tak (FS.IF), -tigi (FP.IF) [rare]
-rik (MS.IF), -rigo / -riño (MP.IF)	-rak (FS.IF), -rigi / -riñi (FP.IF)
-nik (MS.IF), -niño (MP.IF)	-nak (FS.IF), -niñi (FP.IF) [rare]
Chamacoco	
-tik (MS.IF), -tijo (MP.IF)	-tã(k) (FS.IF), -ĩr (FP.IF)
-ĩrk (MS.IF), -ĩr (MP.IF)	-rã(k) (FS.IF), -ĩr (FP.IF)
Old Zamuco	
-tic (MS.IF), -tigo (MP.IF)	Ø
-ric (MS.IF), -rigo (MP.IF)	-rac (FS.IF), -rigui (FP.IF)
-nic (MS.IF), -nigo (MP.IF)	-nac (FS.IF) [rare]

Table 14.4. Indeterminate-form suffixes

The CH series *-tik/*, *-tijo/* corresponds to *-tik/*, *-tigo/* in Ayoreo and Old Zamuco, while *-ĩrk/* and *-ĩr/* correspond to AY and O.Z *-rik/* and *-rigo/* (or *-riño/*). In the latter series of suffixes, consonant-vowel metathesis has occurred in Chamacoco, as one can see by comparing *-ĩrk/* and *-ĩr/* with its feminine singular counterpart *-rã(k)*. CH *-ĩr/* is epicene and also corresponds to *-rigi/* or *-riñi/* (FP.IF). The latter only differ from *-rigo/* or *-riño/* (MP.IF) in the last vowel, which helps to distinguish gender and

number: /o/ and /i/ coincide with the MP-BF suffix -/o/ and the FP-BF suffix -/i/, respectively.⁵⁰⁹ The CH suffix has lost the final syllable *-/kV/, so that the MP- and FP-IF suffixes have merged. Chamacoco does not show any suffix corresponding to AY and O.Z -/nik/, -/nigo/ (or -/niño/). The main difference is the following: in Old Zamuco and Ayoreo a nominal usually only takes one series of suffixes, depending on the BF morphology, in Chamacoco by contrast both series of suffixes can alternate in the same nominal. So that, as one can see in the following examples, there is no direct correlation between the suffixes used in Ayoreo and those used in Chamacoco.⁵¹⁰

Another difference between Chamacoco and the other Zamucoan languages is the formation of the IF. The Ayoreo and Old Zamuco IF suffix is always added to the BF, while in Chamacoco it can be added to the root or the BF, and the plural IF can also be added to the plural. In Chamacoco the rules are less rigid than in Ayoreo and Old Zamuco.

In (196-205) one finds AY nominals with -/tik/ and -/tigo/, which appear in masculine nominals with singular BF ending in a consonant (with the exception of /r/), namely -/k/, -/p/, -/s/ or -/t/. The MS-IF suffixes -/tik/ (CH) and -/tik/ (AY, O.Z) only differ in vowel quality. The plural suffixes -/tijo/ (CH) and -/tigo/ (AY, O.Z) show trace of agglutination in final /o/, which in all Zamucoan languages identifies a MP suffix. From a phonological point of view, AY and O.Z /g/ corresponds to CH /j/, for /g/ does not exist in Chamacoco.⁵¹¹ When the suffixes -/tik/, -/tigo/ and -/tik/, -/tijo/

⁵⁰⁹ As already noted, this hints at a previous agglutinative stage of the language.

⁵¹⁰ The same also applies to Old Zamuco, although there are no Old Zamuco nominals in the following examples.

⁵¹¹ In Chamacoco [g] is not a phoneme, but only a possible realization of /k/ in

are added to a form ending in a consonant, a consonantal cluster originates in Chamacoco, whereas in Ayoreo consonantal clusters always simplify. Simplification can optionally occur in Chamacoco. Compare, for instance, AY. *atic* /atik/ (from: *ap* ‘son’ + /tik/; see ex. 196) with CH. *aatik* /a:tik/ or *aabtik* /a:btik/ (from: *aap* /a:p/ ‘son’ + /tik/; see ex. 196).

- (196) Ay. *abi* (3.MS.FF), *ap* (3.[M/F]S.BF), *atik* (3.MS.IF), *atigo* (3.MP.IF)
 ‘son, child’
 Ch. *a:p* (3.[M/F]S.BF) ‘son, child’ → *a:tik* (3.MS.IF),
a:btik (3.MS.IF), *a:btijo* (3.MP.IF), *a:b̃r* (3.MP.IF)
- (197) Ay. *desaj* (3.FS.FF), *desatik* (3.FS.IF), *desatigo* (3.FP.IF)
 ‘brother, younger of a man or boy’, cf. *desak* (3.MS.BF)
 Ch. *lec̣ibiṭe* (3.MS.FF) ‘brother’ → *lec̣ibtik* (3.MS.IF),
lec̣tik (3.MS.IF), *lec̣ib̃rk* (3.MS.IF), *lec̣ib̃r* (3.MP.IF),
lec̣ibtijo (3.MP.IF), cf. *lec̣ap* (3.MS.BF)
- (198) Ay. *dosipej* (MS.FF), *dosipetik* (MS.IF), *dosipetigo* (MP.IF) ‘animal’
 cf. *dosipek* (MS.BF)
 Ch. *loc̣ipiṭ* (MS.FF) ‘animal’ → *loc̣ipiṭik* (MS.IF), *loc̣ip̃rk* (MS.IF),
loc̣iptijo (MP.IF), *loc̣ip̃r* (MP.IF), cf. *loc̣ipik* (MS.BF)
- (199) Ay. *igiosi* (3.MS.FF), *igios* (3.MS.BF), *igiotik* (3.MS.IF),
igiotigo (3.MP.IF) ‘relative’
 Ch. *i:siṭ* (3.MS.FF) ‘relative’ → *i:s̃rk* (3.MS.IF), *i:stik* (3.MS.IF),
i:s̃r (3.MP.IF), *i:tijo* (3.MP.IF), cf. *i:s* (3.MS.BF)
- (200) Ay. *hogadi* (3.MS.FF), *hogatik* (3.MS.IF), *hogatigo* (3.MP.IF)
 ‘place, location’ cf. *jogat* (3.MS.BF)

an intervocalic context. The AY and O.Z phoneme /g/ does not usually correspond to CH /k/.

- Ch. *owite* (3.MS.FF) ‘place’ → *owitik* (3.MS.IF), *owitetik* (3.MS.IF),
owitijo (3.MP.IF), *owiteĩrk* (3.MP.IF), *owilĩr* (3.MP.IF)
- (201) Ay. *nasaraj* (3.MS.FF), *nasaratik* (3.MS.IF), *nasaratigo* (3.MP.IF)
‘son-in-law’ cf. *nasarak* (3.MS.BF)
Ch. *lasẽ:t* (3.MS.FF) → *lasẽ:ttik* (3.MS.IF), *lasẽ:rĩr* (3.MP.IF),
lasẽ:ttijo (3.MP.IF) ‘son-in-law’
- (202) Ay. *ɲumi* (MS.FF), *ɲutik* (MS.IF), *ɲutigo* (MP.IF) ‘land, country’,
cf. *ɲup* (MS.BF)
Ch. *ɲimite* (MS.FF) ‘land, country’ → *ɲimitetik* (MS.IF),
ɲimitik (MS.IF), *ɲimĩrk* (MS.IF), *ɲimĩr* (MP.IF), *ɲimiteĩr* (MP.IF),
ɲimitetijo (MP.IF), *ɲimitijo* (MP.IF)
- (203) Ay. *poti* (3.MS.FF) ‘food’, *potik* (3.MS.IF), *potigo* (3.MP.IF)
Ch. *poet* (3.MP.FF) ‘food’, *poso* (3.MP) → *potik* (3.MS.IF),
poetik (3.MS.IF), *posĩr* (3.MP.IF), *potijo* (3.MP.IF),
postijo (3.MP.IF)
- (204) Ay. *toj* (MS.FF), *totik* (MS.IF), *totigo* (MP.IF) ‘dead’, cf. *tok* (MS.BF)
Ch. *topit* (MS.FF) ‘dead’ → *topitik* (MS.IF), *topĩrk* (MS.IF),
tobtijo (MP.IF), *topĩr* (MP.IF)
- (205) Ay. *ugui* (3.MS.FF), *ugutik* (3.MS.IF), *ugutigo* (3.MS.IF) ‘path’, cf.
uguk (3.MS.BF)
Ch. *ixite* (3.MS.FF) ‘path’ → *ixitetik* (3.MS.IF), *ixitetijo* (3.MP.IF),
ixijĩr (3.MP.IF)

Except for special cases, from now on only AY and CH examples will be discussed, because there is scarcity of data for O.Z. In (206) one finds diminutive forms in Ayoreo and Chamacoco. With regard to the IF, AY diminutive forms behave

like nominals with singular BF in *-/p/* and take the IF suffixes *-/tik/* or *-/tigo/*.⁵¹²

- (206) Ay. *kuteabi* (GF.DIM.MS.FF), *kuteatik* (GF.DIM.MS.IF),
kuteatigo (GF.DIM.MS.IF) ‘little thing’ cf. *kuteap* (GF.DIM.MS.BF)
 Ch. *kutea:bit* (DIM.MS.FF) ‘little thing’ → *kutea:bitik* (DIM.MS.IF),
kutea:bĩrk (DIM.MS.IF), *kutea:btijo* (DIM.MP.IF),
kutea:bĩr (DIM.MP.IF), cf. *kutea:p* (DIM.MS.BF)

In (207-211) the AY nominals with *-/rik/* and *-/rigo/* or *-/riño/* are compared with their CH cognates.

- (207) Ay. *ṇani* (MS.FF), *ṇanirik* (MS.IF), *ṇaniriño* (MP.IF) ‘man’
 cf. *ṇani* (MS.BF)
 Ch. *ṇakĩrbite* (MS.FF) ‘man’ → *ṇakĩrbitik* / *ṇakirtik* (MS.IF),
ṇakĩrbĩrk (MS.IF), *ṇakĩrbtijo* (MP.IF), *ṇakĩrbĩr* (MP.IF),
 cf. *ṇakirap* (MS.BF)
- (208) Ay. *i* (3.MS.FF), *irik* (3.MS.IF), *irigo* (3.MP.IF) ‘name’ cf. *i* (3.MS.BF)
 Ch. *i:te* (3.MS.FF) ‘name’ → *i:tik* (3.MS.IF), *ĩ:rk* (3.MS.IF),
e:jtik (2S.MS.IF), *ẽ:rk* (2S.MS.IF), *i:tijo* (3.MP.IF), *ĩ:r* (3.MP.IF)
- (209) Ay. *iharoj* (MS.FF), *iharorik* (MS.IF), *iharorigo* (MP.IF) ‘old’
 Ch. *ĩlartẽ* (MS.FF) ‘old’ → *ĩlartik* (MS.IF), *ĩlãrk* (MS.IF),
ĩlartijo (MP.IF), *ĩlarĩr* ([M/F]P.IF)
- (210) Ay. *kedeṇaj* (MS.FF), *kedeṇarik* (MS.IF), *kedeṇariño* (MP.IF)
 ‘different, strange’
 Ch. *kinehẽt* (MS.FF) ‘different, strange’ → *kinehẽtik* (MS.IF),
kinehẽrk (MS.IF), *kinehĩr* (MP.IF), *kinehetijo* (MP.IF)

⁵¹² On the diminutive, see §14.3.

The CH word *kuchit* /kuteit/ ‘thing’ (211) has some irregular forms which can be explained by the comparison with AY *cuchai* /kuteaj/ ‘thing’. In *kuchêrk* /kuteêrk/, *kuchêriyo* /kuteêrijo/ and *kuchêryo* /kuteêrjo/ there is /e/ (rather than /i/, as expected) at the root-suffix boundary. This is probably due to the fact that in the IF the original vowel of the root has been preserved. Indeed, the AY root-final vowel is /a/, which regularly corresponds to CH /a/ or /e/. The forms *kuchêriyo* /kuteêrijo/ and *kuchêryo* /kuteêrjo/ show that this is indeed the case (compare CH *kuchêriyo* /kuteêrijo/ with AY *cucháriga* /kuteariga/). Since the Chamacoco plural IF suffix has lost its final part, a form such as *kuchêriyo* /kuteêrijo/ shows preservation of the original MP-IF suffix. The original suffix is also preserved in a few other forms, such as *yêriyo* /jêrijo/, the irregular MP-IF of *yet* /jet/ ‘other’, and *porroshîryo* /po:ɬoẽrjo/ (MP-IF) ‘God’.

- (211) Ay. kuteaj (GF.MS.FF), kutearik (GF.MS.IF), kuteariga (GF.MP.IF)
 ‘thing’ cf. kutea (GF.MS.BF)
 Ch. kuteit ‘thing’ → kuteêrk (MS.IF), kutetik (MS.IF),
 kuteêrijo (MP.IF), kuteêrjo (MP.IF), kutetijo (MP.IF)

The following pair of nominals are cognates (212-215), but their respective IF suffixes differ, because AY nominals take the suffixes *-/nik/* and *-/niño/*, not to be found in Chamacoco.

- (212) Ay. abaj (3.MS.FF), amanik (3.MS.FF), amaniño (3.MS.FF)
 ‘husband’, cf. abaj (3.MS.BF)
 Ch. abite (3.MS.FF) ‘husband’ → abitik (3.MS.IF), abîrk (3.MS.IF),
 abijîr (3.MP.IF), abitijo (3.MP.IF), abijorîr (3.MP.IF)
- (213) Ay. daje (3.MS.FF), danik (3.MS.IF), daniño (3.MP.IF) ‘father’
 cf. daj (3.MS.BF)
 Ch. dejte (3.MS.FF) ‘father’ → lejtik (3.MS.IF) / dejteêrk (3.MS.IF),

dejtetik (3.MS.IF), dejtetijo (3.MP.IF), dejĩr (3.MP.IF)

(214) Ay. diri (MS.FF), dinik (MS.IF), diniño (MP.IF) ‘day’ cf. dir (MS.BF)
Ch. de:jte (MS.FF) ‘day’ → de:jtetik (MS.IF), de:jtijo (MP.IF),
de:jteĩr (MP.IF), de:jĩr (MP.IF)

(215) Ay. eruej (3.MS.IF), eruenik (3.MS.IF), erueniño (3.MS.IF) ‘end’,
cf. erue (3.MS.BF)
Ch. uhurte (3.MS.FF) ‘end’ → uhurtik (3.MS.IF), uhurz̃tik (3.MS.IF),
uhurteĩrk (3.MS.IF), uhurtetik (3.MS.IF), uhurtijo (3.MP.IF),
uhurĩr (3.MP.IF)

§14.4.2 The feminine indeterminate form in the Zamucoan languages

Table 14.5 shows the correspondences between the feminine IF suffixes used in the Zamucoan languages.⁵¹³

Ayoreo	Chamacoco	Old Zamuco
-tak (FS.IF) [rare] -tigi (FP.IF) [rare]	-tã(k) (FS.IF) -ĩr (FP.IF)	Ø Ø
-rak (FS.IF) -rigi / -riñi (FP.IF)	-rã(k) (FS.IF) -ĩr (FP.IF)	-rac (FS.IF) -rigui (FP.IF)
-nak (FS.IF) [rare] -niñi (FP.IF) [rare]	Ø Ø	-nac (FS.IF) [rare] Ø

Table 14.5. Feminine IF suffixes in the Zamucoan languages

AY feminine nominals generally take the IF suffixes *-rak/* (singular) and *-rigi/* or *-riñi/* (plural). Two other series of suffixes corresponding to the masculine *-tik/* (MS.IF), *-tijo/* (MP.IF)

⁵¹³ Masculine and feminine IF suffixes are compared in Table 14.4.

and *-rik/* (MS.IF), *-riño/* (MP.IF) are used: *-tak/* (FS.IF), *-tigi/* (FS.IF) and *-nak/* (FS.IF), *-niñi/*. AY *-tak/* (FS.IF) and *-nak/* (FS.IF) are to be observed in a few exceptions, so that one can generalize by saying that the only productive series is *-rak/* (FS.IF), *-rigi/* or *-riñi/* (FP.IF). In Old Zamuco *-rac* (*-rak/*) (FS.IF) and *-rigui* (*-rigi/*) or *-ringui* (*/riñi/*) (FS.IF) are reported. O.Z *-nak/* (FS.IF) is also reported, but it is rarely used.⁵¹⁴ Chamacoco shows two singular suffixes, *-rã(k)/* (FS.IF) and *-tã(k)/* (FS.IF), while in the plural only the epicene suffix *-ĩr/* ([M/F]P.IF) is used. If compared with the masculine, the feminine shows less variation. The CH suffix *-tã(k)/* (FS.IF) does not have a proper plural counterpart, because *-ĩr/* was originally the plural of *-rã(k)/* (or *-ĩrk/*, §13.5). AY *-tak/* and *-tigi/* and CH *-tã(k)/* belong to a series which is disappearing in the Zamucoan languages, because CH *-tã(k)/* has lost its plural counterpart, *-tak/* and *-tigi/* are rarely used in Ayoreo and no corresponding suffix is to be observed in Old Zamuco. Two hypotheses are possible: (i) Old Zamuco had already lost these suffixes in the 18th century; (ii) they were extremely rare and were not reported in Chomé's grammar. If the first hypothesis is true, Ayoreo, although generally more innovative, would prove to be more conservative than Old Zamuco with regard to the IF suffixes. Chamacoco lacks IF suffixes corresponding to AY *-nak/*, *-nigi/* or *-niñi/*.

Some Ayoreo and Chamacoco feminine IFs can be compared in (216-220). Since the AY series *-rak/*, *-rigo/* (or */riño/*) is the most frequently used, the feminine IF suffixes usually correspond to the CH ones (216-219), the only exception being CH *-tã(k)/* (FS.IF) which alternates with *-rã(k)/* and is far more frequent than

⁵¹⁴ Its plural counterpart, however, is not reported by Chomé.

AY *-/tak/* (FS.IF), not to be found in the following examples. In (220) the AY and CH suffixes do not correspond to each other.

(216) Ay. *date* (3.FS.FF), *daterak* (3.FS.IF), *daterigi* (3.FP.IF) ‘mother’
Ch. *data* (3.FS.FF) ‘mother’ → *latirã(k)* (3.FS.IF), *latã(k)* (3.FS.IF),
latĩr (3.FP.IF)

(217) Ay. *aṇua* (FS.FF), *aṇurak* (FS.IF), *aṇuriṇi* (FS.IF) ‘seed’
Ch. *ejhita* (FS.FF) ‘seed’ → *ejhirã(k)* (FS.IF), *ejhitã(k)* (FS.IF),
ejhitirã(k) (FS.IF), *ejhĩr* (FP.IF)

(218) Ay. *iharo* (FS.FF), *iharorak* (FS.IF), *iharorigi* (FP.IF) ‘old’
Ch. *ilaṭa* (FS.FF) ‘old’ → *ilarã(k)* (FS.IF), *ilartã(k)* (FS.IF),
ilaṭã(k) (FS.IF), *ilerĩr* (FP.IF), *ilaṭĩr* (FP.IF)

(219) Ay. *kedeṇa* (FS.FF), *kedeṇarak* (FS.IF), *kedeṇariṇi* (FP.IF)
‘different, strange’
Ch. *kinahata* (FS.FF) ‘strange, different’ → *kinahatirã(k)* (FS.IF)
kinaharã(k) (FS.IF), *kinahirã(k)* (FS.IF), *kinahatã(k)* (FS.IF),
kinehĩr (FP.IF), *kinehẽr* (FP.IF)

(220) Ay. *poria* (FS.FF), *poṇak* (FS.IF), *poṇiṇi* (FP.IF) ‘tree’
Ch. *pohoṭa* (FS.FF) ‘tree’ → *pohorĩrã(k)* (FS.IF),
pohoṭĩrã(k) (FS.IF), *pohortã(k)* (FS.IF), *pohorã(k)* (FS.IF),
pohoṭã(k) (FS.IF), *pohorĩr* (FP.IF), *pohĩr* (FP.IF)

§14.4.3 *Gotic* /gotik/ and *otik*

AY *Gotic* /gotik/ (or *gotique* /gotike/)⁵¹⁵ is morphologically the MS-IF of *gosi* ‘anyone, someone’, the cognate of CH *osht* /oɕt/ ‘person’ (see §14.3.11, ex. 188). It is used in *wh*- questions in the

⁵¹⁵ Here too, final /e/ is a euphonic vowel.

sense of ‘why’ (221) and ‘what’ (222) (Bertinetto 2009: 38). *Gotic* /gotik/ is also used at the end of a negative sentence to express referential indetermination (223).

- (221) ¿Je gotique uje don Felipe todo a?
 /he gotike uhe don felipe todo a/
 MOD IGNOR COMP don Felipe 3.fear MOD
 ‘Why was don Felipe afraid / what was don Felipe afraid of?’
 (QCCB; cit. in Bertinetto 2009: 38)

- (222) ¿Ore imó-rique gotique e?
 /ore imo-rike gotike e/
 3P 3.what_is_seen-MS.IF IGNOR MOD
 ‘What did they see?’ (QCCB; cit. in Bertinetto 2009: 38)

- (223) ¿Que ch-imo umuñura-i gotique!
 /ke te-imo umupura-j gotike/
 NEG 3-see bull-MS.FF IGNOR
 ‘He didn’t see any bull!’ (QCCB, I: 19)

AY *gotic* /gotik/ is diachronically related to the interrogative or indefinite pronoun *otik*, which morphologically should be considered the MS-IF of *osht* /oɕt/ ‘person’ (MS.FF), although it has taken on a meaning and a function completely different from that of *osht* /oɕt/ (MS.FF), and for this reason it turned into an independent element which only has IF inflection (§13.5.1, ex. 106c). The FS of *otik* (MS.IF), *otirāk* (FS.IF), is related to AY *gotórac* /gotorak/, which is morphologically the feminine form of *gotic* /gotik/, but it does not share the same range of uses of the latter. Although *gotic* and *otik* do not have the same uses (cf. §13.7.16, ex. 219-221), in some cases they have similar functions:

otik, for instance, can be used as an interrogative adjective (224) or as an interrogative pronoun (225) (cf. (221) and (223)).⁵¹⁶

- (224) Wichi *otik* *t-ãacha?*
 /*witɛi* *otik* *t-ã:tea/*
 DET.MS IGNOR.MS 3-come
 ‘Who is coming?’ (Ciucci, field notes)

- (225) Ye *tik-iraha* *otik.*
 /*je* *tik-iraha* *otik/*
 NEG 1S-know IGNOR.MS
 ‘I do not know what it is.’ (Balbuena *et al.*, 1993: 16)

§14.5 *Nos, jnese /ɲese/ and nez (/nes/)*

In all Zamucoan languages the word for ‘all’ is uninflectable. In Ayoreo and Old Zamuco it behaves syntactically as an adjective, following the nominal(s) which it modifies. As explained in §12.6 and §14.1, in both Old Zamuco and Ayoreo, when an adjectival modifier is the final element of the NP, it takes number and form as required by the NP, while all preceding elements appear in singular BF. This does not occur with *nez* (/nes/) and *jnese* /ɲese/, which are uninflectable. This is why in (226) and (227) the element preceding *jnese* /ɲese/ and *nez* (/nes/) appears in FF.

⁵¹⁶ Note that *otik* is not very frequently used in Chamacoco. The *wh-* word for ‘who’ is generally *yeẽk* /jẽ:k/ (the IF of *yet* /jet/ ‘other’) and the *wh-* word for ‘what’ is usually *latik*, which was probably an old IF, as one can see in the word ending, but it is not possible to say from which word it derives.

- (226) Jogasui jnese ore nina=re uje ore
 /hogasui-j ñese ore nina=re uhe ore/
 GF.family-MS.FF all 3P 3.be_happy=3.RFL SUB 3P
 t-agu tache-i.
 /t-agu tatce-j/
 3-eat agouti-MS.FF

‘The whole family is with them when they eat the agouti.’

(Ayoreo. QCCB, II: 30)

- (227) A-irauz guetosi-tie nez.
 1S-weed month-MS.FF all

‘I have weeded all month.’

(Old Zamuco. Chomé 1958: 129)⁵¹⁷

CH *nos* is also uninflectable. Generally CH adjectival modifiers follow the noun they refer to, which independently has full inflection for gender, number and form (228). Thus, *nos* does not interfere with the inflection of the rest of the NP it belongs to. CH *nos* has a further peculiarity: it can freely move to the left periphery of the clause. In (229) *nos* refers to *pohor* ‘plants’ and is the first element of the clause, as in (230), where it refers to the object *iijo* /i:jo/.⁵¹⁸

- (228) Je inaapo ese pwert ehe-t? Yehe wir
 /xe ina:po ese pwert ehe-t jehe wir
 INT how that.MS house 3.inside-MS.FF still DET.P

⁵¹⁷ *Nez* follows a noun in FF also in the texts published by Hervás (1787b: 101-102, 229-230).

⁵¹⁸ In (230), *todo* ‘all’ is a Spanish loanword. In currently spoken Chamacoco, it can alternate with *nos*.

a-sujãr-o nos de.
 /a-suxãr-o nos de/
 2S-thing-MP all 3.EXIST
 ‘How is the house inside? There are still all your things.’
 (Ciucci, field notes)

(229) Nos t-ormihi ire wir pohor ñhy-o.
 /nos t-ormihi ire wir pohor ñj-o/
 all 3-cover 3S 3P plant.FP leave-MP
 ‘He covered himself with the leaves of all plants.’
 (Balbuena 1993: 14)

(230) T-ish todo loship-o. Nos tik-iraha ii-yo.
 /t-iε todo loεip-o nos tik-iraha i:-jo/
 1S-meet all animal-MP all 1S-know 3.name-MP
 ‘I have met all animals. I know all their names.’
 (Balbuena 1993: 16)

Nos can also be the head of an NP, as in (231), where it is the subject.

(231) Esee=ki nos o-ym: Emiyõr-rza
 /ese:=ki nos o-jm emijõĩ-ʒa/
 DM=PST all P-3.leave Paraguayan_woman-FS.FF
 iim-i=ke, chofer iim-i=ke, komisari
 /i:m-i=ke tœofer i:m-i=ke komisari/
 3.leave-EPENT=PST driver 3.leave-EPENT=PST commissary
 iim.
 /i:m/
 3.leave

‘Then everyone left: the Paraguayan woman left, the driver left, the commissary left.’ (Ciucci, field notes)

§14.6 Conclusions

This chapter has compared the nominal suffixation of the Zamucoan languages, which have similar morphological devices to express gender, number and form. Ayoreo and Old Zamuco are very close to each other, but Old Zamuco and Chamacoco share similar features not to be found in Ayoreo. For instance, the original Proto-Zamucoan singular FF suffixes are preserved in Old Zamuco and Chamacoco, while alternative morphological devices for the singular FF have originated in Ayoreo. With few exceptions, CH has lost the difference between BF and FF in the plural. Chamacoco masculine nominals take the plural suffix *-o/*, which was originally a MP-BF suffix, but it may alternate with relics such as *-lo/*, originally a MP-FF suffix, and *-tso/*, which in some cases cannot be used in FF contexts. The comparison between Ayoreo and Chamacoco permits to explain some Chamacoco subregularities, such as the presence of */ɾ/* in some plurals (§14.3.10), the alternation between */a/* and */e/* in plurals in *-ehet/* (§14.3.8), the MP suffix */e/* (§14.3.9), and the alternation between */s/* and */ɕ/* in nominals in *-ɕt/* (§14.3.11). Finally, the Zamucoan languages have more series of suffixes to express the IF (depending on the language). In this case too, one can observe significant correspondences between the IF suffixes.

§15 General conclusions

The present investigation has described and compared the three areas of inflectional morphology in the Zamucoan languages: verb inflection (§4-§8), possessive inflection (§9-§11) and nominal suffixation (§12-§14).

Although Ayoreo and Old Zamuco have a relatively low (but far from marginal) percentage of lexical similarity with Chamacoco, the Zamucoan languages have similar morphological categories, expressed by similar morphological devices (cf. §7, §11 and §14). The genetic relationship among the Zamucoan languages has thus been demonstrated. All Zamucoan languages derive from a common ancestor, Proto-Zamucoan. Ayoreo and Old Zamuco are very close to each other, but the comparison with Chamacoco reveals a number of surprises, because Old Zamuco and Chamacoco share some peculiarities which have been lost in Ayoreo, such as the realis vs. irrealis opposition in the 3-person. Moreover, the groups of verbs which do not have realis vs. irrealis opposition in the 3-person are the same in both Old Zamuco and Chamacoco (/t/- verbs and radical verbs). An analogous case is represented by the O.Z. singular FF suffixes *-/tie/* (M) and *-/tae/* (F), which can be compared with CH *-/t/* (MS-FF) and *-/ta/* (FS-FF). This shows that Old Zamuco and Chamacoco preserve the original singular FF suffix, which has disappeared in Ayoreo. By contrast, there are many peculiarities in which Chamacoco differs from Ayoreo and Old Zamuco: for instance, Chamacoco has lost the full distinction between plural BF and plural FF.

This study is the first scientifically-grounded analysis on the inflectional morphology of the Zamucoan languages. The results of the present work allow us to start thinking about the possible diachronic evolution of the Zamucoan languages, in order to

reconstruct Proto-Zamucoan. In some cases, it is possible to hypothesize features which characterized a very early stage of the Zamucoan family. For instance, Proto-Zamucoan had probably the same verb groups observed in the documented Zamucoan languages, but the large variability in the 3-person suggests that at some point Proto-Zamucoan has developed morphological devices to express the originally prefixless 3-person. In nominal morphology, the structure of some suffixes indicates that at a very early stage Proto-Zamucoan must have been an agglutinative language. The morphological comparison shown in this study should be integrated with a systematic comparison of verb roots, nominal roots and other parts of the lexicon, in order to establish regular phonetic correspondences among the Zamucoan languages. This will be the object of future research.

Finally, the relationship with the surrounding languages is another topic for further investigation. In the course of this study, some points of contact with other indigenous languages have been indicated (see also Appendix A). It would be desirable to make a systematic comparison with other language families to find further traces of contact and typological similarities. In this respect, the main problem is represented by the scarcity of data available for many South American languages, but new studies will presumably provide interesting material for the comparison. The same applies to the possibility to find genetic relationships between the Zamucoan family and other languages, although – at least for the time being – linguistic and genetic studies suggest that the Zamucoan languages form an isolated family.

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Appendix A. The Swadesh list of 207 words

		OLD ZAMUCO	AYOREO	CHAMACOCO
1	I	(u)yu	(u)ju	jok
2	you (S)	(u)gua	uwa / ua	owa
3	he	güite / udde (M) guate / udda (F)	ude ‘this’ (M), udak ‘this’ (F), ute ‘that’ (M), wate ‘that’ (F)	witei (M), wate (F), ire
4	we	(u)yoc	(u)jok	ejok (inclusive), õrjok (exclusive)
5	you (P)	(u)guac	uwak / wak	olak
6	they	ore, uddao / uddoe (M), uddai / uyie (F)	ore, udoho ‘these’ (M), udahi ‘these’ (F), udore ‘those’ (M), udire ‘those’ (F),	õr, wir, õr ire
7	this	güite / udde (M), guate / udda (F),	ude (M), udak (F)	ele (M), diki/dika (M), ana (F), na(k)a (F)
8	that	Ø	ute ‘that’ (M), wate ‘that’ (F)	ese (M), asa (F)
9	here	ide	de/ne	lika
10	there	ite	sona, waite	wahatea
11	who	guioitie (M), guiotàe (F)	gosi (M), goti (F)	jě:k / jě:kpo
12	what	irige	gotik(e) / (tɕo) rike	latik
13	where	irige	rike	irã:po

Inflectional morphology in the Zamucoan languages

14	when	irique	(təo) rike	latik
15	how	quitie	(təo) rike	ina:po
16	not	ca	ka (IRLS), ke (RLS)	je
17	all	nez	ṇese	nos
18	many	Ø	dipesej (MS.FF), pieṇa, waseṇane (MP)	kiṇija
19	some	uyego (MP), uñanigui (FP)	uṇane (MP.FF), uṇanie (FP.FF)	tsom̃iro (MP), tsom̃ire ([M/F]P)
20	few	garocioddoe (MP.FF)	garosiode (MP.FF), garosidie (MP.FF)	aṛa:bo (M), aṛe:be (F)
21	other	Ø	uṇaj (MS.FF))	jet (MS.FF)
22	one	chomarâ ([M/F]S.BF)	təom̃ara (MS.BF)	tsom̃ira? ([M/F]S.BF)
23	two	gar (MS.BF)	gare (MS.BF)	osijer (M), otijer (F)
24	three	gadioc (MS.BF)	gadiok (MS.BF)	aṛĩ toho
25	four	gahagani (MS.BF)	gagaṇi (MS.BF)	aṛĩ ɛaṛĩ
26	five	chuena yimanaitie	təeṇa jiṇanaj	aṛĩ ɛaṛĩ toho
27	big	dieda (FS.BF)	kutɛabi (MS.FF), datej (MS.FF), keruj (MS.FF), ekaṇai (MS.FF)	dite (MS.FF), baḷut (MS.FF)
28	long	Ø	jorikoj (MS.FF)	berzɛ (MS.FF)
29	wide	Ø	eṇumej (MS.FF)	ehet dite (MS.FF)
30	thick	urôtie (MS.FF), urônac (MS.BF)	naṇoraj (MS.FF), uroṇaj (MS.FF)	tsoḷa

			‘fat’	
31	heavy	Ø	imenuṇaj (MS.FF)	ine
32	small	Ø	ahami (MS.FF), atiami (MS.FF), urigabi (MS.FF)	ija:bit (MS.FF)
33	short	Ø	katadej (MS.FF), utugudej (MS.FF)	turkã:bit (MS.FF)
34	narrow	Ø	ahami (MS.FF), urigabi (MS.FF)	ehet ixa:bit (MS.FF)
35	thin	Ø	atiami (MS.FF), godoj (MS.FF)	koeka:bit (MS.FF), olo
36	woman	chequetae (FS.FF), cheque (FS.BF)	tæke (FS.FF)	tĩmteaḷja (FS.FF)
37	man	nani (MS.BF)	ṇani (MS.FF)	ṇakirbite (MS.FF)
38	person	Ø	ajorej (MS.FF)	oet (MS.FF)
39	child	abitie (3.MS.FF), ap (3.MS.BF)	abi (3.MS.FF), disi (MS.FF)	a:p (3.[M/F]S.BF), ixit (3.MS.FF)
40	wife	acotetae (3.FS.FF), acote (3.FS.BF)	acote (3.FS.FF)	irãhata (3.FS.FF)
41	husband	Ø	abaj (3.MS.FF)	abite (3.MS.FF)
42	mother ⁵¹⁹	date (3.FS.BF)	date (3.FS.FF)	data (3.FS.FF)
43	father	daitie (3.MS.FF), dai (3.MS.BF)	daj / daje (3.MS.FF)	dejtẽ (3.MS.FF), dej ⁷ (3.MS.BF)
44	animal	Ø	dosipej (MS.FF)	doeipit (MS.FF)
45	fish	Ø	ojidi (MS.FF)	doeit (MS.FF)

⁵¹⁹ Compare the Pilagá word *-at'e* ‘mother’, with the possessive prefix *l-* in the 3-person (Vidal 2001: 79-80).

46	bird	chuguperitie (MS.FF), chugupêre (MS.BF)	teujupêri / teugupêri (MS.FF)	teipîrmita (FS.FF)
47	dog	potitie (MS.FF), potit (MS.BF)	tamokoj (MS.FF)	pohote (MS.FF)
48	louse	Ø	ɲari (MS.FF)	ɲatsikita (FS.FF)
49	snake	Ø	ugaj (MS.FF)	eteĉ:t (MS.FF)
50	worm	Ø	huputeaj (MS.FF), uhûri (MS.FF)	diteacîrte (MS.FF)
51	tree	poritae (FS.FF)	poria (FS.FF)	pohoŋa (FS.FF)
52	forest	Ø	uginamuj (MS.FF)	mont, ormit (MS.FF)
53	stick	pitie (MS.FF), pit (MS.BF)	pidi (MS.FF)	pite (MS.FF)
54	fruit	Ø	a (FS.FF)	e:ta (FS.FF)
55	seed	chotie (MS.FF), chococ (MS.BF)	aɲua (FS.FF)	ejhita (FS.FF)
56	leaf	Ø	akâraj (3.MS.FF)	ihît (3.MS.FF) ⁵²⁰
57	root	eros (MS.BF) (‘kind or root’)	etasi (MS.FF), taposi (MS.FF)	utuet (3.MS.FF), oŋa (FS.FF)
58	bark (of a tree)	Ø	gatodaoj (MS.FF)	juhûŋa (FS.FF)
59	flower	Ø	asige (FS.FF), poŋaŋe (FS.FF)	plorta (FS.FF)
60	grass	Ø	ɲakaraj (MS.FF)	jerbîta (MS.FF)
61	rope	carubitie	enuelj (3.MS.FF)	dukwêrte (MS.FF)

⁵²⁰ *Ihît* means both ‘leaf’ and ‘wing’: cf. AY. *ujnoi* /uŋoj/ (3.MS.FF) ‘wing’ and O.Z. *unnotie* (/unotie/) (MS.FF) ‘wing’.

		(MS.FF), carup (MS.BF)		
62	skin	yahotie (1S.MS.FF)	aoj (3.MS.FF)	yuhũꞤa (3.FS.FF)
63	meat	Ø	ãri (3.MS.FF)	ẽro (3.MP), sot (MS.FF) ⁵²¹
64	blood	Ø	ijoj (3.MS.FF)	armista (3.MS.FF), ikirmista (3.MS.FF)
65	bone	Ø	aꞤokej (3.MS.FF)	debitẽ (MS.FF), lotibite (MS.FF)
66	fat (noun)	Ø	i (MS.FF)	Ꞥeteit, krast
67	egg	curec (MS.BF)	kurẽj (MS.FF)	mꞤart (MS.FF), webit (MS.FF)
68	horn	tugut (MS.BF)	ubutẽuj (3.MS.FF), ue (3.FS.FF)	wa:pĩta (FS.FF), u:ta (FS.FF)
69	tail	Ø	kari (MS.FF)	kolta (FS.FF)
70	feather	Ø	arama (FS.FF), ojoj (3.MS.FF)	ihĩt (3.MS.FF)
71	hair	Ø	acãrai (3.MS.FF)	akĩrt (3.MS.FF)
72	head (body part)	yatoitae (1S.FS.FF)	gatoj (3.FS.FF)	huta (3.FS.FF)
73	ear	agoroitae (3.FS.FF)	aꞤorone (3.FS.FF)	ãꞤa (3.FS.FF)
74	eye	eddo (3.FS.BF)	edo (3.FS.FF)	onta (3.FS.FF)
75	nose	Ø	kõrateuj (3.MS.FF)	dixẽrpĩta (3.FS.FF)
76	mouth	Ø	piꞤani (3.MS.FF)	awo? (3.MS.BF)

⁵²¹ Sot ‘meat’ is probably a loan from Guaraní *so’o*.

77	tooth	Ø	pătaraj (3.MS.FF)	potē:t (3.MS.FF), irūrte (3.MS.FF)
78	tongue	arecho (MP.BF)	arej (3.MS.FF)	ahârte (3.MS.FF)
79	finger nail	Ø	usuguruj (3.MS.FF)	duçurte (3.MS.FF)
80	foot	Ø	gidaj (3.MS.FF), jirídaj (1S.MS.FF)	ñitita (3.FS.FF), piḡa (1S.FS.FF)
81	leg	Ø	etarudi (3.MS.FF), ⁵²² gidogoropote (3.FS.FF)	dilt (3.MS.FF)
82	knee	Ø	ikatade (3.FS.FF), katade (GF.FS.FF)	ketita (3.FS.FF)
83	hand	manai (3.MS.BF)	ṃanaj (3.FS.FF)	ṃata (3.FS.FF)
84	wing	unnotie (MS.FF), unnoc (MS.BF)	uṃoj (3.MS.FF)	ihīt (3.MS.FF)
85	belly	Ø	ika (3.FS.FF)	ijita (3.FS.FF)
86	guts	ahetie (3.MS.FF)	uteaj (3.MS.FF)	itēit (3.FS.FF)
87	neck	Ø	etabi (3.MS.FF)	etibite (3.MS.FF)
88	back	Ø	gidoboj (3.MS.FF)	nerʔ (3.MS.BF)
89	breast	Ø	iṃa (3.FS.FF)	oxōḡa (3.FS.FF)
90	heart	Ø	ijobie (3.FS.FF)	títewta (3.FS.FF)
91	liver	Ø	abito (3.FS.FF)	i:bita (3.FS.FF)
92	to drink	Ø	teohi (3)	ihi (3)
93	to eat	tac (3.INTRANS), tagu (3.TRANS)	tak (3.INTRANS), tagu (3.TRANS)	ta:k (3.INTRANS), tew (3.TRANS)

⁵²² According to Higham *et al.* (2000), *etarúdi* ‘part of the leg between the hip and the knee’; *guídogoropoté* /gidogoropote/ ‘part of the leg between the ankle and the knee’.

94	to bite	Ø	teigas (3)	tee:s / tse:s (3)
95	to suck	Ø	teuku (3)	teuku? (3)
96	to spit	Ø	teutĩre (3)	tsitsēr daḷo (3)
97	to vomit	Ø	pogaj (3)	pwej (3)
98	to blow	Ø	teubuteu (3)	tsobita / teobita (3)
99	to breathe	Ø	teĩime dapari (3)	tsitsēr dejtẽ (3)
100	to laugh	Ø	kana (3)	jana (3)
101	to see	aimo (1S)	teimo (3)	umo (3)
102	to hear	chidut (1S.IRLS)	teudute (3)	teunt (3)
103	to know	chiraha (3)	teiraha (3)	teiraha (3)
104	to think	Ø	ajipie doj (3), ajipie teise (3) [ajipie ‘thoughts’ (3.FS.FF)]	ejuwo tisēr / tisēr (3), ejuwo u:ei (3) [ejuwo ‘thoughts’ (3.MP)]
105	to smell	Ø	teohare (3)	teowir (3)
106	to fear	Ø	todo (3)	tola (3)
107	to sleep	aimo (1S)	mo (3)	umo (3)
108	to live	Ø	eka (3)	debuhi (3)
109	to die	toi (3)	toj (3)	toj (3)
110	to kill	chuhe (3)	teuhe (3)	eu: (3)
111	to fight	Ø	doj pokaniñaj (3)	tsatsēr (3)
112	to hunt	Ø	doj dosipeode (3), doj kutẽisode (3)	tejāha a:te (3)
113	to hit	chuhe (3)	teuhe (3)	eu: (3)
114	to cut	airahu (1S)	teakesu (3)	teekẽehe (3), ijo (3)
115	to split	Ø	teahuke (3)	tsehek (3)

116	to stab	Ø	teiteagu (3)	teiteew (3)
117	to scratch	Ø	teibika (3)	tějhi (3)
118	to dig	Ø	teihotea (3)	teiteew (3)
119	to swim	aiyazâr (1s)	doj ñakoj iji jodi gaj (3)	tsaṇ nãṣṣa (3)
120	to fly	aiyo (1s)	teo (3), jijo (1s)	ijo (3) ⁵²³
121	to walk	Ø	dik (3)	dir̥k (3)
122	to come	dac (3)	di (3)	tir̥ēt (3)
123	to lie	Ø	terēta (3) 'to lie down'	tinim (3) 'to lie down', tsejne ñimite (3) 'to lie on the chest'
124	to sit	aiyacarihi (1s)	teakare (3)	tsakir (3)
125	to stand	iyague (3)	teage (3), jijage (1s)	ijehet (3)
126	to turn	choquiyigui (3)	teaparu dabaj (3)	tejte dele (3)
127	to fall	baz (3)	base (3)	beẽi (3), kaj
128	to give	izi (3), ozi (1s)	teisi (3)	ieim̃ (3)
129	to hold	Ø	teisa (3)	teieew (3)
130	to squeeze	Ø	teihose (3), teipatigase (3)	sejkēhe ñimite (3)
131	to rub	Ø	teaṇunera gaj (3), teagunera gaj (3), teuṇunera gaj (3)	teukweṛ (3)
132	to wash	Ø	teuru	teuṛũ (3)

⁵²³ Cf. the Mocoví intransitive verb *ayo* 'to fly' (Grondona 1998: 270).

133	to wipe	Ø	teañunera gaj (3), teagunera gaj (3), teununera gaj (3)	teurũ (3)
134	to pull	Ø	teurugus (3)	teurz (3)
135	to push	Ø	teurugus (3)	teukus (3)
136	to throw	aoz (1S)	teĩjira (3), tõraha (3) 'to throw into'	tãra (3)
137	to tie	agayo (2P.IRLS)	teigaru (3)	ejeru (3)
138	to sew	chichichêre (1S.IRLS), achichêre (2S.IRLS)	teuga (3)	teiteew (3)
139	to count	acecaru (2S.IRLS)	teisekãru (3)	tiskãr (3)
140	to say	tata (3), choniga (3)	teatata (3), teonĩña (3)	tata (3)
141	to sing	Ø	teirate (3), teĩnekare (3)	te:jteĩ (3)
142	to play	Ø	kanare (3)	lota (3)
143	to float	Ø	digihi jodi gaj (3)	dohir e:jte (3)
144	to flow	Ø	Ø	u:ei (3) 'run'
145	to freeze	Ø	teñuj (MS.FF) 'cold'	ki:s 'cold'
146	to swell	Ø	põ 'to be swallen', geñaj (MS.FF) 'swollen'	potita 'swollen'
147	sun	guiedetie (MS.FF), guiede (MS.BF)	gede (MS)	de:jte (MS.FF)
148	moon	Ø	gedoside (MS.FF)	ekurkit (MS.FF)

149	star	gueddo (FS.BF)	gedo (FS.FF)	põ:ŋe:btea (FS.FF)
150	water	yoitie (MS.FF), yot (MS.BF)	jodi (MS.FF)	nijokot ⁵²⁴ awit (MS.FF)
151	rain	bec ‘it rains’	gej (MS.FF), beke ‘it rains’	ibik ‘it rains’, juwebit (MS.FF), osāsiro (archaic)
152	river	Ø	tie (FS.FF)	ono:ta (FS.FF)
153	lake	Ø	gaño (FS.FF)	Ø
154	sea	Ø	tie kuteabi (MS.FF) (lit. ‘big river’), jote kedeñaj (MS.FF)	ono:t(a) baļu:ta (FS.FF) (lit. ‘big river’)
155	salt	echotie (MS.FF)	eteoj (MS.FF)	jokite
156	stone	cucaraitie (MS.FF)	kukarané (FS.FF)	koxāte (MS.FF) ⁵²⁵
157	sand	uddapie	uņa (FS.FF), arī (MS.FF)	erent (MS.FF)
158	dust	numitie (MS.FF), nup (MS.BF)	ņumi (MS.FF), uruj (MS.FF)	ukult (MS.FF)
159	earth	numitie (MS.FF),	ņumi (MS.FF),	ņimite (MS.FF),

⁵²⁴ This word is probably a loan from Kadiwéu *ninyogodi* ‘water’ (Kadiwéu data from Griffiths 2002: 140, 174). Nowadays this word is often replaced by *awit*, stemming from Spanish *agua* ‘water’. On lexical similarities between Chamacoco and Kadiwéu, see Ciucci (2014b: 37-38).

⁵²⁵ The CH word *kojāch* /koxāte/ basically conveys two meanings: ‘stone’ and ‘mountain’ (see above). In the first meaning it should be compared with AY *cucarané* /kukarane/ (FS.FF) ‘rock, stone, gem’. In the second meaning it should be compared with the corresponding masculine form of *cucarané*, that is *cucarani* /kukarani/ ‘mountain, hill’; *cucarané* is probably derived from the latter word.

		nup (MS.BF)	erami (MS.FF)	irmo (MP) ‘world’
160	cloud	gueoddo[e] (MP.FF)	ge abuha (FS.FF), ge ikagoj (MS.FF)	ukuhuḷa (FS.FF)
161	fog	Ø	hesi (FS.FF)	ieibiḷt (MS.FF)
162	sky	idaitie (MS.FF)	gate (MS.FF), gataṇokej (MS.FF)	põ:rtε (MS.FF)
163	wind	emitie (MS.FF), em (MS.BF)	emi (MS.FF)	mjenta (FS.FF)
164	snow	Ø	Ø	Ø
165	ice	Ø	Ø	koxãtε pit ‘piece of ice’ (lit. ‘piece of stone’)
166	smoke	piotoddoe (MP.FF), pioboddoe (MP.FF), piobio (MP.BF)	ujuṇa (FS.FF)	i:biṭε (3.MS.FF)
167	fire	pio[t] (MS.BF)	pioj (MS.FF)	uṛu:ta (FS.FF), xwekita (FS.FF)
168	ash	Ø	putεukuruj (MS.FF)	pi:tsit (MS.FF)
169	to burn	iddu	tagu (gaj) (3), tẽãru (gaj) (3)	duḷu
170	road	urahec (3.MS.BF), dahεc (GF.MS.BF)	dajej (GF.MS.FF), ũrajej (3.MS.FF)	dehet (MS.FF)
171	mountain	Ø	kukarani (MS.FF)	koxãtε (MS.FF)
172	red	pisap (MS.BF)	karataj (MS.FF), tẽarumaṇaj (MS.FF), gati (MS.FF)	wihĩrt (MS.FF)

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173	green	Ø	perupi (MS.FF) sarej (MS.FF)	bertit (MS.FF)
174	yellow	cagôra	kañuraj (MS.FF), perupi (MS.FF), sarej (MS.FF)	kahĩrt (MS.FF)
175	white	chopo (3) ‘to be white’	kobi (MS.FF), hutuj (MS.FF), pororoj (MS.FF)	po:rtẽ (MS.FF)
176	black	chotoc (3) ‘to be black’	utataj (MS.FF)	wis (MS.BF)
177	night	dehac (MS.BF)	dehaj (MS.FF)	diłak (MS.BF), diłt (MS.FF)
178	day	diritie (MS.FF), dire (MS.BF)	diri (MS.FF)	de:jte (MS.FF)
179	year	zequere	sikere / sekere (FS.FF)	tarokot (MS.FF)
180	warm	aiyotare (1S), aiyotâco (1P), dayotaño (2P) ‘to be warm’	pioke ‘to be warm’	duļu
181	cold	areritie (MS.FF)	areredatej (MS.FF) teñuj (MS.FF)	kĩ:s
182	full	cho chic chic (3) ‘to be full’	iraguhi (MS.FF)	iñew
183	new	Ø	ehoj (MS.FF) iteaj (MS.FF)	ĩtearãha ałt (MS.FF)
184	old	choquidatie (MS.FF) choquida (MS.BF)	arimej (MS.FF) iharoj (MS.FF)	ĩlartẽ (MS.FF)
185	good	uomitie (MS.FF) uom (MS.BF)	omi (MS.FF)	om (MS.BF)

186	bad	uzodatie (MS.FF) uzoda (MS.BF)	gaṇarej (MS.FF) siṇaj (MS.FF)	ilxa:bit (MS.FF) miṇt (MS.FF)
187	rotten	cho rârâc / cho rârâtie (3) ‘to be rotten’	tarataj (MS.FF)	topit (MS.FF) (also ‘dead’)
188	dirty	Ø	gekorisej (MS.FF), igirikoṇaj (MS.FF), huduj (MS.FF), opoj (MS.FF), topiej (MS.FF),	warec
189	straight	Ø	kaputaj (MS.FF)	dereet (MS.FF)
190	round	ucozitie (MS.FF), ucoz (MS.BF)	aparugaitaj (MS.FF)	irnonto
191	sharp	Ø	asikoj (MS.FF)	weetie
192	dull	Ø	derokoj (MS.FF), pacaj (MS.FF)	pako
193	smooth	Ø	karuṇaj (MS.FF)	kututa ([M/F]S.BF)
194	wet	panota	tetaj (MS.FF), arupateej (MS.FF); pakata ‘to be very wet’	panta
195	dry	canore, cho can(n)ac	kaṇori (MS.FF)	ẽirã
196	correct	Ø	kaputapis ihi ṇumi ‘to be correct’	om (MS.BF)
197	near	upuzu ite ‘there close’	ehoj (3.MS.FF), idogosi (MS.FF)	ahir (3)
198	far	dit	idahaj (MS.FF), ṇaropiej, ṇoropiej	dukuḷa ([M/F]S.BF)
199	right	Ø	ãratcua (3)	wã:teta (3.FS.FF)

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200	left	Ø	arase (3)	wã:texãɬa (3.FS.FF)
201	at	(i)hi, aha	ihi, tihi, aha	=ihi,
202	in	(i)hi, aha	ihi, tihi, aha	=ihi, ehet (3) ‘inside’
203	with	ega, uddi	ome, tome	(h)õr, ahir (3)
204	and	apo	(e)ña	ɲ, ite
205	if	=ga	uhetiga	uxe, kimixi, kirêhe, kêhe
206	because	Ø	uhe	pork, jexi (archaic)
207	name	Ø	i (3.MS.FF)	i:te (3.MS.FF)

Appendix B. Paradigms of Old Zamuco possessable nouns in Chomé's grammar

Nouns

- (1) y-i-pahe (1S), a-pahe (2S), a-pahe (3), Ø-Ø-pahe (GF) 'belt'
- (2) y-a-ho (1S), a-ho (2S), a-ho (3), p-a-ho (GF) 'leather'
- (3) o-te (1S), d-a-te (3), az-ote (1P), ay-a-te (2P) 'mother'
- (4) y-e-ddo (1S), e-ddo (2S), e-ddo (3), p-e-ddo (GF) 'eye'
- (5) y-u-ague (1S), a-gue (2S), g-ü-ague (3/GF) 'family'
- (6) y-i-baya (1S), a-baya (2S), i-baya (3), p-i-baya (GF) 'excuse'
- (7) y-i-gueda (1S), a-i-gueda (2S), i-gueda (3), da-i-gueda (RFL),
gu-i-gueda (GF), ay-i-gueda (1P/2P) 'house'
- (8) y-i-guioz (1S), a-guioz (2S), i-guioz (3), Ø-Ø-guioz (GF) 'relative'
- (9) y-i-podduo (1S), a-podduo (2S), i-podduo (3), Ø-Ø-podduo (GF)
'lungs'
- (10) y-i-raogenna (1S), a-raogenna (2S), i-raogenna (3),
Ø-Ø-daoguenna (GF) 'mortar'
- (11) y-i-terepec (1S), a-terepec (2S), i-terepec (3), pepec (GF)
'fabric, cloth'
- (12) y-u-cau (1S), a-cau (2S), u-cau (3), p-u-cau (GF) 'elbow'
- (13) y-u-hoz (1S), a-hoz (2S), u-hoz (3), d-u-coz (GF) 'disease'
- (14) y-u-rahec (1S), a-rahec (2S), u-rahec (3), Ø-Ø-dahec (GF) 'path'
- (15) ch-o-rotat (1S), ay-o-rotat (1P/2P) 'shoulder'

Verbal nouns

- (1) ch-a-cac (1S), a-cac (2S), a-cac (3), ay-a-cac (1P/2P), p-a-cac (GF)
'what is planted'
- (2) ch-e-câric (1S), e-caric (2S), e-caric (3), p-e-caric (GF)
'what is followed'

- (3) ch-i-mecêrac (1S), a-mecêrac (2S), i-mecêrac (3),
ay-i-mecêrac (1P/2P), p-i-mecêrac (GF) ‘what is loved’
from: ch-i-mecêre (3) ‘to love’
- (4) y-i-yauc (1S), a-yauc (2S), i-yauc (3), p-i-yauc (GF) ‘what is left’
from: i-yau (3) ‘to quit; to stop’
- (5) ch-o-irac (1S), o-irac (2S), o-irac (3), p-o-irac (GF) ‘what is added’
- (6) ch-o-it (1S), o-it (2S), o-it (3), p-o-it (GF) ‘who/what is brought’
from: t-o-râ (3) ‘to bring’,⁵²⁶
- (7) y-i-noriga (1S), a-noriga (2S), Ø-Ø-noriga (3), p-i-noriga (GF) ‘way’,
from: no (3) ‘to go’
- (8) y-i-bidit (1S), a-bidit (2S), Ø-Ø-pidit (3), p-i-bidit (GF)
‘who/what is called’ from: t-i-bidi (3) ‘to call’
- (9) ch-u-manic (1S), a-manic (2S), u-manic (3), p-u-manic (GF)
‘what is finished’
- (10) ch-a-gari (1S) ‘what is believed’ from: t-a-gari (3) ‘to believe’,⁵²⁷

⁵²⁶ Here the derivational process is not clear.

⁵²⁷ Here the translation is not provided by Chomé and the paradigm is not complete.