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## On the lexeme ‘head’ in Zamucoan<sup>#</sup>

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The present paper examines the lexeme ‘head’ in the three main languages of the Zamucoan family: †Old Zamuco, Ayoreo and Chamacoco. After a short introduction to the Zamucoan family (§1), I describe the inflectional morphology of ‘head’ (§2): its suffixation (§2.1) and possessive prefixation (§2.2). §2.3 analyzes old attestations of the word, that show the same grammatical features presented in §2.1 and §2.2. Then, I discuss the uses of ‘head’ in compounds and expressions related to body parts (§3.1), to the intellect (§3.2), and names for animals stemming from ‘head’ (§3.3). ‘Head’ can also indicate the ‘beginning’ or the most important part of something. Section §4 offers some conclusions.

### 1. The Zamucoan family

The Zamucoan family consists of two endangered languages spoken in the Chaco lowlands of South America: (i) Ayoreo, with about 4500 speakers in southern Bolivia and northern Paraguay; (ii) Chamacoco, with about 2000 speakers in the Paraguayan department of Alto Paraguay. Other Zamucoan languages were spoken in the past, but there is little or no documentation on them, with the only remarkable exception of †Old Zamuco, the main language of the Jesuit mission of *San Ignacio de Samucos*. It was described in the 18<sup>th</sup> century by the Jesuit Father Ignace Chomé, author of a grammar (Chomé 1958 [*ante* 1745]) and a dictionary. The latter is of particular interest, because it is the main source on Old Zamuco, and before its recent rediscovery (Ciucci, forthcoming) had never been analyzed by linguists.<sup>1</sup> The reader interested in Zamucoan can consult Ciucci’s (2016[2013]) systematic description of the inflectional morphology in each of the three main Zamucoan languages: Ayoreo (AYO), Chamacoco (CHA) and Old Zamuco (OZA). Furthermore, there is Ciucci and Bertinetto’s (2015) reconstruction of verb inflection in Proto-Zamucoan, and Bertinetto’s (2014[2009]) grammatical sketch of Ayoreo. Other relevant studies on Zamucoan are Bertinetto (2011), Bertinetto and Ciucci (2012), and Ciucci (2013, 2014a, 2014b). Ciucci (2013, 2016) also include a detailed discussion of other linguistic contributions about Zamucoan. The data for Ayoreo come from Higham et al. (2000), Barrios et al. (1995), from Pier Marco Bertinetto’s fieldwork and from my fieldwork. For Chamacoco, unless told otherwise, I will use data from my fieldwork and from Ulrich and Ulrich (2000). Chamacoco has two dialects: Ebitoso (or Hbitoso) and Tomarãho. In this paper I refer to the former, spoken by the vast majority of speakers. All other sources, in particular historical sources, are overtly mentioned in the paper.<sup>2,3</sup>

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<sup>1</sup> I am preparing a critical edition of this document (Ciucci, forthcoming), which contains most of the Old Zamuco data employed here.

<sup>2</sup> Data on Ayoreo and currently spoken Chamacoco are provided in phonemic transcription. For historical data, I report the transcription of the respective authors. Where interpretation is difficult, I add a phonetic transcription based on indications provided by the authors themselves. Sometimes, for reasons of clarity, I add a phonological interpretation to Old Zamuco data. This is possible, because there is enough data to analyze Old Zamuco phonology, but it is mostly unnecessary since Old Zamuco orthography is Spanish-based and straightforward. The only exceptions are the digraphs <dd> and <nn>, which correspond to /d/ and /n/. The reasons for this are not clear: this use is not always coherent and might have to do with the perceived length of the preceding vowel.

<sup>3</sup> In this paper the following abbreviations are used: 1, 2, 3 = first, second, third person; AYO = Ayoreo; BF = base form; CHA = Chamacoco; EPENT = epenthesis; EXIST = existential; F = feminine; FF = full form; GF = generic form; IDEO = ideophone; IF = indeterminate form; IRLS = irrealis; M = masculine; OZA = Old Zamuco; PL = plural; PREP = preposition; RETR = retrospective; SG = singular.

## 2. Morphology

While analyzing the morphology of the lexeme ‘head’ in Zamucoan, one has to consider: (i) nominal suffixation (§2.1) and (ii) the possessive prefixes occurring with nouns (§2.2). They will be dealt with separately, since there is no interaction between prefixes and suffixes.

### 2.1 Nominal suffixation

All Zamucoan languages are fusional. Nominals, i.e. nouns and adjectives, have a shared suffix expressing gender (masculine or feminine), number (singular or plural) and ‘form’. What is called ‘form’ in previous studies on Zamucoan (Bertinetto 2014, Ciucci 2016) is actually a very rare typological feature of this family, where one can distinguish a ‘base form’ (BF), a ‘full form’ (FF) and an ‘indeterminate form’ (IF). The nominal system of Zamucoan is reported in Table 1.

	Old Zamuco		Ayoreo		Chamacoco	
	Singular	Plural	Singular	Plural	Singular	Plural
Masculine BF	-∅	-o, -yo	-∅	-o, -jo	-∅, -k, -ak	-o, -e, -tso, -lo
Masculine FF	-tie	-oddoe	-i	-ode	-t, -tɛ	
Masculine IF	-nic, -ric, -tic	-nigo, -rigo, -tigo	-nik, -rik, -tik	-niño, -rigo, -tigo	-tik, -ĩrk	-tijo, -ĩr
Feminine BF	-∅	-i, -yi	-∅, (-e)	-i, -ji	-∅, -aʔ, -eʔ, -oʔ, -iʔ	-e
Feminine FF	-tae	-yie, -iyie	-∅, (-e), -a, -ia	-die, -idie	-ta, -tɛa	
Feminine IF	-nac, -rac	-rigui	-nak, -rak, -tak	-niñi, -rigi, -tigi	-tã(k), -rã(k)	-ĩr

**Table 1:** The three-term system of nominal ‘form’ (Bertinetto, Ciucci and Farina, forthcoming)

The singular base form is, at least diachronically, the original root of the nominal and is often the starting point of any morphological operation.<sup>4</sup> The base form, singular or plural, is used when the nominal carries out predication, such as *ñakirbitak* ‘young man’ in (1). By contrast, whenever the nominal has argument function, it appears in full form (2a) or in indeterminate form (2b). The only difference between them is that the indeterminate form has a non-specific referent, such as *cucha-tic* ‘thing’ in (2b).

- (1) CHA *owa* [*ñakirbit-ak*]<sub>INTRANSITIVE.PREDICATE</sub>  
 2SG young\_man-M.SG.BF  
 ‘You are a young man.’

- (2) a. OZA *desi-oddoe dac* (Chomé 1958: 128)  
 boy-M.PL.FF [3]come

<sup>4</sup> I will show that in this very respect, the Ayoreo and Old Zamuco word for ‘head’ is an exception. In the case of derived nominals, the singular base form coincides with the stem, with the root being another singular base form, as in *utié*, derived from *uti*: OZA *uti* (3.M.SG.BF), *uti-tie* (3.M.SG.FF) ‘firstborn child’ → *utié* (3.F.SG.BF), *utie-tae* (3.F.SG.FF) ‘firstborn child’.

‘The boys come.’ (specific referent)

- b. OZA *A-gu cucha-tic* (Chomé 1958: 132)  
1SG-eat thing-M.SG.IF  
‘I eat something.’ (non-specific referent)

The inflection of the lexeme ‘head’ for base form and full form is reported below.<sup>5</sup> All of the forms in (3) refer to the 3-person possessor; the segmentation for the possessive inflection will be indicated in §2.2:

- (3) a. OZA *gatodde* (3.F.SG.BF), *gatoi-tae* (3.F.SG.FF), *gatodde-i* (3.F.PL.BF), *gatoi-yie* (3.F.PL.FF) ‘head’  
b. AYO *gatode* (3.F.SG.BF), *gatoj / gatode* (3.F.SG.FF), *gatoi-die / gatode-die* (3.F.PL.FF), *gatode-j* (3.F.PL.BF) ‘head’  
c. CHA *hu*<sup>9</sup> (3.F.SG.BF), *hu-ta* (3.F.SG.FF) ‘head’, *hu / huw-e* (3.F.PL) ‘head’

The inflection of ‘head’ perfectly exemplifies the genetic relationship among the three languages: Old Zamuco and Ayoreo are very close to each other and share the vast majority of their lexicon, as in this case. By contrast, Chamacoco, often the most innovative language of the family, only shares about 30% of its lexicon with Old Zamuco and Ayoreo, and indeed the Chamacoco word used for ‘head’ has no cognate in these languages, despite the fact that it belongs to the basic lexicon. At the same time Chamacoco can preserve archaic features found in Old Zamuco, but lost in Ayoreo, such as the original singular FF suffixes in *-tV(V)* (cf. Table 1): indeed Chamacoco *hu-ta* (3c) has the F.SG.FF suffix *-ta*, clearly corresponding to Old Zamuco *-tae* in *gatoi-tae* (3a). Since Ayoreo has lost the original F.SG.FF suffix, in most feminine nouns the singular BF has replaced the singular FF, and this is why *gatode* is used in both cases (3b), as I am going to explain in detail.

While the Chamacoco inflection of ‘head’ is regular, in Ayoreo ‘head’ is of particular interest, because it shows root allomorphy between *gatode* and *gatoj / gatoi-*.<sup>6</sup> The fact that both roots can alternate in the singular FF and in the plural FF makes ‘head’ (3b) a unique case. In Ciucci (2016) it was not possible to provide any explanation for this, owing to lack of data for Old Zamuco. However, in the meantime the rediscovery of Chomé’s dictionary has made available the Old Zamuco inflection reported in (3a), which shows an older state of affairs. In Old Zamuco there is the same root allomorphy between *gatodde / gatode/* and *gatoi*, but *gatodde* is specific for the BF, *gatoi* for the FF. This is a subregularity which did not emerge in Chomé’s grammar.<sup>7</sup> However, in his Old Zamuco dictionary there is a marginal group of feminine nouns which have a root in *-dde (/de/)* for the BF, which differs from the root in *-i* employed for the FF. An example of this is ‘knee’ (4a), where the root of the BF is *catadde* and the root of the FF is *catai*. Old Zamuco also offers enough data in order to reconstruct how the two roots differentiated (to be addressed in another study: Ciucci and Bertinetto, in preparation). The important fact here is that such a root allomorphy is not restricted to Old Zamuco, as it has left traces in Ayoreo feminine nouns. In Ayoreo the

<sup>5</sup> From now on, I only use the abbreviation BF for base form and FF for full form. I do not report the indeterminate form, because it occurs less frequently than the others and only a small number of indeterminate forms is documented for Old Zamuco, so that comparison is difficult. For more information concerning the use of the form, see Ciucci (2016) and Bertinetto, Ciucci and Farina (forthcoming).

<sup>6</sup> Initial /g/ is actually a 3-person prefix, but for reasons of simplicity, I do not show the morpheme boundary here (see ex. 7). In Ayoreo after a vowel there is often ambiguity between /i/ and /j/, with /i/ generally turning into /j/ word-finally.

<sup>7</sup> This is possibly due to the fact that there are two missing pages in the relevant part of the manuscript of Chomé’s Old Zamuco grammar (Chomé 1958).

singular BF has replaced the singular FF, as one can see comparing (4b) with (4a), but in the Ayoreo plural FF *katai-die* (4b) one can see the preservation of the same root as in the Old Zamuco FFs *catai-tae* and *catai-yie* (4a). This explains the irregular plural of ‘knee’ in Ayoreo.

- (4) a. OZA *catadde* (3.F.SG.BF), *catai-tae* (3.F.SG.FF), *catadde-i* (3.F.PL.BF), *catai-yie* (3.F.PL.FF) ‘knee’  
 b. AYO *katade* (F.SG.BF), *katade* (F.SG.FF), *katade-j* (F.PL.BF), *katai-die* (F.PL.FF) ‘knee’

Such a root allomorphy has mostly been lost in Ayoreo, but it is still to be observed in the plural FF of nouns such as the two mentioned above, which share the following features: (i) they are feminine; (ii) they have singular BF and FF ending in *-de* or in its nasalized counterpart *-ne*; (iii) they are all body parts (including ‘ear’, ‘finger’, ‘shoulder’, ‘socket/joint’ and ‘wrist’). This is remarkable, because in Old Zamuco the nouns with features (i) and (ii) were not restricted to body parts, while in Ayoreo this root has only been preserved in some body parts. So far, this is the only known case where semantics has interfered with the suffixation of a noun. As a consequence, Ayoreo body-part terms are characterized by a (synchronically) irregular plural FF. However, in some of them the irregular plural FF alternates with a ‘regular’ plural FF. The example below compares the inflection of ‘finger’ in Old Zamuco (5a) and Ayoreo (5b). In Ayoreo the conservative and irregular plural *ṃai-nie* (cf. Old Zamuco *mai-ñie*) alternates with the innovative *ṃane-nie*.<sup>8</sup> The same applies to ‘head’ (6), ‘ear’, ‘finger’ and ‘shoulder’ (see Ciucci 2016: 466).

- (5) a. OZA *manne* (3.F.SG.BF), *mai-tae* (3.F.SG.FF), *manne-i* (3.F.PL.FF), *mai-ñie* (3.F.PL.FF) ‘finger’  
 b. AYO *ṃane* (3.F.SG.BF), *ṃane* (3.F.SG.FF), *ṃane-j* (3.F.PL.BF), *ṃane-nie* / *ṃai-nie* (3.F.PL.FF) ‘finger’

Ayoreo ‘head’, whose inflection is repeated below (6b) for ease of reference, is the most interesting noun of these body parts, because it is the only one in which the singular BF did not completely replace the singular FF. Comparing Old Zamuco with Ayoreo in (6), one can see that the latter has lost the original F.SG.FF suffix *\*-tae* (Table 1); as a consequence, Old Zamuco *gatoi-tae* (3.F.SG.FF) corresponds to Ayoreo *gatoj* (3.F.SG.FF), which alternates with *gatode*, originally the singular BF now also used as FF. Not only is such an alternation unique in Ayoreo, but this is also the only example which shows the sequence of changes undergone by feminine nominals: (i) the original F.SG.FF suffix *\*-tae* was first lost and (ii) then the replacement of the F.SG.FF by the F.SG.BF took place. The preservation of the F.SG.FF *gatoj* in Ayoreo shows an intermediate stage of diachronic change, not to be observed in any other Ayoreo nominal.

- (6) a. OZA *gatodde* (3.F.SG.BF), *gatoi-tae* (3.F.SG.FF), *gatodde-i* (3.F.PL.BF), *gatoi-yie* (3.F.PL.FF) ‘head’  
 b. AYO *gatode* (3.F.SG.BF), *gatoj* / *gatode* (3.F.SG.FF), *gatoi-die* / *gatode-die* (3.F.PL.FF), *gatode-j* (3.F.PL.BF) ‘head’

## 2.2 Nominal prefixation

In all Zamucoan languages body parts belong to the nouns inflected for possessor, which is expressed by a prefix. The possessive inflection of ‘head’ is shown below, and will be

<sup>8</sup> Note that in (5) final *-nne* (*-ne*), *-ne*, *-ñie* and *-nie* are due to nasal harmony thus corresponding to *-dde* (*-de*), *-de*, *-yie* and *-die* (4).

compared with historical data collected by other authors in §2.3. This lexeme does not present any particular exceptions in any Zamucoan language. For reasons of simplicity, in (7) I only indicate prefixes with a clear segmental expression and only report the 1SG-, the 2SG- and the 3-person (in either BF or FF). For a complete description of possessive inflection in Zamucoan, see Ciucci (2016) and Ciucci and Bertinetto (2017).<sup>9</sup>

- (7) a. OZA *y-atoitae* (1SG.F.SG.FF), *atoitae* (2SG.F.SG.FF), *g-atoitae* (3.F.SG.FF) ‘head’  
 b. AYO *j-atode* (1SG.F.SG.BF/FF), *b-atode* (2SG.F.SG.BF/FF), *g-atode* (3.F.SG.BF/FF) ‘head’;  
 also: *j-atoj* (1SG.F.SG.FF), *b-atoj* (2SG.F.SG.FF), *g-atoj* (3.F.SG.FF) ‘head’  
 c. CHA *p-uhuta* / *p-u:ta* (1SG.F.SG.FF), *e-heta* / *e:-ta* (2SG.F.SG.FF), *huta* (3.F.SG.FF) ‘head’

In Zamucoan possessive nouns, the shape of the 3-person determines the inflectional class. In all languages at stake here ‘head’ belongs to marginal noun classes. The 3-prefix *g-* of Old Zamuco and Ayoreo is only found in a few nouns, while in Chamacoco ‘head’ belongs to a small group of ‘radical’ nouns, i.e. nouns where the 3-person consists of a root beginning with a consonant. Zamucoan nouns can optionally have a generic form (GF) which does not refer to any possessor. In Ayoreo the generic form of *g-atode* (3.F.SG.BF/FF) is *p-atode* (GF.F.SG.BF/FF), where *p-* is the most frequent prefix for the generic form. The Ayoreo generic form of ‘head’ can also show another prefix, *dVk-*, where V depends on vowel harmony, so that the following forms are attested: *dak-atode* / *dok-atode* (GF.F.SG.BF/FF), *dak-atoj* / *dok-atoj* (F.SG.FF). In Old Zamuco there is also another entry for ‘head’ with a different prefix: *c-atode* / *k-atode* (F.SG.BF), *c-atoitae* (F.SG.FF), *c-atodei* (F.PL.BF), *c-atoiyie* (F.PL.FF) ‘head, skull’. From Chomé’s data it is not clear whether this is a variant of the 3-person *gatode* or a generic form. Chamacoco has lost almost all generic forms, so that, in order not to express possession, the language makes use of periphrases whereby the noun is preceded by the 3P-person pronoun *ōr* or by *os*, the reduced form of *oso* (M.PL) ‘people’ (8).

- (8) CHA *huta* (3.F.SG.FF), *ōr huta* ‘their head / head (in general)’, *os huta* ‘head (in general)’

### 2.3 Historical data

One can compare the data discussed above with those collected by the French traveller d’Orbigny, who visited Bolivia in 1831 and collected a word list of four extinct Old Zamuco ‘dialects’, published by Lussagnet (1961, 1962):

- (9) Guarañoca dialect: *yatoita* (1SG.F.SG.FF) ‘head’  
 Samucu and Poturero dialect: *yatodo* (1SG.F.SG.BF) ‘head’  
 Morotoco dialect: *yatood* (1SG.F.SG.BF) ‘head’<sup>10</sup>

These words are simply translated as ‘head’, but what d’Orbigny has transcribed here is the form for the 1SG-possessor (cf. Kelm 1964). The same happens with most body parts documented by d’Orbigny, which show the 1SG-prefix *y-* (/j/-). The main difference between Old Zamuco (cf. §2.1) and the above Zamucoan dialects lies in the final vowel, which is a possible result of language evolution, considering that these data have been collected about 90 years after Chomé’s work. The Guarañoca FF *yatoita* (1SG.F.SG.FF) has the same root as the Old Zamuco FF *yatoitae* (1SG.F.SG.FF). By contrast, in the other dialects the BFs *yatodo* (1SG.F.SG.BF) and *yatood* (1SG.F.SG.BF) have the same root as the Old Zamuco BF *yatodde*

<sup>9</sup> See also Ciucci (2010a, b) for the possessive inflection of Ayoreo and Chamacoco, respectively.

<sup>10</sup> The data in this section were collected by different authors, but the glosses are mine as in the rest of the paper. The relationship of these dialects with Old Zamuco and Ayoreo is not completely clear. I plan to deal with this issue in a future paper.

/jatode/ (1SG.F.SG.BF). In other words, the different BF and FF roots for ‘head’ in these dialects seem to provide further evidence that the root allomorphy of Old Zamuco also characterized its sister languages (not necessarily limited to those documented by d’Orbigny), to which Ayoreo is also related.

The first attestation of ‘head’ in Chamacoco is in Boggiani (1894: 106): *os-a-chu*’. Leaving aside /a/, which is a vocalic insertion, *os* is the reduced form of *oso* ‘people’ and *chu*’ should be phonetically interpreted as [χu] or [ç],<sup>11</sup> which seems to correspond to modern Chamacoco *hu*’ (3.F.SG.BF). In other words, Boggiani has transcribed not just ‘head’, but the whole construction used to avoid reference to possession, corresponding to current Chamacoco *os hu*’, as in §2.2, ex. (8), but with ‘head’ in F.SG.BF, literally meaning ‘it is a head (in general)’.

Baldus (1932: 401) provides data from his fieldwork on Chamacoco plus some data collected by the Czech anthropologist Alberto Vojtěch Frič. Baldus reports the first three persons of ‘head’ in the Tomarãho dialect: *poho* (1SG.F.SG.BF), *pěho* [pɛhɔ] (1SG.F.SG.BF), *pohě* [pɔhɛ] (1SG.F.SG.BF), *ahāta* (2SG.F.SG.FF)<sup>12</sup>, *ho* [hɔ] (3.F.SG.BF). In *poho*, *pěho* and *pohě* one can clearly identify the prefix *p-*, which is a Chamacoco innovation for the 1SG-person (Ciucci and Bertinetto, 2017). The 2SG- and 3-person are very similar to the forms Baldus transcribes for the Ebitoso dialect: *ahetě* [ahe'te] (2SG.F.SG.FF) and *hotě* [ho'te] (3.F.SG.FF). In both 2SG-persons *ahāta* and *ahetě* one can identify the prefix vowel /a/, which is /e/ in modern Chamacoco (*eheta*; cf. 7c). Since /e/ as 2SG-prefix diachronically derives from /a/, the data collected by Baldus and Frič in the first half of the 20<sup>th</sup> century witness an older feature of the language. But apart from slight changes in vowel quality, the 3-person in both sources is the same as in current Chamacoco. In addition, Frič collected the form *os ho* ‘head’ for the Tomarãho dialect and *hote* (3.F.SG.FF) for a dialect which he calls Išira, now merged into modern Ebitoso: *ho* (3.F.SG.BF) is clearly the same BF seen above, and *os ho* avoids reference to any possessor, corresponding to ex. (8) and to Boggiani’s *os-a-chu*’.

Finally, one also has to add the data provided by Sušnik, who worked on the Ebitoso dialect in the Fifties and collected data on a generation of speakers who have now passed away. Unfortunately, her description of the language is obscure and the data are often hard to interpret. Although she does not provide any gloss, in (10) one can recognize a 1SG-person with prefix *p-* and a 3-person coinciding with the root:

- (10) CHA *púxute* [‘puçute] (1SG.F.SG.FF) (Sušnik 1957: 81); *púxutě* [‘puçutɨ] (1SG.F.SG.FF) (Sušnik 1970: 22, 106, 113, 115); *xútě* [çu:tɨ] (3.F.SG.FF) (Sušnik 1970: 106, 22); *xúTe* [çut:e] (3.F.SG.FF) (Sušnik 1970: 106, 176)

To sum up, even though the transcription by the different authors show some degree of variation in the vowels and the fricative consonant, the Chamacoco word for ‘head’ is documented since the first published studies on the language. No lexical innovation took place in the recent past. No one of the mentioned authors seems to be aware of the difference between BF and FF in Chamacoco, first described in Ciucci (2016), but in the collected data one can clearly identify BFs and FFs,<sup>13</sup> confirming that this basic contrast was there. The F.SG.FF suffix of ‘head’ is *-ta* in the variety I have documented, while in the historical data presented in this section there is some fluctuation between [ta], [te], [tɛ] and [tɨ]. If final [ɨ] and possibly [ɜ] could depend on the phonetic reduction of the final vowel (a process to be

<sup>11</sup> The symbol <’> indicates that the accent falls on *chu*, but in Boggiani it is not clear whether <ch> corresponds to [χ] or [ç].

<sup>12</sup> The form actually reported by Baldus for the second person is *ahāta ho*, but this is clearly a mistake.

<sup>13</sup> Baldus (1932: 393), for instance, considers the endings *ta*, *te* and *tɛ* to be demonstrative pronouns. A similar mistake is found in Kelm (1964: 816, note 282) for the Zamucoan dialects documented by d’Orbigny.

observed in currently spoken Chamacoco), the presence of final [a] or [e] could depend on vowel harmony, which is still found in Zamucoan, although it does not affect the suffix *-ta*.

### 3. On the uses of the lexeme ‘head’

The following sections analyze the uses of ‘head’ in each Zamucoan language. This lexeme can appear in compounds, idiomatic expressions, or can be the base for derivation. It is not always possible to distinguish between compounding and derivation, because, particularly in the case of Old Zamuco, the second element of the compound is not always identifiable, or the derivational suffix has lost its productivity and is no longer transparent. The two kinds of compounds observed in the following sections are noun-noun and noun-adjective. Noun-noun compounds, be they endocentric or exocentric, historically derive from a genitive construction, where the first element is the modifier and the second element the head of the compound. In Old Zamuco and Ayoreo, compounds are clearly distinguished from genitive constructions, because the first element of a compound is in BF, while the modifier of a genitive construction is in FF, but in Chamacoco these two constructions can overlap. In the following examples, I report ‘head’ in 3-person, whenever possible, since the 3-person is the citation form for nouns in all sources available. Idiomatic expressions, however, are mostly provided with ‘head’ in 1SG-person. This depends on the available data: for example, in Chomé’s dictionary of Old Zamuco many relevant examples are found in verb entries, whose lemmatized form is the 1SG-person, following the Latin model. The lexeme ‘head’ is used in compounds to refer to parts of the head §3.1; it can refer to the intellect §3.2 or be connected with some names for fauna §3.3. A metaphoric projection of ‘head’ can also refer to the ‘starting point’ or to the ‘most important part’ of something §3.4. Other uses are discussed in §3.5.

#### 3.1 Parts and extensions of the ‘head’

The lexeme ‘head’ is the first element of compounds used to refer to parts of the head, such as the ‘skull’ (11) and the ‘top of the head’ (12), reactions to wounds / illnesses on its surface, or secretions (13). The same applies to objects or parts of objects used to cover the head (14), which are seen as an extension of it. These compounds are endocentric, unlike most compounds in the rest of this paper. The second element of the compound is not always transparent, as in Ayoreo *gatahidi* (12a) and *gatohe* (14b).<sup>14</sup> As mentioned above, in Old Zamuco and Ayoreo the first element of the compound always occurs in singular BF, and for this reason in (12-15), as well as in the rest of this paper, I systematically report its singular BF. However, in Old Zamuco and Ayoreo compounds such as *yat'ugoroyie* (13b), *gatarĩ* (13c), *gatohe* (14b) and *gatué* (14c), the first element is a reduced form of the singular BF. Although in most cases the singular BF coincides with the root of the nominal, ‘head’ is an exception. These and the following examples show that neither of them is the original root, which, leaving apart the 3-prefix *g-*, was probably *-at(o)-*. This also applies to the Old Zamuco and Ayoreo nouns that show the same phenomenon of root allomorphy (§2.1).<sup>15</sup>

- (11) a. AYO *gatodañokej* (3.M.SG.FF) ‘skull’ < *gatode* (3.F.SG.BF/FF) ‘head’ + *añokej*  
(3.M.SG.FF) ‘bone’  
b. AYO *gatodaoj* (3.M.SG.FF) ‘skull; sepal, bark’ < *gatode* (3.F.SG.BF/FF) ‘head’ + *aoj*  
(3.M.SG.FF) ‘skin’<sup>16</sup>

<sup>14</sup> Another possibility is that they are derivations, but no such derivational suffixes have so far been documented.

<sup>15</sup> For a diachronic explanation of this root allomorphy, see Ciucci and Bertinetto (in preparation).

<sup>16</sup> The literal meaning of the compound is ‘the skin of the head’. The meaning of ‘skull’ could be explained by the ‘natural tendency for a person-part term to shift to refer to a spatially contiguous person part within the



- c. CHA *huta debijo* ‘skull’ < *huta* (3.F.SG.FF) ‘head’ + *debijo* (M.PL) ‘bone’
- (12) a. AYO *gatahidi* (3.M.SG.FF) ‘top of head’ < *gatode* (3.F.SG.BF/FF) ‘head’ + ?<sup>17</sup>  
 b. CHA *hutubita* (F.SG.FF) ‘top of head, hair whorl in the top of the head’ ‘top, summit’ (F.SG.BF) < *huta* (3.F.SG.FF) ‘head’ + *ibita* (3.M.SG.FF) ‘place where one sits’, ‘corner’, ‘bottom’ (*hutubita* is literally ‘the corner of the head’)
- (13) a. OZA *yatodde ñorât* (1SG.M.SG.BF) ‘crust on head’ < *yatodde* (1SG.F.SG.BF) ‘head’ + *ñorât* (M.SG.BF) ‘cover’  
 b. OZA *yat’ugoroyie* (1SG.F.PL.FF) ‘lump on the head’ < *yatodde* (1SG.F.SG.BF) ‘head’ + *ugoroyie* (3.F.PL.FF) ‘knot’  
 c. OZA *gatarĩ* (GF.M.SG.BF) ‘dandruff’<sup>18</sup> < *gatodde* (3.M.SG.BF) ‘head’ + *ãri* (M.SG.FF) ‘flour’
- (14) a. OZA *gatodde bie* (3.F.SG.BF) ‘hat, cap’ < *gatodde* (3.F.SG.BF) ‘head’ + *ibie* (3.F.SG.BF) ‘dress, clothes’  
 b. AYO *gatohe* (F.SG.BF/FF) ‘cap, hat’ < *gatode* (3.F.SG.BF/FF) ‘head’ + ?  
 c. OZA *gatué* (3.F.SG.BF) ‘convexity at the sides of a helmet’ < *gatodde* (3.M.SG.BF) ‘head’ + *güie /we/* (F.SG.BF) ‘horn’, ‘corner’

In his Old Zamuco dictionary, Chomé notes that the plural of ‘head’ may mean ‘hair’. This is the meaning of ‘head’ in Old Zamuco *ahu yatoiye* ‘crop my hair!’ (15a), but there are also expressions in which the singular of ‘head’ logically refers to ‘hair’ (cf. Chamacoco, ex. 20).

- (15) a. OZA *ahu* *y-atoi-yie* (cf. 20c)  
 [2SG.IRLS]crop 1SG-head-F.PL.FF  
 ‘Crop my hair!’, lit. ‘Crop my heads’.
- b. OZA *y-atoi-tae* *ch-o* *miti\_miti*  
 1SG-head-F.SG.FF 3-look\_like IDEO  
 ‘My hair stands on end’.
- c. OZA *y-atoi-tae* *cirunaugue* *ique*  
 1SG-head-F.SG.FF tumbledown[F.SG.BF] RETR  
 ‘I am bald’, lit. ‘My head has crumbled’.
- d. OZA *a-güariguez* *y-atoi-tae*  
 1SG-EPENT:cleanse 1SG-head-F.SG.FF  
 ‘I comb my hair’, lit. ‘I sweep, cleanse my head’.

The following Old Zamuco compounds also refer to ‘hair’ and have ‘head’ as the first element, while the second element is a noun or an adjective.

- (16) a. OZA *gatodde quiyiguitauc* (M.SG.BF) ‘with curly hair’ < *gatodde* (3.F.SG.BF) ‘head’ + *quiyiguitauc* (M.SG.BF) ‘restless, one who does not stop’

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same whole” (Wilkins 1996: 273). The compound then underwent metaphorical extension so that it also means ‘sepal, bark’.

<sup>17</sup> Here and in the following examples, the question mark indicates that it is not possible to identify the second element of a compound or derivation, owing to lack of data or to diachronic change.

<sup>18</sup> Chomé treats *gatarĩ* as a generic form, but this is hardly convincing.

- b. OZA *gatodde pizap* (M.SG.BF) ‘blond, reddish’ < *gatodde* (3.F.SG.BF) ‘head’ + *pizap* (M.SG.BF) ‘red’
- c. OZA *gaturac* (M.SG.BF) ‘one who has hair already grown’ < *gatodde* (3.F.SG.BF) ‘head’ + ?
- d. OZA *gatuat* (F.SG.FF) ‘uneven ends of badly cut hair’ < *gatodde* (3.M.SG.BF) ‘head’ + *güat* /*wat*/ or *üat* (F.SG.FF) ‘plant’

Ayoreo too has compounds referring to ‘hair’ with ‘head’ as first element (17). However, while in Old Zamuco there is no specific term to refer to ‘human hair’, Ayoreo employs *gaterero* or its variant *gatororo* (18). Interestingly, the same compound existed in Old Zamuco (19) with a slightly different meaning. The difference between Ayoreo *gaterero* and Old Zamuco *gateroi* lies in the meaning of the second element, which is diachronically the same and possibly underwent semantic change in Ayoreo.<sup>19</sup>

(17) a. AYO *gatoditeaj* (M.SG.FF) ‘bald’ > *gatode* (3.F.SG.BF/FF) ‘head’ + *iteaj* (M.SG.FF) ‘new, clean’

b. AYO *gatuaj* (M.SG.FF) ‘short hair’ > *gatode* (3.F.SG.BF/FF) ‘head’ + ?

(18) AYO *gaterero* / *gatororo* (3.F.SG.BF/FF) ‘hair’ < *gatode* (3.F.SG.BF/FF) ‘head’ + AYO *ero* (F.SG.BF/FF) ‘plant stem’

(19) OZA *gateroi* (F.PL.BF) ‘different length of cut hair’ < *gatodde* (3.M.SG.BF) ‘head’ + *ero* (F.SG.BF), *eroi* (F.PL.BF) ‘different length of the branches of a tree’

Ayoreo also has another term to refer to human hair, *akāraj* (3.M.SG.FF), which also means ‘leaf’. This corresponds to Chamacoco *akĩrt* (3.M.SG.FF) ‘hair’. By contrast, the Old Zamuco cognate *acarātie* (3.M.SG.FF) refers to ‘leaf’, ‘small feather’, ‘wool’ and ‘animal hair’, but not to ‘human hair’. Despite the presence of a specific term for human ‘hair’ in Chamacoco, ‘head’ can sometimes mean ‘hair’ (Sušnik 1970: 106), as in the following expressions (20).

(20) a. CHA *t-ār*                      *p-úxu-të*                      [ta:r 'puçutɨ] (Sušnik 1970: 115)  
           1SG-arrange    1SG-head-F.SG.FF  
           ‘I comb my hair’, lit. ‘I arrange my head’.

b. CHA *t-arz*                      *p-uhu-ta*                      (own fieldwork, cf. 20a)  
           1SG-arrange    1SG-head-F.SG.FF  
           ‘I comb my hair’, lit. ‘I arrange my head’.

c. CHA *tuk-uhu*                      *p-uhu-ta*                      (cf. 15a)  
           1SG-crop            1SG-head-F.SG.FF  
           ‘I crop my hair’, lit. ‘I crop my head’.

d. CHA *ts-ehék*                      *hu-ta*  
           3-divide            [3]head-F.SG.FF  
           ‘S/he looks for the lice in (someone else’s) head’, lit. ‘S/he divides (someone else’s) head’.

<sup>19</sup> D’Orbigny provides the word for ‘hair’ in the Zamucoan dialects mentioned in §2.3 (Lussagnet 1961: 222): Guarañoca *yaturita* (1S.FF), Samucu/Poturero *yatoydiuda* (1S), Morotoco *yigi* (1S). Here, apart from the grammatical information just provided in the glosses, owing to the paucity of data, one can only recognize ‘head’ as first element in *yaturita* and *yatoydiuda*.

- e. CHA *hu-ta* *noſi*  
 [3]head-F.SG.FF spill  
 ‘S/he is losing her/his hair’, lit. ‘Her/his head is spilling’.

### 3.2 Head and states of mind

‘Head’ is also connected with the notion of ‘intellect’, ‘mind’. The two Old Zamuco adjective compounds in (21a-b) refer to someone who is ‘stubborn’ or ‘silly’. A negative connotation is also conveyed by the Chamacoco idiomatic expressions in (22a-b), while (22c) simply refers to a loss of memory. In the case of (22a), *debit̃* can mean both ‘hard’ and ‘bone’, so that *huta debit̃* ‘to be pig-headed, stubborn’ (lit. ‘her/his head is hard’) is very similar to *huta debijo* ‘skull’ (11c): the difference is that ‘hard’ is an invariable adjective while the second element of ‘skull’ is the plural of ‘bone’. ‘Head’ and ‘hard’ are also associated in the Old Zamuco compound in (21a).

- (21) a. OZA *gatoduahat* (M.SG.BF) ‘stubborn’ ‘coarse’ (referring to a person) < *gatodde* (3.M.SG.BF) ‘head’ + *güahat /wahat/* (M.SG.BF) ‘hard’  
 b. OZA *gaturozo* (F/M.SG.BF) ‘silly, stupid’ < *gatodde* (3.M.SG.BF) ‘head’ + *urozo* (BF) ‘which hurts’, cf. Ayoreo *urõso* (F/M.SG.BF) ‘which hurts’<sup>20</sup>

- (22) a. CHA *hu-t(a)* *debit̃*  
 [3]head-F.SG.FF hard  
 ‘S/he is pig-headed, stubborn’, lit. ‘Her/his head is hard’.
- b. CHA *hu-t(a)* *xãr*  
 [3]head-F.SG.FF hungry  
 ‘S/he is mad’, lit. ‘Her/his head is hungry’.
- c. CHA *p-uhu-t(a)* *wopi?*  
 1SG-head-F.SG.FF insane[F.SG.BF]  
 ‘I do not remember’, lit. ‘My head is insane’.

In (23) there are Old Zamuco or Ayoreo idiomatic expressions in which the head is the centre of a state of mind: an emotional state (23a), or a reasoning involving wrong (23b) or negative (23c) thoughts. In Chamacoco ‘head’ is also used in idiomatic expressions referring to intellectual abilities in a positive sense, as in (24), where the ‘head’ is the “seat” of learning and understanding processes.

- (23) a. OZA *y-atoi-tae* *ch-o\_cere*  
 1SG-head-F.SG.FF 3-get\_dark  
 ‘I am bewildered, scatterbrained’, lit. ‘my head gets dark’.
- b. OZA *a-cuaz* *udde* *ihi* *atoi-tae*  
 2SG.IRLS-throw\_out it PREP [2SG]head-F.SG.FF  
 ‘Get it out of your head!’
- c. AYO *j-ijira* *j-atoj* *aha\_kedeñane*

<sup>20</sup> *Urozo* is found in Old Zamuco, but, since the very pages of the dictionary in which it was lemmatized have been lost, we have no complete information on the inflection.

1SG-throw 1SG-head[F.SG.FF] everywhere  
 ‘I am preoccupied by terrible circumstances’, lit. ‘I throw my head everywhere’.

- (24) a. CHA *xû-ti=š* [çu:tiʃ] (Sušnik 1970: 39)  
 [3]head-F.SG.FF=EXIST  
 ‘S/he is learned’, lit. ‘S/he has head’.
- b. CHA *jok p-uhu-ta=ε* [nowadays rare]  
 1SG 1SG-head-F.SG.FF=EXIST  
 ‘I understand, I am learned’, lit. ‘I have head’.
- c. CHA *č-iš p-úxu-të* [ʧiʃ 'puçutɨ] (Sušnik 1970: 40)  
 3-catch 1SG-head-F.SG.FF  
 ‘My understanding’, lit. ‘It catches my head’.
- d. CHA *içir-o aʷos-o tε-iε p-uhu-ta*  
 Chamacoco-M.PL [3]word-M.PL 3-catch 1SG-head-F.SG.FF  
 ‘The Chamacoco language remains in my mind’, i.e. ‘I do not forget Chamacoco’, lit. ‘The Chamacoco language catches my head’.
- e. CHA *hu-t(a) u:εi* [nowadays rare]  
 [3]head-F.SG.FF [3]run  
 ‘S/he thinks’, lit. ‘Her/his head is running’.

### 3.3 Animals

The term ‘head’ is also used to form some names for fauna. In (25) I analyze noun compounds for birds in Ayoreo. The data come from Fischermann (1988) who has collected a long list of animals and plants known to the Ayoreo, along with their scientific name. In the case of the birds in (25), the head or the crown generally forms a sharp contrast with the rest of the body, and as such, is the most salient body part in order to recognize a given bird. Whenever possible, after each example I have added a short explanation for the origin of the name. The noun compounds in (25b) and (25g) are formed by a compound bird name plus the adjective *kedeŋaj* ‘different’; this is a frequently used device exploited by the Ayoreo to increase their own zoological and botanical lexicon.

- (25) a. AYO *tεeke gatoj* (F.SG.FF) ‘red-crested cardinal’ (*Paroaria coronata*) < *tεeke* (F.SG.BF/FF) ‘woman’ + *gatoj* (3.F.SG.FF) ‘head’ (lit. ‘head of woman’). It is a songbird characterized by a red head and crest.
- b. AYO *tεeke gatoj kedeŋaj* (M.SG.FF) ‘yellow-billed cardinal’ (*Paroaria capitata*) < *tεeke gatoj* (F.SG.FF) ‘red-crested cardinal’ + *kedeŋaj* (M.SG.FF) ‘different’. It is very similar to *tεeke gatoj* and also characterized by a red head.
- c. AYO *gatode karataj* (M.SG.FF) ‘golden-green woodpecker’ (*Piculus chrysochloros*) < *gatode* (3.F.SG.BF/FF) ‘head’ + *karataj* (M.SG.FF) ‘red, brown’. The males of this bird have red feathers on their head.
- d. AYO *gatode karate* (F.SG.BF/FF) ‘cattle tyrant’ (*Machetornis rixosa*) < *gatode* (3.F.SG.BF/FF) ‘head’ + *karate* (F.SG.BF/FF) ‘red, brown’. It is a yellow bird with brown head.

- e. AYO *gatode pororoj* (F.SG.FF) ‘blond-crested woodpecker’ (*Celeus flavescens*) < *gatode* (3.F.SG.BF/FF) ‘head’ + *pororoj* (M.SG.FF) ‘white’. It has a blond, crested head which contrasts with the black color of the rest of its body.
- f. AYO *gatode uņej* (M.SG.FF) ‘white-fronted woodpecker’ (*Melanerpes cactorum*) < *gatode* (3.F.SG.BF/FF) ‘head’ + ?
- g. AYO *gatode uņe kedeņaj* (M.SG.FF) ‘diademed tanager’ (*Stephanophorus diadematus*) < *gatode uņej* (M.SG.BF) ‘white-fronted woodpecker’ + *kedeņaj* (M.SG.FF) ‘different’.

Apart from birds, there are other animals (26-27) in which one can clearly recognize ‘head’ as the first element of the word. Interestingly, this is observed in both Old Zamuco and Ayoreo with ‘armadillo’ and ‘cockroach’. However, it is hard to say something more specific, because the word formation is not clear in the case of (26a,b) and (27) and it is difficult to decide between derivation and compounding. Ayoreo *gatodehaj* is possibly derived from ‘head’ (like its Old Zamuco cognate *gatodeac*) and refers to both the armadillo and the cockroach. From this term for ‘armadillo’, *gatodehabi* (26c) and *gatodehaņaj* (26d) are derived. In the former (26c), one can recognise the diminutive suffix *-abi* (DIM.M.SG.FF), and indeed *gatodehabi* is smaller than the two species designated by *gatodehaj* (26b) according to Fischermann (1988). By contrast, *gatodehaņaj* (26d) is larger than the other species and is derived by means of the suffix *-ņaj*, which often has an augmentative value.

- (26) a. OZA *gatodeac* (M.SG.BF) ‘type of armadillo’ (possibly *Dasyopus novemcinctus*)
  - b. AYO *gatodehaj* (M.SG.FF), *gatodehak* (M.SG.BF) ‘armadillo’ (*Dasyopus novemcinctus* / *Euphractus sexcinctus*)
  - c. AYO *gatodehabi* (M.SG.FF) ‘big hairy armadillo’ (*Chaetophractus villosus*)
  - d. AYO *gatodehaņaj* (M.SG.FF) ‘giant armadillo’ (*Priodontes maximus*)
- (27) a. OZA *gatodeadap* (M.SG.BF) ‘cockroach’
  - b. AYO *gatodehaj* (M.SG.FF), *gatodehak* (M.SG.BF) ‘cockroach’ (phonologically identical to ‘armadillo’)

Finally, in the Chamacoco word, *hutukita* (F.SG.FF) ‘horsefly’, the first element could mistakenly be interpreted as *hut(a)* ‘head’. However, the fact that Chamacoco ‘horsefly’ has cognates in the other Zamucoan languages with a different word for ‘head’ (28) permits to discard such a hypothesis.

- (28) OZA *huticatie* (M.SG.FF) ‘horsefly’; AYO *hutikaj* (M.SG.FF) ‘horsefly’; CHA *hutukita* (F.SG.FF) ‘horsefly’

### 3.4 The ‘head’ as ‘beginning’, ‘starting point’ and ‘most important part’

In some cases ‘head’ seems to designate a starting point. Consider the following Ayoreo compounds in which ‘head’ is the second element (29-30). The first elements, *ņakar* (M.SG.BF) ‘young man’ (29) and *gapu* (F.SG.BF) ‘young woman’ (30), refer to individuals who are sexually mature but still unmarried, generally between 15 and 27 years (Pia 2016: 90-91).<sup>21</sup> In order to refer to someone who is at the beginning of this period (about 15 years old), the exocentric compounds in (29-30) are used (Pia, *ibidem*): they literally mean ‘the head, the beginning of the young woman/man’. Note that *ņakar gatode*, whose referent is masculine, is morphologically feminine, since ‘head’ is feminine. Similar considerations apply to the

<sup>21</sup> The Ayoreo traditionally did not count the years of their life, so that the years are necessarily an approximation.

Chamacoco NPs in (31). Since Chamacoco compounds can have the same structure as possessive NPs, with the first element in FF, as in (31), only semantics permits to consider *de:jte huta* (31a) and *ixite huta* (31b) compounds: from a structural point of view, ‘dawn’ is expressed by a possessive construction literally meaning ‘the head of the day’, and the ‘beginning of the path’ by a possessive construction meaning ‘the head of the path’.

(29) AYO *gapu gatode* (F.SG.BF/FF) ‘young woman at the beginning of sexual maturity’ < *gapu* (F.SG.BF) ‘young woman’ + *gatode* (3.F.SG.BF/FF) ‘head’

(30) AYO *ṅakar gatode* (F.SG.BF/FF) ‘young man at the beginning of sexual maturity’ < *ṅakar* (M.SG.BF) ‘young man’ + *gatode* (3.F.SG.BF/FF) ‘head’

(31) a. CHA *de:jte huta* ‘dawn’ < *de:jte* (M.SG.FF) ‘day’ + *huta* (3.F.SG.FF) ‘head’, lit. ‘the head of the day’

b. CHA *ixite huta* ‘beginning of the path’ < *ixite* (3.M.SG.FF) ‘path’ + *huta* (3.F.SG.FF), lit. ‘the head of the path’

One can see an analogous use of ‘head’ in the Chamacoco compound ‘trunk’ (32), which literally means ‘the head of the tree’; here ‘head’ should be seen as the starting point, the base of the visible part of the tree, from which the branches unfold.<sup>22</sup> A similar example is the Old Zamuco compound in (33), in which ‘head’ refers to the part of the knife which is not worn-out, basically the handle and, in addition, what remains of the spine and the blade. Here also, ‘head’ refers to the base, the initial part of the knife, which, as such, is less subject to consumption than the rest of the knife.

(32) CHA *pohir<sup>2</sup> huta* (F.SG.FF) ‘trunk’ < *pohir<sup>2</sup>* (F.SG.BF) ‘tree’ + *huta* (3.F.SG.FF) ‘head’

(33) OZA *pichautat gatode* (GF.F.SG.FF) ‘worn knife, of which only a short piece remains’ < *pichautat* (GF.M.SG.BF) ‘knife’ + *gatode* (3.F.SG.BF) ‘head’ (lit. ‘the head of the knife’)

Some of the uses of ‘head’ mentioned here are also associated with the importance of what is designated. Indeed, according to Bórmida (2005, II: 53) in Ayoreo the term ‘head’ is used for many objects in order to refer to their most important part, while ‘foot’ indicates the opposite part. For instance, a traditional purification ceremony for Ayoreo warriors was held after a battle on a clearing called *paragapidi* (GF.M.SG.FF), whose spatial ends are called ‘head’ and ‘foot, toes’.<sup>23</sup> This use of ‘head’ is also linked to nouns for fauna in §3.3, where animals are defined by their heads.

### 3.5 Other uses of ‘head’

In Old Zamuco, one also has to note other special uses of ‘head’. (34a) is a possessive construction to indicate ‘vertigo’. The fact that head is in FF rather than in BF indicates that this should not be considered a compound. (34b) is a periphrasis in which *iz iz* is an ideophone only documented in this context. (34c) is an idiomatic expression, while (34d) is a compound originated from the metaphorical interpretation of ‘chimney soot’ as ‘the head of the house’. Finally, although I do not have enough information about the actual use of

<sup>22</sup> Owing to the presence of the singular BF on the first element, this is not to be considered a possessive construction.

<sup>23</sup> For the latter end, Bórmida reports the term *gidedie* (3.F.PL.FF) ‘toe’. On this ceremony, see Bórmida (2005, II: 49-53) and Otaegui (2014: 59-60).

gestures in the Old Zamuco culture, one can point out that the expression in (34e), literally ‘to move the head’, means ‘to call someone, to agree’. By contrast, ‘to say no’ is literally rendered with ‘to move the eyes’.

- (34) a. OZA *g-atoi-tae* *terarârîga* cf. (23a)  
 3-head-F.SG.FF [3]swaying/wobbling[M.SG.BF]  
 ‘Vertigo’
- b. OZA *y-atoi-tae* *ch-o* *iz\_iz*  
 1SG-head-F.SG.FF 3-look\_like IDEO  
 ‘I have a dizzy spell’
- c. OZA *a-iguina* *g-atoi-tae* *a* *num-onoe*  
 1SG-hit 3-head-F.SG.FF PREP land-M.PL.FF  
 ‘I smash (it) against the wall’
- d. OZA *guigueddagatode* (F.SG.BF) ‘chimney soot’ < *guiguedda* (GF.M.SG.BF)  
 ‘house’ + *gatodde* (3.M.SG.BF) ‘head’ (lit. ‘the head of the house’)
- e. OZA *a-recare* *y-atoi-tae*  
 1SG-move 1SG-head-F.SG.FF  
 ‘I agree, say yes’ ‘I call someone with the head’, lit. ‘I move my head’
- f. OZA *a-recare* *y-edo-yie*  
 1SG-move 1SG-eye-F.PL.FF  
 ‘I say no’, lit. ‘I move my eyes’ (Chomé’s translation: ‘To say no with the head’)

One also has to mention the fact that the traditional life of Zamucoan people involved competition and frequent wars with the surrounding groups in order to secure the scarce resources. In the case of Chamacoco, Sušnik (1969: 23) mentions the fact that in the past warriors used to bring to their village the heads of the enemies killed, in order to gain prestige and social status in the tribe. She also adds that such a habit was possibly the result of cultural contact. This is confirmed by Fischermann (1988), who points out that collecting the heads of the enemy is typical of some Chaco tribes and is also narrated in some Ayoreo stories, although according to him this does not properly belong to the Ayoreo culture.

#### 4. Conclusions

In this paper I have analyzed the morphology and the uses of ‘head’ in the Zamucoan family, where one has to distinguish two branches: Old Zamuco/Ayoreo, on the one hand, and Chamacoco, on the other. The word for ‘head’ is unrelated in the two branches, but there are similarities in the inflectional morphology of the word, in particular between Old Zamuco and Chamacoco. This is in line with the morphological description of Ciucci (2016). Moreover, the examination of the historical sources has for the first time identified a number of morphological features described in Ciucci (2016). The analysis has also highlighted figurative uses of the lexeme ‘head’ as common to both branches, namely: the meaning of ‘head’ as ‘hair’, and its association with ‘intellect’ (§3.2) and with ‘beginning’ or ‘most important part of something’ (§3.4). In the context of the peculiar nominal suffixation of Zamucoan, Ayoreo ‘head’ is a unique morphological exception for which it was not possible to find an explanation in Ciucci (2016). The recent rediscovery of Chomé’s dictionary

permits a better understanding of the historical evolution of the word: ‘head’ showed a subregular root allomorphy in Old Zamuco, which turned into a sheer morphological exception in Ayoreo. The analysis of the compounds of head offers further information on the development of its morphology. In Old Zamuco and Ayoreo, the first element of a compound is in singular BF, and this is shown in several examples throughout this paper. There are, however, a few Old Zamuco and Ayoreo compounds of ‘head’ in which a ‘reduced’ BF is used as first element. This was possibly the original root of the word before the split into a BF root and a FF root, an innovation common to both languages. In noun-noun compounds ‘head’ is generally the first element, with the exception of those presented in §3.4, in which ‘head’ indicates the beginning or the most important part of an entity, along with Old Zamuco *guigueddagatode* ‘chimney soot’ (34d) and Ayoreo *teeke gatoj* ‘red-crested cardinal’ (25a). The latter belongs to the group of bird names, which are otherwise noun-adjective compounds. Unfortunately, data for bird names in Old Zamuco are scarce, so that comparison is not possible. Recent research (Ciucci 2014b) has identified several traces of contact between Zamucoan and other languages of the Chaco, so that it would be interesting to see whether some similarities with the surrounding languages could emerge in the use of the lexeme ‘head’.

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