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Tracing sound change in Nasa Yuwe: Evidence from Andaqui and Misumalpan languages

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ABSTRACT: This paper is a contribution to the historical phonology of Nasa Yuwe, a presumable language isolate of southwestern Colombia. It shows how a lexical comparison with two presumably unrelated language groups can help to reconstruct a sound change of *a > *e* in Nasa Yuwe. The two language groups compared with Nasa Yuwe in this paper are Andaqui, likewise of western Colombia, and the Misumalpan family of Central America. Whereas *a is documented as such in the Andaqui and Misumalpan forms, data discussed in this paper suggest that it has changed to *e* and similar vowels in Nasa Yuwe.
KEYWORDS: Nasa Yuwe; Andaqui; Misumalpan languages; Historical linguistics; Sound change

RESUMEN: Este artículo es una contribución a la fonología histórica del nasa yuwe, una lengua presumiblemente aislada del suroeste de Colombia. Muestra cómo una comparación léxica con dos grupos lingüísticos presumiblemente no relacionados puede ayudar a reconstruir un cambio de *a > *e* en nasa yuwe. Los dos grupos lingüísticos comparados con el nasa yuwe en este artículo son el andaqui, también del oeste de Colombia, y la familia misumalpa de Centroamérica. Mientras que *a está documentada como tal en las formas de la lengua andaqui y en las de la familia misumalpa, los datos analizados en este artículo sugieren que ha cambiado a *e* y vocales similares en nasa yuwe.
PALABRAS CLAVE: Nasa yuwe; Andaqui; Lenguas misumalpas; Lingüística histórica; Cambio fonético

1. Introduction

This paper addresses a presumed language isolate of western Colombia, Nasa Yuwe (ISO code: pbb; Glottocode: paez1247).[1] Without getting involved in questions of genealogical classification, it is shown here how a comparison of Nasa Yuwe with other indigenous languages of the Americas can help to understand sound change in this language.

In general terms, the prehistory of American indigenous languages, their interrelations, but also the diachronic developments that took place in single American indigenous languages and families, are still poorly understood in many cases. This is particularly true for South American languages and families (e.g., Campbell 1997; Adelaar 2013) and stands in contrast with the often much better investigated languages and families from other continents, such as Africa (e.g., Güldemann 2018) or, in particular, Europe. As a contribution to this field, the present paper discusses some lexical parallels that exist between three American indigenous language groups: Nasa Yuwe of western Colombia, Andaqui (isolate, ISO code: ana; Glottocode: anda1286), likewise of western Colombia, and the Misumalpan family of Central America (Glottocode: misu1242). Their areas of distribution are illustrated in Figure 1.

[1] Wherever possible, I provide both the ISO code and the Glottocode for American indigenous languages.

Figure 1: Approximate distribution areas of Nasa Yuwe, Andaqui and Misumalpan languages.[2]

These languages, in particular Nasa Yuwe and Andaqui, have been compared with each other in earlier works (e.g., Rivet 1924; Greenberg 1987; Adelaar & Muysken 2004). Even if a number of parallels exist between the three language groups in question (see Appendices 1 to 3 of this paper), which are difficult to dismiss as the result of mere chance, it is not an easy task to assess whether they reflect a remote genealogical connection, effects of contact, a combination of both, or a phenomenon such as language layering, intertwining or mixing. While these questions will need to be addressed in detail by future studies, the present article will discuss one way in which such lexical parallels can already be interpreted in a meaningful way. Specifically, it addresses the question to what extent parallels between Nasa Yuwe, Andaqui and Misumalpan languages can contribute to tracing sound change in Nasa Yuwe. To begin with, Table 1 shows some lexical parallels of Nasa Yuwe and Andaqui. Nasa Yuwe–Andaqui sets that have first been published in another source are marked with one asterisk (Jolkesky 2016), two asterisks (Rivet 1924), or three asterisks (Adelaar & Muysken 2004).[3]

[2] Map created by Arjan Mossel, based on Lehmann (n.d.: 3), Urquijo Ortiz (n.d.), Houwald (2003: 8-9), and Eberhard et al. (2023).

[3] Except for data given between pointed brackets, I adapted the transcriptions of indigenous language data to IPA symbols; affricates are represented by ligatures (e.g., *ʧ* instead of *t͡ʃ*). Note that in the case of Nasa Yuwe, authors do not always agree in their interpretation of sounds as dedicated phonemes – compare, for instance, Caldono /juʰ/ ‘to come’, with an aspirated vowel versus Munchique /juh/ ‘to come’ with /h/ as a separate phoneme (Nieves

Table 1: Some Andaqui–Nasa Yuwe lexical parallels

Set	English	Andaqui (Coronas Urzúa 1995)	Nasa Yuwe (Gerdel 2023)
1	‘tongue’**	*sunai*	*thune*
2	‘ear’**	*sũkwai*	*thũʔwã, thũʔwẽ*
3	‘stone’*	*kwaii*	*kwet*
4	‘head’/‘forehead’	*kinahi* ‘head’	*knene* ‘forehead’
5	‘to sleep’***	*da*	*deh*

Final *-i*, *-ii*, and *-hii* in the Andaqui forms are not part of the roots in question (see Section 4); further Andaqui–Nasa Yuwe sets are shown in Section 4.1 and in Appendix 1. Table 2 shows some lexical parallels of Nasa Yuwe with Proto-Misumalpan. Misumalpan languages are spoken in parts of Central America, that is, in a geographically distant area.

Table 2: Some Nasa Yuwe–Proto-Misumalpan lexical parallels

Set	English	Proto-Misumalpan (Constenla Umaña 1987)[4]	Nasa Yuwe (Gerdel 2023)
1	‘yellow’	*lalah	*lem-lem*
2	‘green’	*saŋ	*ʦẽj*
3	‘to take’/‘to buy’	*wa	*wej*
4	‘to hear’	*wada	*wẽsẽʔh*
5	‘to fall’	*wakwa	*wete*

More lexical parallels between Nasa Yuwe and Misumalpan languages are shown in Section 4.2 and Appendix 2. Vowel nasality, glottalization and aspiration not taken into account, the correspondence of Andaqui *a* and Nasa Yuwe *e*, illustrated in Table 1, and between Proto-Misumalpan *a and Nasa Yuwe *e*, illustrated in Table 2 suggest that in these cases, Nasa Yuwe *e* is innovative and derives from earlier *a, which is attested as such in the Andaqui and Misumalpan forms. This is in a nutshell the hypothesis addressed in the present paper on the basis of further language data.

Finally, Andaqui *a* corresponds to Proto-Misumalpan *a in the parallels shown in Table 3.

Oviedo (ed.) 1991: 222). Except if indicated otherwise, in the context of vowel aspiration or glottalization, I stick to the interpretation proposed by the respective source.

[4] Proto-Misumalpan forms in Sets 3 and 5 reconstructed by the author.

Table 3: Some Andaqui–Proto-Misumalpan lexical parallels

Set	English	Andaqui (Coronas Urzúa 1995)	Proto-Misumalpan[5]
1	'to take'	*kwariĩ*	*wa
2	'to fall'	*kwakakwa*	*wakwa
3	'flea'	*bisatui*	*bida ~ *bila ~ *bisa

These lexical parallels between Proto-Misumalpan and Andaqui are discussed in more detail in Section 4.3 and Appendix 3.

This paper is structured as follows: Section 2 briefly presents the language groups in question: Nasa Yuwe (2.1), Andaqui (2.2), and Misumalpan (2.3). The analytical framework is outlined in Section 3. Section 4 presents and discusses lexical sets illustrating a correspondence of Nasa Yuwe {*e, ẽ, e^{h}, ẽ^{ʔ}*}, Andaqui *a* and Misumalpan *a*. Section 5 provides an interpretation of the results presented in 4, and Section 6 provides an outlook, discussing open questions that arise from the data discussed here.

2. Languages dealt with in this paper: Nasa Yuwe, Andaqui, and Misumalpan

This section briefly presents the three language groups discussed in this paper: Nasa Yuwe (2.1), Andaqui (2.2), and Misumalpan (2.3).

2.1 Nasa Yuwe

Nasa Yuwe or Páez is a language isolate of southwestern Colombia. It is spoken by approximately 80,000 people in the Cauca, Putumayo and Huila departments, along the slopes of the central Cordillera and in the valley of the Cauca River (Ministerio de Cultura de Colombia 2010). The dialectal diversity of Nasa Yuwe is not yet fully understood. So far, three major divisions have been proposed: (i) a northern one, which includes the varieties of Munchique, recently described by Diaz Montenegro (2019), Toribío, San Franciso and Tacueyó; (ii) a central division which can possibly be further split up into two further dialects, Jambaló and Pitayó versus Caldono, Pioyá, and Pueblo Nuevo; and (iii) a southern division comprising Novirao and Paniquitá (Nieves Oviedo 1995).

Nasa Yuwe has series of four vowels which, in the Munchique variety, can be plain, nasalized, glottalized, or both nasalized and glottalized (Diaz Montenegro 2019: 117-132). The Caldono variety additionally has phonemic long vowels (Nieves Oviedo 1991*a*: 137). The complete vowel inventory of Caldono is shown in Table 4.

[5] Source: Reconstructions by the author.

Table 4: Nasa Yuwe vowels (Caldono variety)

		High front	Mid front	Low	High back
Oral	Plain	*i*	*e*	*a*	*u*
Oral	Long	*iː*	*eː*	*aː*	*uː*
Oral	Glottalized	*iˀ*	*eˀ*	*aˀ*	*uˀ*
Oral	aspirated	*iʰ*	*eʰ*	*aʰ*	*uʰ*
Nasal	Plain	*ĩ*	*ẽ*	*ã*	*ũ*
Nasal	Long	*ĩː*	*ẽː*	*ãː*	*ũː*
Nasal	Glottalized	*ĩˀ*	*ẽˀ*	*ãˀ*	*ũˀ*
Nasal	Aspirated	*ĩʰ*	*ẽʰ*	*ãʰ*	*ũʰ*

Note: Presentation adapted from Nieves Oviedo (1991*b*: 32) and Adelaar & Muysken (2004: 132).

Table 5 illustrates the consonant inventory of the Caldono variety of Nasa Yuwe which is the most comprehensive consonant inventory of all Nasa Yuwe varieties (Nieves Oviedo 1991*a*: 131).

Table 5: Nasa Yuwe consonants (Caldono variety)

			Labial	Alveolar	Alveolar affricate	Velar	Glottal
stops	plain	voiceless	*p*	*t*	*ʦ*	*k*	
stops	aspirated	voiceless	*pʰ*	*tʰ*	*ʦʰ*	*kʰ*	
stops	palatalized	voiceless	*pʲ*	*tʲ*	*ʦʲ*	*kʲ*	
stops	palatalized, aspirated	voiceless	*pʲʰ*	*tʲʰ*	*ʦʲʰ*	*kʲʰ*	
stops	prenasalized	voiced	*ᵐb*	*ⁿd*	*ⁿʣ*	*ᵑg*	
stops	prenasalized, palatalized	voiced	*ᵐbʲ*	*ⁿdʲ*	*ⁿʣʲ*	*ᵑgʲ*	
nasals	plain		*m*	*n*			
nasals	palatalized			*ɲ*			
fricatives	plain	voiceless		*s*			*h*
fricatives	palatalized	voiceless	*ɸʲ*	*sʲ*			*hʲ*
fricatives	palatalized	voiced	*βʲ*				
lateral	plain			*l*			
lateral	palatalized			*ʎ*			
glides		*w*		*j*			

Table adapted from Nieves Oviedo (1991*b*: 20) and Adelaar & Muysken (2004: 131-132).

Little is known about the diachronic developments that took place in Nasa Yuwe. Vowel loss, for instance, is among the changes which can be postulated for this language,

affecting the root structure and yielding root-initial consonant clusters. This phenomenon can be observed including in relatively recent loanwords such as *kneja*, a kind of banana (< Spanish *guineo*; Nieves Oviedo 1991*b*: 40; for a further example, see, e.g., Diaz Montenegro 2019: 280), apparently also reflecting an adaptation of Spanish *o* as *a* in this instance. Correspondences between the palatalized velar stop /kʲ/ in one Nasa Yuwe dialect and the palatalized alveolar stop /tʲ/ in another do not appear to be always regular (see, e.g., Nieves Oviedo 1991*a*: 134-135). A similar variation seems to occur in Nasa Yuwe *kʰib*, *tʲʰib* 'to untie' (adapted from Gerdel 2023). Variation or alternation also exists in the context of Nasa Yuwe *a* and *e* or *ã* and *ẽ*. This is illustrated by cases such as *jat*, *jet* 'house', *thũʔwã*, *thũʔwẽ* 'ear', *ʧũhwa*, *ʧũhwe* 'pointed', *wãxʲ*, *wẽxʲ* 'tobacco', *watɕe*, *wetɕe*, 'root', *wãj*, *wẽj* 'to creep, to crawl' (Gerdel 2023). In Gerdel (2023), this is only attested in some single instances. According to Nieves Oviedo ((ed.) 1991), a similar phenomenon is found between different dialects, some of which show *e*, others *a*, as in the case of Caldono /tʰũwa/; Munchique /tʰũa/ Paniquitá /thũʔwa/ 'ear' versus Toribío, Tierradentro /tʰũʔwe/ 'ear' (Nieves Oviedo (ed.) 1991: 223).

Investigating sound change in Nasa Yuwe and systematically reconstructing Pre-Nasa Yuwe, it may be useful to analyze doublets, that is, etymologically related forms which occur in a single language such as, for instance, the German doublets *Feuer* 'fire' and *Funke* 'spark'. Some presumable Nasa Yuwe doublets are shown in Table 6.

Table 6: Some presumable doublets in Nasa Yuwe[6]

Form 1	Form 2
wes 'worm'	*uʌ́* 'worm' (Caldono variety, Nieves Oviedo 1991*b*: 25), *ul* 'snake'
wejxa 'wind'	*ũũse-* 'breath, to breathe'
wej- 'to shout, cry out'	*ũʔne-* 'to cry'

As to the morphosyntax of Nasa Yuwe, grammatical information is often encoded by enclitics – for instance, person or functions such as direct and indirect object; the same is true for instrumental, benefactive, and a number of locative meanings. Nasa Yuwe has accusative-dative syncretism, that is, the direct and indirect object can be marked by the same enclitic (Diaz Montenegro 2019: 307-322; 473-476). The language also has a number of prefixes manipulating verbal valency (ibid.: 366). Like several other languages of western South America, Nasa Yuwe marks switch-reference (ibid.: 704-715). Adjectives follow the noun, whereas all other determiners precede it (ibid.: 300); the possessor noun precedes the possessed noun (ibid.: 315); and the most widespread constituent order is SOV (ibid.: 468).

During the 20th century, several authors have suggested a genealogical relationship of Nasa Yuwe and Andaqui, an extinct language of the Upper Caquetá area (e.g., Rivet 1924; Greenberg 1987); for instance, Greenberg (1987: 106) who claims that Andaqui and Nasa Yuwe belong to a "Nuclear Paezan" subgroup of alleged "Chibchan–Paezan". Although Campbell (2012: 71) concludes that "no compelling evidence" exists for an association of Andaqui with Nasa Yuwe, Andaqui has still recently been proposed to be "possibly related" to Nasa Yuwe (Adelaar & Muysken 2004: 611). Indeed, there is a number of Andaqui–Nasa Yuwe parallels in basic vocabulary, and some single similarities in morphology. Yet, their detailed investigation is beyond the scope of this paper. Some lexical and grammatical parallels are shown in Appendix 1. Since Nasa Yuwe and Andaqui are spoken in geographically close areas, it has been argued that coinciding forms may also be the result of extensive contact and

[6] Source: Gerdel (2023), if not indicated otherwise.

borrowing (e.g., Jolkesky 2016: 539).[7] In connection with questions of kinship or contact as sources of such similarities, it is relevant to observe that the Nasa Yuwe–Andaqui parallels are found among several basic lexical items and that they show sound correspondences which are sometimes different from those attested in shared non-basic vocabulary items (for details, see Table 11 in Subsection 4.1).

Nasa Yuwe has also repeatedly been connected with the Misumalpan languages of Central America, yet, always as part of a larger "Macro-Chibchan" or "Chibchan–Paezan" stock and together with a number of other languages and families. Among the other families linked with Nasa Yuwe within such "Macro-Chibchan" or "Chibchan–Paezan" proposals are, for instance, Chocoan languages (Glottocode: choc1280) and the Barbacoan languages (Glottocode: barb1265), both of northwestern South America; the Lencan languages of Central America (ISO code: len; Glottocode: lenc1239); and the Chibchan languages of northwestern South America and Central America (ISO code: cba; Glottocode: chib1249; Rivet 1924; Jijón y Caamaño 1943; Mason 1950; Loukotka 1968; Greenberg 1987; Constenla Umaña 2002, 2005). Within Chibchan–Paezan, Misumalpan languages have been argued to belong to the Chibchan subgroup by Greenberg (1987: 106), not to Paezan.[8] There are hardly any grammatical parallels between Nasa Yuwe and Misumalpan languages. Greenberg (1987: passim) is among the few authors in the history of "Macro-Chibchan" proposals to present some presumable Misumalpan–Nasa Yuwe cognates. They are shown in Appendix 4.

2.2 Andaqui

Andaqui is an extinct language, formerly spoken in an area between the Caquetá and Caguán rivers and the Upper Magdalena highlands. Andaqui was documented in the late 18th and in the mid-19th centuries (see Anonymous n.d.*a*, n.d.*b*; Albis 1860-1861). Based on these materials, papers on Andaqui phonology (Coronas Urzúa 1994) and lexicon (Coronas Urzúa 1995) have been published in the late 20th century. In the Andaqui lists from the late 18th and mid-19th centuries (Anonymous n.d.*a*, n.d.*b*; Albis 1860-1861), identical sounds are often represented by different graphemes (Coronas Urzúa 1994: 85). This is illustrated by <hua>, <gua>, <qua>, <coha> and <coa> which appear in free variation yet have all been argued to represent /k^{w}a/ (Coronas Urzúa 1994: 85). The Andaqui phoneme /i/, to mention another example, has been argued to be represented by <e> or <i> in the available 18th- and 19th century sources (ibid.: 73-74). The Andaqui vowel inventory, as proposed by Coronas Urzúa (1994: 80), is shown in Table 7.

Table 7: Andaqui vowels

	Front	Central	Back
High	*i*, *ĩ*		*u*, *ũ*
Low		*a*, *ã*	

The Andaqui vowel system has three articulation points only and is reminiscent, in this respect, of the Proto-Misumalpan trivocalic inventory presented in the following section. In fact, there are a few trivocalic languages in the Americas: In North America, they seem to occur somewhat more frequently in the western part of the continent – for instance, Nuxalk (ISO: blc; Glottocode: bell1243), Northern Haida (hdn; haid1248), Southern-Coastal Tsimshian (tsi;

[7] In this context, it should also be mentioned that Jolkesky (2017) instead sees a possible genealogical connection between Nasa Yuwe and Zapotecan languages of Mesoamerica. He finds some interesting parallels, yet, their discussion is likewise beyond the scope of this paper.

[8] For a discussion of a putative genealogical connection between Chibchan and Misumalpan, see Pache (2018: 563-567).

sout2962) – than in languages of the eastern parts – for instance, Alabama (Muskogean; akz; alab1237) and Caddo (Caddoan; cad; cadd1256; Moran & McCloy 2019). In Central and South America, among the languages with three qualitatively distinct vowel phonemes, we find Rama (Chibchan; rma; rama1270) of eastern Nicaragua, Pirahã (Muran; myp; pira1253) of northwestern Brazil, the Enlhet–Enenlhet languages (Mascoian; leng1261) of western Paraguay, and Tehuelche (Chonan; the; tehu1242) of Patagonia (Craig 1989; Moran & McCloy 2019; Elliott 2021). In western South America, we find the following languages and families with three qualitatively distinct vowels: Amuesha (Arawakan; ame; yane1238), Aymaran (ayma1253), Qawasqar (isolate; alc; qawa1238) and Quechuan (quec1387; Adelaar 2012; Moran & McCloy 2019).

There may have been some merger of {*o, a*} > Andaqui *a* in loanwords, as illustrated by Proto-Tucanoan *poʔga 'manioc flour' (Waltz & Wheeler 1972) versus Andaqui <paga> 'yuca, manioc' (Albis 1860-1861), if the borrowing direction was indeed from Tucanoan to Andaqui. By contrast, Spanish *e* is possibly adapted as <i> in Andaqui <parini> 'priest' (from Spanish *padre*) and as <e> in <buytreni> (from Spanish *buitre* 'vulture'), <ovejani> (from Spanish *oveja* 'sheep'), and <casiqueni> (from Spanish *cacique* 'chief', Moens 2023: 23). The Andaqui consonant inventory proposed by Coronas Urzúa (1994: 96) is shown in Table 8.

Table 8: Andaqui consonants

	Bilabial	Dental	Prepalatal	Velar	Labiovelar	Laryngeal
Voiceless stops	*p*	*t*		*k*	*k*^{w}	
Voiced stops	*b*		*ɟ*			
Nasals	*m*	*n*				
Affricate			*ʧ*			
Fricatives		*s*				*h*
Trill		*r*				

Among the main morphological devices of Andaqui are prefixation (for instance, in causative marking, and to indicate aspectual and spatial notions on the verb) and suffixation (for instance, to mark non-indicative mood, modality, and, in the nominal domain, case). There is also some root suppletion: two different forms for the verb 'to come', <qui> and <yu> exist in this language; their choice depends on aspect and mood (Moens 2023). These two Andaqui roots might be compared with the two Nasa Yuwe roots *kĩh* 'to reach from above' (Diaz Montenegro 2019: 392) and *ju* 'to come' (ibid.: 136). There are several different ways to express commands in Andaqui, extensively documented in the available 18th-century language materials. Modifiers may precede or follow the modified (see Anonymous n.d.*a*, n.d.*b*; Moens 2023).

2.3 Misumalpan languages

Misumalpan languages were once spoken in an area extending from (north-)eastern and central Nicaragua to eastern El Salvador. The family has been argued to consist of three subgroups, namely Miskito, Sumu, and Cacaopera–Matagalpan (Lehmann 1910: 720). Constenla Umaña (1987), the hitherto most extensive reconstructive work on this language family, sees a relatively close connection between Sumu–Ulwa and Cacaopera–Matagalpan, as opposed to Miskito. A similar view was also expressed by Lehmann (1920: 471). Constenla

Umaña's Misumalpan tree is shown in the following schema (ISO codes and Glottocodes in brackets):

Miskito (ISO: miq; Glottocode: misk1235)
Sumalpan
    Sumu–Ulwa
        Mayangna (yan; maya1285)
        Ulwa (ulw; ulwa1239)
    Cacaopera–Matagalpan†
        Cacaopera† (ccr; caca1247)
        Matagalpa† (mtn; mata1288)

So far, however, the shared innovations (phonology, morphosyntax, lexicon) on which this Misumalpan tree is based have not been discussed in detail and need further research (see Constenla Umaña 1987: 130-131; 151). If Miskito and Sumalpan lexicon are often quite different, for the moment it is impossible to tell whether Proto-Sumalpan or Pre-Miskito has innovated – for instance, through semantic shift or through contact with unknown, non-Misumalpan languages. The status of Mayangna and Ulwa as distinct languages or dialects likewise needs further investigation: according to Green (1999: 10-11) Mayangna and Ulwa are not mutually intelligible, yet, according to other sources, Mayangna and Ulwa differ in terms of dialects only and the Ulwa perfectly understand Mayangna (see Houwald 1982: 34). In a similar vein, and in line with earlier observations (Lehmann 1920: 471), Constenla Umaña (1987: 129) interprets Ulwa and northern Sumu (Mayangna) as dialects of a single language, a view which is reflected in Constenla Umaña's (1987) Proto-Misumalpan reconstructions.

At present, the only surviving members of the Misumalpan family are Miskito and Sumu, which comprises Mayangna and Ulwa. Mayangna is spoken by some 10,000 people in northern Nicaragua and in parts of Honduras (Benedicto et al. 2007), whereas Ulwa is spoken by around 350 adults in Karawala, a village on the Nicaraguan Atlantic coast (South Caribbean Coast Autonomous Region, Koontz-Garboden 2009). Miskito has about 180,000 speakers in northeastern Nicaragua (North Caribbean Coast Autonomous Region) and adjacent parts of Honduras, according to the Ethnologue catalogue (Eberhard et al. 2023). As to the prehistory of Misumalpan languages, the presence of Matagalpa toponyms in the department of Chinandega indicates that the northern Pacific coast of Nicaragua was populated by Misumalpan-speaking groups before the arrival of different Mesoamerican populations from the north since about 800 AD (Constenla Umaña 1994: 195; 2002: 190).

Tables 9 and 10 present the vowel and consonant inventories of Proto-Misumalpan, as reconstructed by Constenla Umaña (1987: 135). The vowel inventory is shown in Table 9.

Table 9: Proto-Misumalpan vowels

	Front	Central	Back
High	*i		*u
Low		*a	

Table 10 shows the consonant inventory of Proto-Misumalpan, as reconstructed by Constenla Umaña (1987: 135).

Table 10: Proto-Misumalpan consonants

	Bilabial	Dental/ Alveolar	Palatal	Velar	Glottal
Voiceless stops		*t		*k	
Voiced stops	*b	*d			
Nasals	*m	*n		*ŋ	
Fricatives		*s			*h
Lateral		*l			
Glides	*w		*j		

The reflexes of Proto-Misumalpan phonemes in the daughter languages, as based on Constenla Umaña (1987), need thorough revision, which is beyond the scope of this paper. For the purpose of this contribution, suffice it to say that there are no reasons to question Constenla Umaña's (1987: 137) proposal that Sumu (Mayangna and Ulwa) and Miskito *a* both derive from Proto-Misumalpan *a. Besides in the pioneering publication of Constenla Umaña, sound correspondences in Misumalpan languages and the reconstruction of Proto-Misumalpan have received little attention, unlike in the case of the neighboring Chibchan family, and there are still several open questions with respect to Proto-Misumalpan segments and suprasegmental features and their reflexes in the daughter languages. For instance, Proto-Misumalpan may have had nasal vowels (Constenla Umaña 1987: 152). In morpheme-initial position, Proto-Misumalpan *k may have a zero reflex in certain contexts in Miskito, a sound change which has not yet been discussed in the literature.[9] I hasten to add that the data on Misumalpan languages available in the mid-1980's, on which Constenla Umaña's reconstructive work is based, were often scarce and defective, as he himself acknowledges (1987: 132).

Only a few grammatical features of Misumalpan may be discussed in this overview section. Suffixation is the main morphological device. Infixes exist in the domain of person marking and are useful to historical linguists because they reveal old morpheme boundaries that are otherwise not perceivable in Misumalpan languages. Prefixes are exceptional among Misumalpan grammatical morphemes: Miskito, for instance, has a prefix *ai-* reducing verbal valency (Salamanca 1988: 202). Notions of case (e.g., dative, locative, ablative) are expressed by postpositions in Miskito and Ulwa (Salamanca 1988; Green 1999). For Ulwa, accusative-dative syncretism has been described (Green 1999: 72-73). Misumalpan languages encode switch-reference (e.g., Salamanca 1988: 292; Green 1999: 97; Dickey 2000), a structural feature shared with several languages of western South America (see, e.g., Van Gijn 2016). By contrast, the absence of switch-reference has been argued to be a characteristic feature of the Mesoamerican linguistic area (Campbell et al. 1986: 548). Demonstratives precede the noun, while quantifiers follow it in Misumalpan languages. Unlike in the Mesoamerican linguistic area (Campbell et al. 1986: 545; 547-548), in Misumalpan languages the possessor noun

[9] Compare Ulwa *-ki* '1st person possessor' versus Miskito *-i* '1st person possessor' (Lehmann 1910: 722) or Ulwa *ka:uh* 'ashes', *ka:uh-mak* 'sand' (Green 1999: 200) versus Miskito *auhja* 'sand, beach, shore, shore, shoreline, litoral, sandbank' (Melgara Brown 2008: 258); *auhja ma:* 'sand', 'sand grain' (ibid.). An ongoing variation between #*k* and *Ø* or a sound change #*k > *Ø* may also be attested in Miskito *kauhbaia* and *auhbaia*, both 'to put' (Melgara Brown 2008: 158).

precedes the possessed noun, and the most widespread constituent order is SOV (Salamanca 1988; Green 1999).

Incidental lexical parallels of Misumalpan languages in languages of western South America, not included in the "Macro-Chibchan" proposals mentioned above, have recently been discussed in the literature (e.g., Urban 2014; Adelaar & Pache 2022); finally, a southeastern geographical origin of Ulwa, a Misumalpan language, has been proposed by Lehmann (1920: 645).

3. Analytical framework

Starting with the observation, in Section 1, that there are a number of lexical parallels between Nasa Yuwe, Andaqui, and Misumalpan, reflecting correspondences between Nasa Yuwe {*e*, *ẽ*, *e*^{h}, *ẽ*^{ʔ}} and Andaqui *a* or Misumalpan *a*, this paper will discuss to what extent comparing these parallels can contribute to reconstructing a former state of affairs in these language groups. That a look at other languages can help reconstruct the earlier stages of a language is obvious in the case of genealogically related languages, where the comparative method applies (e.g., Fox 1995). Yet, this is also possible in the context of languages related by contact: A well-known case are Finnish loanwords from Proto-Germanic which document certain segments that have changed in Germanic languages and would be difficult to reconstruct, if they were not documented in loanwords in Finnish, a genealogically unrelated language whose ancestor language, however, has been in contact with Proto-Germanic (Juntune 1973). In a similar vein, Spanish loanwords in several American indigenous languages document a former phonemic distinction between /b/ and /v/ in Spanish which is not perceivable anymore in modern Spanish (Campbell 2004: 75-76).

Specifically, this paper discusses to what extent correspondences such as those of Nasa Yuwe {*e*, *e*^{h}, *ẽ*, *ẽ*^{ʔ}} and Misumalpan *a* and of Nasa Yuwe {*e*, *e*^{h}, *ẽ*} and Andaqui *a*, introduced in Section 1 and discussed in detail in Section 4, suggest (1) that Nasa Yuwe *e* and related vowels derive from *a, whereas (2) Andaqui *a* and Misumalpan *a* document a former state of affairs.

In the available pools of comparanda (lexical items, grammatical morphemes), the number of forms varies in the languages in question: Constenla Umaña (1987) presents some 40 Proto-Misumalpan and 54 Proto-Sumalpan forms and sets of Misumalpan and Sumalpan cognates. A few additional reconstructions and cognate sets can be found in Constenla Umaña (2002, 2005). In the Nasa Yuwe materials consulted for this paper, the most extensive source (Gerdel 2023) contains some 1,300 lexical items. For Andaqui, some 163 entries are available from Albis (1860-1861), among which are four sentences, the rest are single words. In the mid-18th century Andaqui materials (Anonymous n.d.*a*, n.d.*b*), some 400 of the 772 entries are sentences (short verb phrases at least), the other entries are single words (see Moens 2023: 19).

In some cases, the sets shown below contain forms with somewhat divergent meanings. Shifting meanings is nothing unexpected, neither in the context of borrowings nor of cognates. For the sake of transparency, all Misumalpan–Nasa Yuwe sets with related but somewhat divergent meanings have been checked for plausibility with the CLICS^{3} database (Rzymski et al. 2019), and the number of similar semantic equations in other languages in the world is provided.

4. Evidence

The present section presents and discusses lexical parallels of (Proto-)Misumalpan, Nasa Yuwe and Andaqui illustrating the correspondences of Nasa Yuwe {*e*, *e*^{h}, *ẽ*, *ẽ*^{ʔ}}, Misumalpan *a* and Andaqui *a*. I present and discuss those sets that are found in the case of Andaqui and Nasa Yuwe (4.1), Nasa Yuwe and Misumalpan (4.2), and Misumalpan and Andaqui (4.3).

4.1 Andaqui–Nasa Yuwe

This section presents and discusses some Andaqui forms with lookalikes in Nasa Yuwe, illustrating a recurrent correspondence between Andaqui *a* and Nasa Yuwe {*e*, *e*^{h}, *ẽ*} and {*a*, *a*^{ʔ}}. An overview is given in Table 11. Hyphenation of the Andaqui forms is by the author, if not indicated otherwise, and explained below. Nasa Yuwe–Andaqui sets that have first been published in another source are marked with one asterisk (Jolkesky 2016), two asterisks (Rivet 1924), or three asterisks (Adelaar & Muysken 2004).

Table 11: Andaqui–Nasa Yuwe parallels illustrating a correspondence of Andaqui *a* and Nasa Yuwe {*a*, *a*^{ʔ}, *e*, *e*^{h}, *ẽ*}

Set	English	Andaqui (Coronas Urzúa 1995)	Nasa Yuwe (Gerdel 2023)
4.1.1	‘tongue’**	*suna-i*	*thune*
4.1.2	‘head’/‘forehead’	*kina-hi* ‘head’	*knene* ‘forehead’
4.1.3	‘tail’*	*masĩ-kwa*	*mez*
4.1.4	‘stone’*	*kwat-ii*	*kwet*
4.1.5	‘feminine’	*-kwa* ‘feminine’	*-kwe* ‘feminine’ (in pronouns)
4.1.6	‘to lie down’/‘to sleep’***	*da*, *bo-nda* ‘to sleep’	*deh* ‘to lie down’
4.1.7	‘sand’*	*mĩsa-ra*	*muse*
4.1.8	‘to take’	*kwariĩ* ‘to take’	*wej* ‘to buy’
4.1.9	‘ear’**	*sũkwa-i*	*thũʔwã*, *thũʔwẽ*
4.1.10	‘(sweet) potato’***	*kaka* ‘sweet potato’	*kaʔka*, *kaʔɣa* ‘potato’
4.1.11	‘cotton’**	*kwakwa*	*wawa*
4.1.12	‘grain’*	*mi-kahi* ‘roasted corn’	*khaβj* ‘grain’

In Table 11, forms where Andaqui *a* corresponds with Nasa Yuwe {*e*, *e*^{h}, *ẽ*} are divided with a bar from those where Andaqui *a* exclusively corresponds with Nasa Yuwe {*a*, *a*^{ʔ}}. In what follows, the sets are discussed in a more detailed way. Data presentation is inspired by Nikulin (2023). Further Andaqui–Nasa Yuwe parallels are discussed in Appendix 1.

4.1.1 ‘tongue’: A ***suna**i* : NY ***t^{h}une***

Andaqui *sunai* ‘tongue’ (Coronas Urzúa 1995: 95); <shonae> (Anonymous n.d.*a*); <shonaé> (Anonymous n.d.*b*); <sonae> (Albis 1860-1861). **Nasa Yuwe** *thune* ‘tongue’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti**, **Pa** /t^{h}une/ ‘tongue’ (Nieves Oviedo (ed.) 1991: 231).[10] **Notes**: Like *-hi* in the following entry, identified as a suffix by Rivet (1924: 101), final *-i* in Andaqui *sunai* ‘tongue’ is probably a stem formative and does not belong to the root in question.

4.1.2 ‘head’/‘forehead’: A ***kina**hi* : NY ***kne**ne*

Andaqui *kinahi* ‘head’ (Coronas Urzúa 1995: 86); <quinaxi> ‘head’ (Anonymous n.d.*a*; Anonymous n.d.*b*); <quinaji> ‘head’ (Albis 1860-1861). **Nasa Yuwe** *knene* ‘forehead’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti**, **Pa** no information available. **Notes**: In Andaqui, there is a related form <quinaja> ‘hair of the head’ (Albis 1860-1861). Andaqui *kinahi* ‘head’ has no counterpart *kne** ‘head’ in Nasa Yuwe but a counterpart *kne-ne* ‘forehead’. According to the CLICS^{3}-database, the colexification of ‘head’ and ‘forehead’ has been found in seven languages of the world (Rzymski et al. 2019). Final *-ne* in Nasa Yuwe *knene* ‘forehead’ is tentatively interpreted here as a stem formative which does not belong to the root in question. It is reminiscent of Andaqui *-na* in *ɟipina* ‘face’ (Coronas Urzúa 1995: 110), which may, in turn, be compared to Nasa Yuwe *dʲiʔp* ‘face’ (Gerdel 2023). It remains to be established whether or not Nasa Yuwe *-ne* and Andaqui *-na* can be linked with the classifying Ulwa suffix *-nak* ‘elongated object’ (see Green 1999: 87).[11]

4.1.3 ‘tail’: A ***mas**ĩkwa* : NY ***mez***

Andaqui *masĩkwa* ‘tail’ (Coronas Urzúa 1995: 88); <maszengua> (Anonymous n.d.*a*; Anonymous n.d.*b*); <maesegua> ‘tail’ (Albis 1860-1861). **Nasa Yuwe** *mez* ‘tail’ (Gerdel 2023); **Cal**, **Mu**, **Pa**, **Ti**, **To** /me^{n}dz/ ‘tail’ (Nieves Oviedo (ed.) 1991: 230). **Notes**: Final *-kwa* of the Andaqui form is analyzed as a stem formative of unknown function; it seems to recur in several other Andaqui forms, for instance, in *ɟatakwa* ‘hill’ or *ɟuhukwa* ‘rib’ (Coronas Urzúa 1995: 96-97).

4.1.4 ‘stone’: A ***kwat**ii* : NY ***kwet***

Andaqui *kwatii* ‘stone’ (Coronas Urzúa 1995: 88); <guatihi> ‘stone’ (Anonymous n.d.*a*; Anonymous n.d.*b*); <guatiye> ‘tail’ (Albis 1860-1861). **Nasa Yuwe** *kwet* ‘stone’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti**, **Pa** /kwet/ ‘stone’ (Nieves Oviedo (ed.) 1991: 230). **Notes**: Like *-hi* in *kinahi* ‘head’ and *-i* in Andaqui *sunai* ‘tongue’, final *-ii* in Andaqui *kwatii* ‘stone’ is probably a stem formative and does not belong to the root in question.

[10] The following abbreviations have been used for Nasa Yuwe dialects: Cal, Caldono; Mu, Munchique; Pa, Paniquitá; Ti, Tierradentro; To, Toribío.

[11] Even if ‘forehead’ and ‘face’ are not elongated body-parts, in the neighboring Chibchan family, for instance, terms for ‘forehead’ or ‘face’ may contain a stem-formative derived from the term for ‘stick, bone, tree’ (Proto-Chibchan *ka^{n}d- ~ *kat-, Pache 2018: 204-206), which is also used as a classifying morpheme for longish entities: compare, for instance, Térraba *bɔ́gɾɔ* ‘face’ (from *bɔ́* ‘fruit’, Constenla Umaña 2007: 237, 247) or Uw Cuwa *úbkara* ‘forehead’ (from *uba* ‘seed (of several fruits); kernel, fruit, eye, star’, Headland 1997: 206, 208).

4.1.5 ‘feminine’: A ***-kwa*** : NY ***-kwe***

Andaqui *-kwa* ‘feminine’, as in *sasiha**kwa*** ‘cousin.FEM’,[12] compare *sasihai* ‘cousin.MASC’ (Coronas Urzúa 1995: 93); <-gua> as in <szasejagua> ‘cousin.FEM’ (Anonymous n.d.*a*; Anonymous n.d.*b*), compare <szasejahe> ‘cousin.MASC’ (Anonymous n.d.*a*), <szasejahé> ‘cousin.MASC’ (Anonymous n.d.*b*). **Nasa Yuwe** *-kwe* ‘feminine’, a morpheme that seems to be attested in 1st and 2nd person pronouns: *ũʔ**kwe*** ‘I.FEM’, *ad^{j}* ‘I.MASC’, *iʔ**kwe*** ‘you.FEM’, *id^{j}* ‘you.MASC’ (Gerdel 2023); **Cal** /uʔ**kwe**/ ‘I.FEM’, /a^{ŋ}g^{j}/ ‘I.MASC’, /iʔ**kwe**/ ‘you.FEM’, /i^{ŋ}g^{j}/ ‘you.MASC’; **Mu** /ũʔ**kwe**/ ‘I.FEM’, /a^{n}d^{j}/ ‘I.MASC’, /iʔ**kwe**/ ‘you.FEM’, /i^{n}d^{j}/ ‘you.MASC’; **To** /uʔk/ ‘I.FEM’, /ãt^{j}/ ‘I.MASC’, /iʔk/ ‘you.FEM’, /i^{ŋ}d^{j}/ ‘you.MASC’; **Ti** /uʔ**kwe**/ ‘I.FEM’, /a^{ŋ}g^{j}/ ‘I.MASC’, /iʔ**kwe**/ ‘you.FEM’, /i^{ŋ}g^{j}/ ‘you.MASC’; **Pa** /u**kwa**/ ‘I.FEM’, /an^{j}/ ‘I.MASC’, /iʔ**kwa**/ ‘you.FEM’, /i^{ŋ}g^{j}/ ‘you.MASC’ (Nieves Oviedo (ed.) 1991: 225; 233). **Notes**: Compare also Nasa Yuwe /-kwe/ ‘diminutive’ (Diaz Montenegro 2019: 173; 271). A possible association of ‘feminine’ and ‘diminutive’ in Nasa Yuwe is discussed by Jung (2008: 133) and by Diaz Montenegro (2019: 623).

4.1.6 ‘to sleep’: A ***da*** : NY ***deh***

Andaqui *bũta* ‘to sleep’ (Coronas Urzua 1995: 102); *da*, *bonda* ‘to sleep’ (Adelaar & Muysken 2004: 140); <bondaza>, <daza> ‘sleep!’ (Anonymous n.d.*a*); <bondazá>, <dazá> ‘sleep!’ (Anonymous n.d.*b*). **Nasa Yuwe** *deh* ‘to lie down’ (Gerdel 2023); **Cal**, **Ti**, **Pa** /^{n}de^{h}/; **Mu** /^{n}deh/; **To** /^{n}dehia^{h}/ ‘to sleep’ (Nieves Oviedo (ed.) 1991: 229). **Notes**: To: Final /-ia^{h}/ in /^{n}dehia^{h}/ ‘to sleep’ is the infinitive ending. The verbs in the 18th-century Andaqui manuscripts are always given in the imperative, marked by the suffix <-za> (see Anonymous n.d.*a*, Anonymous n.d.*b*). The element *bũ-* in the Andaqui form may have a translocative meaning as suggested by the pairs <ji-> ‘to go’ versus <buji> ‘to go away’ (Anonymous n.d.*a*) and by the Andaqui construction shown in (1).

(1) <Quabuntahá> (Anonymous n.d.*a*, Anonymous n.d.*b*)
qua-bun-ta-ha
IMP-TRANSL-sleep-IMP
‘go to sleep’, ‘go and sleep’ (Spanish “Anda duerme!”)

4.1.7 ‘sand’ A ***mĩsa**ra* : NY ***muse***

Andaqui *mĩsara* ‘sand’ (Coronas Urzúa 1995: 89); <minzará> ‘sand’ (Anonymous n.d.*a*; Anonymous n.d.*b*). **Nasa Yuwe** *muse* ‘sand’ (Gerdel 2023); **Cal** /kwet muse/; **Mu** /kwetmuse/; **Ti**, **To** /muse/ ‘sand’; **Pa** no information available (Nieves Oviedo (ed.) 1991: 228). **Notes**: I tentatively propose that final *-ra* in Andaqui *mĩsara* ‘sand’ does not belong to the root originally; this ending may also occur in *sira* ‘ashes’ (cf. Coronas Urzúa 1995: 94). For /kwet/ in the Caldono and Munchique forms, see 4.1.4 above, *kwet* ‘stone’. The correspondence of Andaqui *ĩs* in *mĩsa* versus Nasa Yuwe *us* in *muse* requires further investigation; a similar correspondence occurs in Andaqui *nisĩ-* ‘to rain’ versus Nasa Yuwe *nus* ‘rain’, and in Andaqui *kisi-ku* ‘in the morning’ versus *kus* ‘night’ and is discussed in 6.1 below; my analysis of *-ku* as a separate morpheme is tentative.

[12] Abbreviations for grammatical morphemes, also used in glossing: FEM, feminine; IMP, imperative; INTR, intransitive; MASC, masculine; TRANSL, translocative.

4.1.8 ‘to take’/‘to buy’: A ***kwa****riĩ* : NY ***wej***

Andaqui *kwariĩ* ‘to take’ (Spanish “coger”, Coronas Urzúa 1995: 87); <caquanehé> ‘you took’ (Anonymous n.d.*a*; Anonymous n.d.*b*); <fieracuarejia> ‘take!’ (Spanish “coge”, Albis 1860-1861). **Nasa Yuwe** *wej* ‘to buy’ (Gerdel 2023); **Mu** *wej* ‘to buy’ (Diaz Montenegro 2019: 312); **Cal**, **To**, **Ti**, **Pa** no information available. **Notes:** The semantic equation ‘to take’/‘to buy’ occurs 63 times in the CLICS[3] database (Rzymski et al. 2019). I have no explanation for final *riĩ* in Andaqui *kwariĩ* ‘to take’. It remains to be established whether or not Andaqui *kwasimi-* ‘to steal’ (Coronas Urzúa 1995: 88) also belongs here.

4.1.9 ‘ear’: A ***sũkwa****i* : NY *thũʔwã*, ***thũʔwẽ***

Andaqui *sũkwai* ‘ear’ (Coronas Urzúa 1995: 95); <chunguahe> (Anonymous n.d.*a*); <chunguahé> (Anonymous n.d.*b*); <sunguajo> ‘ear’ (Albis 1860-1861). **Nasa Yuwe** *thũʔwã*, *thũʔwẽ* ‘ear’ (Gerdel 2023); **Cal** /tʰũwa/ ‘ear’; **Mu** /tʰũa/ ‘ear’; **To**, **Ti** /tʰũʔwe/ ‘ear’; **Pa** /thũʔwa/ ‘ear’ (Nieves Oviedo (ed.) 1991: 223). **Notes**: The final vowel varies between the different Nasa Yuwe dialects; the conditioning factors are unknown for the moment. Final *-i* in Andaqui *sũkwai* ‘ear’ is probably a stem formative, as in the examples discussed further above (4.1.1, 4.1.2, and others).

4.1.10 ‘(sweet) potato’: A ***kaka*** : NY ***kaʔka***, ***kaʔɣa***

Andaqui *kaka* ‘sweet potato’ (Coronas Urzúa 1995: 85); <kagá> (Anonymous n.d.*a*; Anonymous n.d.*b*). **Nasa Yuwe** *kaʔka*, *kaʔɣa* ‘potato’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti**, **Pa**: no information available. **Notes**: A related form also occurs in Cofán, a language isolate of the Colombia–Ecuador border area (ISO: con; Glottocode: cofa1242): *kõgɨ* ‘sweet potato’ (Borman 2023).

4.1.11 ‘cotton’: A ***kwakwa*** : NY ***kwakwa***

Andaqui *kwakwa* ‘cotton’ (Coronas Urzúa 1995: 88); <guaguahi> (Anonymous n.d.*a*; Anonymous n.d.*b*); <guaguana> (Albis 1860-1861). **Nasa Yuwe** *kwakwa* ‘cotton’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti**, **Pa** no information available.

4.1.12 ‘corn’/‘grain’: A *mi****kahi*** : NY ***khaβj***

Andaqui *mikahi* ‘roasted corn’ (Coronas Urzúa 1995: 89); <micaffi> (Anonymous n.d.*a*; Anonymous n.d.*b*); **Nasa Yuwe**: *khaβj* ‘grain’ (Gerdel 2023); **Cal**, **Mu**, **Ti**, **To**, **Pa**: no information available. **Notes**: The analysis of *mi-* as a prefix in the Andaqui form is based on Jolkesky (2016: 539). Andaqui *kahi* ‘corn’ seems to recur as *kai* in *hĩtikai* ‘empty corn cob’ (Spanish “tusa de maiz”, Coronas Urzúa 1995: 83) and in *kaihi* ‘porridge’ (Spanish “mazamorra”, ibid.: 85).

4.2 Misumalpan–Nasa Yuwe

This section presents and discusses Misumalpan forms with lookalikes in Nasa Yuwe, illustrating a recurrent correspondence between Misumalpan *a* and Nasa Yuwe {*e*, *eʰ*, *ẽ*, *ẽʔ*}. It deals with correspondences between Nasa Yuwe and forms that can be reconstructed for Proto-Misumalpan (4.2.1), Proto-Sumalpan (4.2.2), and between Nasa Yuwe forms and their

counterparts in Ulwa (4.2.3) and Miskito (4.2.4) which are the best documented Misumalpan languages. Further Misumalpan–Nasa Yuwe parallels are discussed in Appendix 2.

4.2.1 Proto-Misumalpan–Nasa Yuwe

This section presents and discusses Proto-Misumalpan reconstructions with lookalikes in Nasa Yuwe, illustrating a recurrent correspondence between Proto-Misumalpan *a* and Nasa Yuwe {*e*, *ẽ*, *ẽʔ*}. Table 12 gives a first overview of the forms in question.

Table 12: Proto-Misumalpan–Nasa Yuwe parallels illustrating a correspondence of Proto-Misumalpan *a* and Nasa Yuwe {*e*, *ẽ*, *ẽʔ*}

Set	English	Proto-Misumalpan[13]	Nasa Yuwe (Gerdel 2023)
4.2.1.1	‘yellow’	*lalah	*lem-lem*
4.2.1.2	‘green’	*saŋ	*ʦẽj*
4.2.1.3	‘red’	*pau	*beh*
4.2.1.4	‘to take’/‘to buy’	*wa	*wej*
4.2.1.5	‘to hear’	*wada	*wẽsẽʔh*
4.2.1.6	‘to fall’	*wakwa	*wete*

In what follows, the sets in question are discussed in more detail.

4.2.1.1 ‘yellow’: PM ***lalah** : NY ***lem-lem***

Misumalpan: PM *lalah ‘yellow’ (see Constenla Umaña 1987: 152);[14] **Cac** <maÿű> ‘yellow’ (Lehmann 1920: 619); **Mat** no information available; **May** *lalah-ni* ‘yellow’ (McLean Cornelio & Urbina Moncada 1995: 115); **Ul** *la:* ‘yellowish, yellowing, sallow, beige, dirty-white’ (Green 1999: 208), *lalah-ka* ‘yellow, ripe’ (ibid.: 210); **Mi** *lalah-ni* ‘yellow’ (Melgara Brown 2008: 27). **Nasa Yuwe** *lem-lem*, *lem* ‘yellow’ (Gerdel 2023); **Cal** /lem/ ‘yellow’; **Mu** /lem/, /sʲkiitʲ/ ‘yellow’; **To** /lem/, /sʲkiitʲ/ ‘yellow’; **Ti** /ʦʲkikʲ/ ‘yellow’; **Pa** /amariʌo/ ‘yellow’ (Nieves Oviedo (ed.) 1991: 233). **Notes**: The correspondence between Proto-Misumalpan zero and *h in *lalah ‘yellow’ and Nasa Yuwe /m/ in *lem-lem* must remain unexplained for the moment. In Gerdel (2023), ‘yellow’ is the only Nasa Yuwe color term with root reduplication. In Misumalpan, *-ka* and *-ni* occur in adjectives and do not belong to the roots in question. If the subgrouping of Misumalpan presented above, in Section 2.3, is correct, the distribution of these two morphemes (*-ni* in Mayangna and Miskito, which belong to different subgroups; *-ka* in Ulwa, which belongs to the same subgroup as Mayangna) implies that *-ka* is innovative, not *-ni*.

4.2.1.2 ‘green’: PM ***saŋ** : NY ***ʦẽj***

Misumalpan: PM *saŋ (Constenla Umaña 1987: 159); **Cac** <sáyu> ‘blue, green’ (Campbell 1975: 151), <sǻsaka> ‘green’ (Lehmann 1920: 619); **Mat** no information available; **May** *walalau bani* (McLean Cornelio & Urbina Moncada 1995: 147); **Ul** *saŋ-ka* ‘green, blue’

[13] Source: Constenla Umaña 1987, except for the Proto-Misumalpan forms 4.2.1.4 and 4.2.1.6 which also have a counterpart in Andaqui and have been reconstructed by the author.

[14] The following abbreviations have been used for names of Misumalpan languages: Cac, Cacaopera; Mat, Matagalpa; May, Mayangna; Mi, Misquito; PM, Proto-Misumalpan; PS, Proto-Sumalpan; Ul, Ulwa.

(Green 1999: 242); **Mi** *saŋ* ‘transparent, greenish, greenish, greenish, bluish, somewhat green or blue’ (Melgara Brown 2008: 407); *siak-ni, saŋ-ni* ‘green, blue’ (more frequently used for ‘green’, ibid.: 411). **Nasa Yuwe** *ʦẽj* ‘green’ (Gerdel 2023); **Cal** /sʲiᵐb ʦẽj/ ‘green’; **Mu** /ʦẽj/ ‘green’; **To** /ʦẽi/ ‘green’; **Ti** /ʦẽi/ ‘green’; **Pa** /ʦẽj/ ‘green’ (Nieves Oviedo (ed.) 1991: 224). **Notes:** It remains to be investigated whether or not the final velar nasal in Proto-Misumalpan *saŋ reflects vowel nasality in an earlier stage. Final *-j* in the Nasa Yuwe form must remain unexplained for the moment. Cac: Cacaopera <sáyu> ‘blue, green’ (Campbell 1975: 151) may be compared with Cacaopera <sáχū> ‘white’ (Lehmann 1920: 623), a form recorded some 50 years earlier. I have no explanation for the element <yu>; it may recur in Cacaopera <maÿú> ‘yellow’ (Lehmann 1920: 619). For Misumalpan *-ka* and *-ni* in adjectives, see the previous entry. May: *walalau,* attested in Mayangna *walalau bani* ‘green’, means ‘parrot’ (McLean Cornelio & Urbina Moncada 1995: 147).

4.2.1.3 ‘red’: PM ***paw** : NY ***beh***

Misumalpan: PM *paw ‘red’ (Constenla Umaña 1987: 158); **Cac** <lála> ‘red’ (Lehmann 1920: 618); **Mat** <pū> ‘red’ (Spanish “colorado”, Lehmann 1920: 601); **May** *pau-ni* ‘red’ (McLean Cornelio & Urbina Moncada 1995: 126); **Ul** *pau-ka* ‘red’ (Green 1999: 232); **Mis** *paw-ni* ‘red’ (Melgara Brown 2008: 204). **Nasa Yuwe** *beh* ‘red’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti** /ᵐbeʰ/ ‘red’; **Pa** /lem/ ‘red’ (Nieves Oviedo (ed.) 1991: 228). **Notes:** The terms for ‘red’ in Cacaopera (<lála>) and in Paniquitá (/lem/) are related to Proto-Misumalpan and Pre-Nasa Yuwe ‘yellow’, respectively (see 4.2.1.1 above). I have no explanation for final *w in the Proto-Misumalpan form and final *h* or zero (if *h* refers to vowel aspiration) in the Nasa Yuwe form. For Misumalpan *-ka* and *-ni* see 4.2.1.1 above.

4.2.1.4 ‘to take’/‘to buy’: PM ***wa** : NY ***wej***

Misumalpan: PM *wa ‘to pick up, take’, author’s reconstruction, based on reflexes in **May**, **Mi**, and **Ul**; **Cac** <kilḯs-ta-> ‘to buy’ (Lehmann 1920: 610); **Mat** no information available; **May** *wak-aihnin* ‘to pick up, lift or gather together things that have fallen or are scattered; to group together’ (McLean Cornelio & Urbina Moncada 1995: 147); **Ul** *wat-* ‘to catch, seize, hold, grasp, take’ (Green 1999: 280); **Mi** *wahb-aia* ‘to pick up or collect (from the ground), to gather something, to collect’ (Melgara Brown 2008: 463). **Nasa Yuwe** *wej* ‘to buy’ (Gerdel 2023); **Mu** *wej* ‘to buy’ (Diaz Montenegro 2019: 312); **Cal**, **To**, **Ti**, **Pa** no information available. **Notes:** The semantic equation ‘to pick up’/‘to buy’ occurs six times in the CLICS[3] database, ‘to take’/‘to buy’ occurs 63 times (Rzymski et al. 2019). I have no explanation for the root-final elements *t* (Ul), *k* (May), *hb* (Mi) and *j* (Nasa Yuwe), and their correspondences. May: The ending *-aihnin* is frequently attested in the Mayangna verbs presented in McLean Cornelio and Urbina Moncada (1995); *-nin* marks the infinitive (ibid.).

4.2.1.5 ‘to hear, listen’: PM ***wada** : NY ***wẽsẽʔh-***

Misumalpan: PM *wada ‘to hear’ (Spanish “oír”, Constenla Umaña 1987: 157); **Cac** <árra> ‘to hear’ (German “hören”, Lehmann 1920: 610); **Mat** no information available; **May** *dakanin* ‘to hear’ (McLean Cornelio & Urbina Moncada 1995: 98); **Ul** *dah* ‘to hear, listen to’ (Green 1999: 178); **Mi** *wal-aia* ‘to hear, listen, understand’ (Melgara Brown 2008: 467). **Nasa Yuwe** *wẽsẽʔh-* ‘to listen’ (Gerdel 2023); **Cal** /wẽseʰ/ ‘to hear’ (Spanish “oír”); **Mu** /wẽse-/ ‘to hear’ (Spanish “oír”); **To** /wẽseheya/ ‘to hear’ (Spanish “oír”); **Ti** /wẽseʔ/ ‘to hear’ (Spanish “oír”); **Pa** /wẽse/ ‘to hear’ (Spanish “oír”, Nieves Oviedo (ed.) 1991: 225). **Notes:** Mi: Final *-aia* is the infinitive ending (see Melgara Brown 2008: 6); To: Final /-eya/ is the infinitive ending.

I have no explanation for the apparent correspondence between Proto-Misumalpan zero and Nasa Yuwe *h* in this set.

4.2.1.6 ‘to fall’: PM ***wakwa** : NY ***wete-***

Misumalpan: PM *wakwa ‘to fall’, author’s reconstruction, based on reflexes in **Cac**, **Mi**, **Ul**; **Cac** <ŭaÿám> ‘to fall’ (Lehmann 1920: 609); **Mat** no information available; **May** *sahnin* ‘to collapse, to drop to the ground’ (McLean Cornelio & Urbina Moncada 1995: 77); **Ul** *wauh-* (stem: *wauhda*) ‘to fall’ (Green 1999: 280); **Mi** *wakw-*, *kauh-* ‘to fall’ (Melgara Brown 2008: 52). **Nasa Yuwe** *wete-* ‘to fall’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti**, **Pa** /wete/ ‘to fall’ (Nieves Oviedo (ed.) 1991: 223). **Notes:** Cac: The Proto-Misumalpan root, tentatively reconstructed here as *wakwa may contain a root *wa ‘to go’ (see Constenla Umaña 1987: 155). The formal similarity between *te* in Nasa Yuwe *wete* ‘to fall’ and the stem formative *-da* in Ulwa *wauhda* ‘to fall’ is probably fortuitous.

4.2.2 Proto-Sumalpan–Nasa Yuwe

This section presents and discusses Proto-Sumalpan reconstructions with lookalikes in Nasa Yuwe, reflecting a recurrent correspondence between Proto-Sumalpan *a* and Nasa Yuwe {*e*, *ẽ*}. Note that according to the sound laws established by Constenla Umaña (1987), Proto-Sumalpan *a in the examples shown in Table 13 should be a reflex of Proto-Misumalpan *a, if the forms in question ultimately derive from Proto-Misumalpan.

Table 13: Proto-Sumalpan–Nasa Yuwe parallels illustrating a correspondence of Proto-Sumalpan *a* and Nasa Yuwe {*e*, *ẽ*, *ã*}

Set		Proto-Sumalpan[15]	Nasa Yuwe (Gerdel 2023)
4.2.2.1	‘ear’	*tupal	*thũʔwã*, *thũʔwẽ*
4.2.2.2	‘to keep’/‘to hold’	*upak	*uwe*
4.2.2.3	‘blood’	*a	*ee*
4.2.2.4	‘woman’	*jwada	*wese-*

In what follows, the sets in question are discussed in more detail.

4.2.2.1 ‘ear’: PS ***tupal** : NY *thũʔwã*, ***thũʔwẽ***

Misumalpan: PS *tupal ‘ear’ (Constenla Umaña 1987: 157); **Cac** <tūpál-ma> ‘ear’ (Lehmann 1920: 620); **Mat** <topal-ke> ‘ear’ (Lehmann 1920: 599); **May** *tap* ‘ear’ (McLean Cornelio & Urbina Moncada 1995: 138); **Ul** *tapa* ‘ear, auricle of the ear’ (Green 1999: 255); **Mi** *kiama, alkaika* ‘ear’ (Melgara Brown 2008: 169). **Nasa Yuwe** *thũʔwã*, *thũʔwẽ* ‘ear’ (Gerdel 2023); **Cal** /tʰũwa/ ‘ear’; **Mu** /tʰũa/ ‘ear’; **To**, **Ti** /tʰũʔwe/ ‘ear’; **Pa** /tʰũʔwa/ ‘ear’ (Nieves Oviedo (ed.) 1991: 223). **Notes:** I have no explanation for the correspondence of final *-l* in PS *tupal ‘ear’ and zero in Nasa Yuwe. Cac, Mat: hyphenation by Lehmann (1920).

[15] Source: Constenla Umaña (1987), except for the Proto-Sumalpan form in 4.2.2.2 which has been reconstructed by the author.

4.2.2.2 ‘to keep’/‘to hold’: PS ***upak** : NY ***uwe***

Misumalpan: PS *upak ‘to keep’ (Spanish “guardar”);[16] **Cac** <ūpā́-> ‘keep, guard’ (German “aufbewahren, hüten”, Lehmann 1920: 609); <upā́-> ‘to seize, pick up’ (German “fassen, aufheben”, ibid.: 609); **Mat**, **May** no information available; **Ul** *apak* ‘to hoard, accumulate, store’ (Green 1999: 155); **Mi** *main kaik-aia* ‘to care for, watch over, guard’ (Melgara Brown 2008: 353). **Nasa Yuwe** *uwe-* ‘to hold’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti** /uwe/ ‘to hold’ (Spanish “sostener”); **Pa** /wẽ/ ‘to hold’ (Spanish “sostener”, Nieves Oviedo (ed.) 1991: 224). **Notes:** The semantic equation ‘to keep’/‘to hold’ occurs 59 times in the CLICS[3] database (Rzymski et al. 2019). I have no explanation for the correspondence of final *k* in *upak ‘to keep’ and zero in Nasa Yuwe *uwe-* ‘to hold’.

4.2.2.3 ‘blood’: PS ***a** : NY ***ee***

Misumalpan: PS *a (Constenla Umaña 1987: 158); **Cac** <arrú> (Lehmann 1920: 616); **Mat** no information available; **May** *a꞉* ‘blood’ (McLean Cornelio & Urbina Moncada 1995: 86); **Ul** *a꞉-was* (Green 1999: 162); **Mi** *tala* ‘blood’ (Melgara Brown 2008: 208). **Nasa Yuwe** *ee* ‘blood’ (Gerdel 2023); **Cal**, **Ti**, **Pa** /e꞉/ ‘blood’; **Mu**, **To** /e/ ‘blood’ (Nieves Oviedo (ed.) 1991: 221). **Notes:** Cac: <-rrú> is a stem formative and does not belong to the root (Constenla Umaña 1987: 158); Ul: The element *was* means ‘water’ (ibid.: 158).

4.2.2.4 ‘woman’: PS ***jwada** : NY ***wesa-***

Misumalpan: PS *jwada ‘woman’ (Constenla Umaña 1987: 156); **Cac** <ÿōŭā́ṛṛa> ‘woman’ (Lehmann 1920: 620); **Mat** <yuéiya> ‘woman’ (Lehmann 1920: 599); **May** *jal* ‘woman’ (McLean Cornelio & Urbina Moncada 1995: 154); **Ul** *jal* ‘woman, wife’ (Green 1999: 286); **Mi** *mairin* ‘woman’ (Melgara Brown 2008: 162). **Nasa Yuwe:** *wesa-kwẽ* ‘girl’ (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti**, **Pa**: no information available. **Notes:** Nasa Yuwe *-kwẽ* is a diminutive morpheme (cf. Diaz Montenegro 2019: 623). Given this diminutive suffix, I suggest that the original meaning of *wesa* in *wesa-kwẽ* ‘girl’ was ‘woman’. The root *wesa* alone is not attested in the Nasa Yuwe sources consulted here (Nieves Oviedo (ed.) 1992; Rojas Curieux 1998; Jung 2008; Gerdel 2023). The form *wesa-kwẽ* ‘girl’ is only attested in Gerdel (2023), hyphenation is also from Gerdel (2023). I have no explanation for the correspondence of initial *j- in Proto-Sumalpan *jwada ‘woman’ and zero in Nasa Yuwe *wesa-kwẽ* ‘girl’.

4.2.3 Ulwa–Nasa Yuwe

This section presents and discusses Ulwa forms with lookalikes in Nasa Yuwe, illustrating a recurrent correspondence between Ulwa *a* and Nasa Yuwe {*e*, *ẽ*}. Note that according to the sound changes postulated by Constenla Umaña (1987), the reflex of Proto-Misumalpan *a is *a in Ulwa.

[16] Author’s own Proto-Sumalpan reconstruction. Constenla Umaña (1987: 155) reconstructs Proto-Sumalpan *ubak, yet leaves Proto-Sumalpan *b unexplained. Considering the reflexes in single Sumalpan languages, the sound changes of Proto-Sumalpan discussed elsewhere in Constenla Umaña (1987), and considering the reflexes discussed in the previous entry (4.2.2.1), there is reason to reconstruct Proto-Sumalpan *b in the root ‘to keep’. Note that Constenla Umaña (1987: 135) does not reconstruct *p as a Proto-Misumalpan phoneme but that, if the form derives from Proto-Misumalpan, a possibility which cannot be excluded, Proto-Misumalpan *b / __*a should have a reflex *p in Proto-Sumalpan according to Constenla Umaña, not *b (ibid.: 136-137).

Table 14: Ulwa–Nasa Yuwe parallels illustrating a correspondence of Ulwa *a* and Nasa Yuwe {*e, ẽ*}

Set	English	Ulwa (Green 1999)	Nasa Yuwe (Diaz Montenegro 2019)
4.2.3.1	'to want'	*wal-*	*we^{n}d^{j}*
4.2.3.2	'tasty'	*walap*	*wẽt*
4.2.3.3	'locative'	*kau*	*k^{h}ẽ*

In what follows, the sets in question are discussed in a more detailed way.

4.2.3.1 'to want': Ul ***wal*** : NY ***wẽ^{n}d^{j}***

Misumalpan: Ul *wal* 'to seek, look, like, require, want, desire' (Green 1999: 275); **Cac**, **Mat** no information available; **May** *dukih atnin* 'to wish' (McLean Cornelio & Urbina Moncada 1995: 101); **Mi** *want* 'needed, desired, to want' (Melgara Brown 2008: 468). **Nasa Yuwe** *wẽhẽ-* 'to want, hunger' (Gerdel 2023); **Cal** /we^{n}d^{j}/ 'to want, desire' (Nieves Oviedo 1991: 24); **Mu** /wẽ^{n}d^{j}/ 'to want, desire' (Diaz Montenegro 2019: 181); **To**, **Ti**, **Pa** no information available. **Notes:** Miskito *want* 'needed, desired, to want' is most probably a borrowing from English and unrelated to the other forms discussed here.[17] Nasa Yuwe also has a desiderative marker /-wẽ/, /-wẽhẽ/ (Diaz Montenegro 2019: 367) which has been proposed to derive from /wẽ^{n}d^{j}/ 'to want, desire' (ibid.: 452). The form /wẽ^{n}d^{j}/ 'to want, desire' is not attested in Gerdel's (2023) data.

4.2.3.2 'tasty': Ul ***wal****ap* : NY ***wẽt***

Misumalpan: Ul *walap* 'smell (pleasant), flavor (pleasant)' (Green 1999: 275); **Cac**, **Mat** no information available; **May** *auhni* 'tasty' (McLean Cornelio & Urbina Moncada 1995: 90); **Mi** *kiːa* 'odor; fragrance; aroma; taste; smell' (Melgara Brown 2008: 311). **Nasa Yuwe** *wẽt puta-ˈsaa* 'fragrant, good smelling' (Gerdel 2023); **Cal**, **To**, **Ti**, **Pa**: no information available; **Mu** /wẽt/ 'tasty' (Spanish "sabroso", Diaz Montenegro 2019: 181). **Notes:** For Nasa Yuwe *wẽt puta-ˈsaa* 'fragrant, good smelling', compare *wẽt-wẽt* 'joyful, glad, happy', *puta-* 'to smell.INTR' (Gerdel 2023). I have no exaplanation for the correspondene of Ulwa *ap* in *walap* 'smell (pleasant), flavor (pleasant)' and Nasa Yuwe zero in *wẽt* 'tasty'.

4.2.3.3 'locative': Ul ***kau*** : NY ***k^{h}ẽ***

Misumalpan: Ul *kau* 'locative' (Green 1999: 83); **Cac**, **Mat**, **May** no information available; **Mi** *-ra* 'locative' (Salamanca 1988: 244). **Nasa Yuwe: Mu** *k^{h}ẽ* 'locative' (Diaz Montenegro 2019: 318); **Cal**, **To**, **Ti**, **Pa** no information available. **Notes:** Nasa Yuwe *k^{h}ẽ* 'locative' has been argued to be probably related to the verbs *k^{h}ẽ* 'to go down' and *k^{h}ẽw* 'to cross' (Diaz Montenegro 2019: 318).

4.2.4 Miskito–Nasa Yuwe

So far, there seem to be a few forms only that are exclusively shared by Nasa Yuwe and Miskito, compared with forms exclusively shared by Nasa Yuwe and languages of the Sumalpan branch only. Forms shared by Nasa Yuwe and Miskito are shown in Table 15.

[17] Compare also Miskito *laik* 'loving, liking, fondness, desire' (Melgara Brown 2008: 334), also a borrowing from English.

Table 15: Miskito–Nasa Yuwe parallels illustrating a correspondence of Miskito *a* and Nasa Yuwe {*e*, *e*^{h}, *a*, *a*^{ʔ}}

Set	**English**	**Miskito** (Melgara Brown 2008)	**Nasa Yuwe**[18]
4.2.4.1	'root'	*wakia*	*wet͡se*, *wat͡se*
4.2.4.2	'butterfly'	*sampapa*	*t͡smehme*
4.2.4.3	'infinitive'	*-aia*	*-ja*^{ʔ}
4.2.4.4	'reflexive'	*ai-*	*ja*^{ʔ}*-*

4.2.4.1 'root': Mi ***wakia*** : NY *wat͡se*, ***wet͡se***

Misumalpan: Mi *wakia* 'vein, root, nerve, ligament, strands, tendons' (Melgara Brown 2008: 466); **Cac**, **Mat**, **May** no information available; **Ul** *siwan* 'vein, root, nerve, ligament, strands, tendons' (Green 1999: 248). **Nasa Yuwe:** *wet͡se*, *wat͡se* 'root' (Gerdel 2023); **Cal**, **Mu**, **To**, **Ti**, **Pa** /wet͡se/ 'root' (Nieves Oviedo (ed.) 1991: 226).

4.2.4.2 'butterfly': Mi ***sampapa*** : NY ***t͡smehme***

Misumalpan: Mi *sampapa* 'butterfly, large moth' (Melgara Brown 2008: 406); **Cac**, **Mat** no information available; **May** *saihsaih* 'butterfly' (McLean Cornelio & Urbina Moncada 1995: 131); **Ul** *kubalamh* 'butterfly' (Green 1999: 203). **Nasa Yuwe** *t͡smehme* 'butterfly' (Gerdel 2023); **Cal**, **To**, **Ti**, **Pa** no information available; **Mu** /t͡sme^{h}me/ 'butterfly' (Rojas Curieux 1998: 81). **Notes**: Fernando de Carvalho (p.c.) points out that terms for 'butterfly' are notorious for being at least partially symbolic and that reduplication and labial consonants are often found in 'butterfly' terms in different languages, for instance, *wewe* (Mẽbêngôkre, a northern Jê language), *farfalla* (Italian), or *palan-palan* (Kali'na, a Cariban language). In the case of the Miskito and Nasa Yuwe terms, however, the reduplicated elements are only one part of the shared form in question and are preceded by an additional element *sam* in Miskito *sampapa* and *t͡s* in Nasa Yuwe *t͡sme*^{h}*me*.[19]

4.2.4.3 'infinitive': Mi ***-aia*** : NY ***-ja***^{ʔ}

Misumalpan: Mi *-aia* 'infinitive' (Melgara Brown 2008: 6); **Cac**, **Mat**: no information available; **May** *-nin* (McLean Cornelio & Urbina Moncada 1995); **Ul** *-na* 'infinitive' (Green 1999: 90). **Nasa Yuwe: Mu** *-ja*^{ʔ} 'infinitive' (Diaz Montenegro 2019: 183); **Cal**, **Ti**, **Pa**: no information available; **To** /-(e)ja/ 'infinitive' (see Nieves Oviedo (ed.) 1991: 221-233).

4.2.4.4 'reflexive': Mi ***ai-*** : NY ***ja***^{ʔ}***-***

Misumalpan: Mi *ai-* 'reflexive' (Salamanca 1988: 214); **Cac**, **Mat**, **May**: no information available; **Ul** *kal* 'reflexive' (Green 1999: 114). **Nasa Yuwe: Mu** *ja*^{ʔ}*-* 'reflexive, mediopassive' (Diaz Montenegro 2019: 516); **Cal**, **Ti**, **To**, **Pa**: no information available.

[18] Sources: Nasa Yuwe forms 4.2.4.1 and 4.2.4.2 from Gerdel (2023); Nasa Yuwe forms 4.2.4.3 and 4.2.4.4 from Diaz Montenegro (2019).

[19] The formal similarity with Barí (ISO code: mot) [sõmɛ̃ˈmɛ̀ɛ̀] 'butterfly' (Pache 2018: 66) needs further investigation. Barí is a Chibchan language of the Colombia–Venezuela border area.

4.3 Andaqui–Misumalpan

This section presents and discusses some Andaqui forms with lookalikes in Proto-Misumalpan, suggesting a recurrent correspondence between Andaqui *a* and Proto-Misumalpan *a, shown in Table 16.

Table 16: Proto-Misumalpan–Andaqui parallels illustrating a correspondence of Proto-Misumalpan *a* and Andaqui *a*.

Set	English	Proto-Misumalpan[20]	Andaqui (Coronas Urzúa 1995)
4.3.1	'to pick up'/'to take'	*wa	*kwariĩ*
4.3.2	'to fall'	*wakwa	*kwakakwa*
4.3.3	'flea'	*bida ~ *bila ~ *bisa	*bisatui*

Further Andaqui–Misumalpan parallels are discussed in Appendix 3.

4.3.1 'to pick up'/'to take': A ***kwa**riĩ* : PM ***wa**

Andaqui *kwariĩ* 'to take' (Spanish "coger", Coronas Urzúa 1995: 87); <caquanehé> 'you took' (Anonymous n.d.*a*, Anonymous n.d.*b*); <fieracuarejia> 'take' (Spanish "coge", Albis 1860-1861). **Misumalpan: PM** *wa 'to pick up, take', author's reconstruction, based on **May**, **Mi**, **Ul**; **Cac** <kilĺs-ta-> 'to buy' (Lehmann 1920: 610); **Mat** no information available; **May** *wak-aihnin* 'to pick up, lift or gather together things that have fallen or are scattered; to group together' (McLean Cornelio & Urbina Moncada 1995: 147); **Ul** *wat-* 'to catch, seize, hold, grasp, take' (Green 1999: 280); **Mi** *wahb-aia* 'to pick up or collect (from the ground); to gather something; to collect' (Melgara Brown 2008: 463). **Notes:** I have no explanation for final *riĩ* in Andaqui *kwariĩ* 'to take'. It remains to be established whether or not Andaqui *kwasimi-* 'to steal' (Coronas Urzúa 1995: 88) also belongs here. I have no explanation for the root-final elements *t* (Ul), *k* (May), *hb* (Mi) and *j* (Nasa Yuwe), and their correspondences. May: The ending *-aihnin* is frequently attested in the Mayangna verbs presented in McLean Cornelio and Urbina Moncada (1995); *-nin* is an infinitive morpheme (ibid.).

4.3.2 'to fall': A ***kwakakwa*** : PM ***wakwa**

Andaqui *kwakakwa-* 'to fall' (Coronas Urzúa 1995: 87); <guaca quazá> 'fall!' (Spanish "cáete", Anonymous n.d.*a*, Anonymous n.d.*b*). **Misumalpan: PM** *wakwa 'to fall', author's reconstruction, based on **Cac**, **Mi**, **Ul; Cac** <ŭaÿắm> 'to fall' (Lehmann 1920: 609); **Mat** no information available; **May** *sahnin* 'to collapse, to drop to the ground' (McLean Cornelio & Urbina Moncada 1995: 77); **Ul** *wauh-* (stem: *wauhda)* 'to fall' (Green 1999: 280); **Mi** *wakw-*, *kauh-* 'to fall' (Melgara Brown 2008: 52). **Notes:** It remains to be established whether or not the Proto-Misumalpan form contains a reflex of *wa 'to go' (see Constenla Umaña 1987: 155).

4.3.3 'flea': A ***bisatui*** : PM ***bida ~ *bila ~ *bisa**

Andaqui *bisatui* 'flea' (Coronas Urzúa 1995: 109); <biszatuhi> 'fleas' (Anonymous n.d.*a*, Anonymous n.d. *b*). **Misumalpan: PM** *bida ~ *bila ~ *bisa 'flea', author's reconstruction, based on **May**, **Mi**, **Ul**; **Cac** <parrás>, <pāsắṛṛ> 'flea' (Lehmann 1920: 617,

[20] Source: The Proto-Misumalpan forms have been reconstructed by the author.

621); **Mat** no information available; **May** *pisa* ‘flea’ (McLean Cornelio & Urbina Moncada 1995: 127), *bilap* ‘grass louse’ (Spanish “coloradilla”, ibid.: 95); **Ul** *pisa* ‘flea’ (Green 1999: 234), *bilap* ‘chigger (*Tunga penetrans*), grass louse’ (ibid.: 172), *birau* ‘chigoe, jigger flea (*Tunga penetrans*)’ (ibid.: 173); **Mi** *pisa* ‘flea’ (Melgara Brown 2008: 189). **Notes**: I have no explanation for final *-p* and *-u* in the May and Ul forms for ‘chigger’ and ‘grass louse’; these forms and *pisa* ‘flea’ may be doublets. According to the sound correspondences established by Constenla Umaña (1987), May and Ul *pisa* ‘flea’ could be borrowings from Miskito, given that the reflex of Proto-Misumalpan *b, if followed by a high vowel, is *b* in Sumalpan languages and *p* in Miskito (p. 139); this remains to be further investigated. The differences in the second, intervocalic consonants – *r* (< *d), *l* (< *l) or *s* (< *s), see Constenla Umaña (1987: 136-137) – do not allow it to reconstruct a single Proto-Misumalpan consonant from which these segments would derive. Sound symbolism may account for the variation between the liquids and the sibilant, and a thorough reconstruction of Proto-Misumalpan is needed for further assessment. Finally, *-tui* in Andaqui *bisatui* ‘flea’ does probably not belong to the root. For *-tui* in the Andaqui form, so far unexplained, compare also Andaqui *sãhinui* ‘scorpion’ (Coronas Urzúa 1995: 98), which may contain a related ending *-nui*, and *sũtihui* ‘tapir’, ending in *-hui*. These endings can possibly be split up further: final *-i* (<-i>, <-hi>) is a frequent ending in Andaqui animal terms (Moens 2023: 23). The consonants *t*, *n* and *h* may have an antihiatic function. Whether Andaqui *-u* in these animal terms can be compared with *-u* in Ulwa *birau* ‘chigger’, or to *-uh* in Miskito *birauh* ‘worm’ (Spanish “lombriz”, Melgara Brown 2008: 149), remains to be explored.

5. Interpretation

This paper has illustrated several correspondences of Nasa Yuwe {*e, ẽ, e^{h}, ẽ^{ʔ}*}, Andaqui *a*, Proto-Misumalpan *a, Proto-Sumalpan *a, Ulwa *a*, and Miskito *a*. As a brief summary of sorts, three forms showing sound correspondences discussed above are repeated in Table 17.

Table 17: Three parallels illustrating the correspondence of Proto-(Mi)sumalpan *a, Andaqui *a* and Nasa Yuwe {*e, ẽ*}

English	Proto-(Mi)sumalpan	Andaqui	Nasa Yuwe[21]
‘ear’	*tupal (PS)	*sũkwai*	*thũʔwẽ*
‘to pick up/to take/to buy’	*wa (PM)	*kwariĩ*	*wej*
‘to fall’	*wakwa (PM)	*kwakakwa*	*wete*

In some single instances, *a* in Andaqui, Proto-Sumalpan and Miskito also correspond to Nasa Yuwe {*a, a^{ʔ}, ã*}. In the case of Nasa Yuwe and Andaqui, the forms in question may be relatively recent borrowings, such as terms for ‘(sweet) potato’ (Andaqui *kaka*, Nasa Yuwe *kaʔka*, *kaʔɣa*), ‘cotton’ (Andaqui *kwakwa*, Nasa Yuwe *wawa*), or ‘maize’/‘grain’ (Andaqui *mi-kahi* ‘roasted corn’, Nasa Yuwe *khaβj* ‘grain’, Coronas Urzúa 1995; Gerdel 2023; see Section 4.1 above). The majority of lexical paralles, including in the domain of basic vocabulary items, show that Nasa Yuwe *e* and similar vowels (including plain, nasal, aspirated and nasal glottalized *e*) recurrently correspond to Misumalpan and/or Andaqui *a*. These vowel correspondences suggest that most probably, Nasa Yuwe is the innovative language in this

[21] Sources are: Constenla Umaña (1987) and author’s own reconstructions for Proto-Misumalpan; Coronas Urzúa (1995) for Andaqui and Gerdel (2023) for Nasa Yuwe.

case, and that in the (pre)history of Nasa Yuwe a change *a > *e* – and related vowels such as {*ẽ, ẽʔ, eʰ*} – occurred.[22] This observation is in line with the fact that Nasa Yuwe has some forms that have been recorded with both /a/, /ã/ and /e/, /ẽ/, such as *jat, jet* 'house', *thũʔwã, thũʔwẽ* 'ear', *ʧũhwa, ʧũhwe* 'pointed', *wãxʲ, wẽxʲ* 'tobacco', *watse, wetse*, 'root', *wãj, wẽj* 'to creep, to crawl' (Gerdel 2023). According to other sources (Nieves Oviedo (ed.) 1992), similar phenomena have been attested in observed dialects, some showing *a*, others *e*. The Nasa Yuwe change from *a > e*, may, in some cases, still be ongoing, as suggested by the variation shown above, for instance, in *jat, jet* 'house' (Gerdel 2023).

Both the Misumalpan and Andaqui vowel systems only have three articulation points and lack a vowel /e/, and it would be less economical to postulate a change *e > *a* to have occurred independently in (Pre-)Andaqui and (Pre-)Misumalpan. Also, there is no evidence from loanwords where *e* has been adapted as *a* in these two language groups (see Subsections 2.2 and 2.3 above). By contrast, it is more economical to postulate a single change from *a to *e* and related vowels to occur in one language only, namely Nasa Yuwe. The factors conditioning a split of *a into Nasa Yuwe *a* and *e* and their nasal, aspirated, glottalized and long counterparts still need to be determined. Finally, if all Nasa Yuwe /e/ and related vowels could eventually be shown to ultimately derive from Pre-Nasa Yuwe *a (and, possibly, its nasalized, glottalized and other counterparts), this would reduce the vowel inventory of Pre-Nasa Yuwe, resulting in a plain vowel inventory */a/, */i/, and */u/, with three articulation points only, moving the Pre-Nasa Yuwe vowel inventory closer to its counterparts in Andaqui (/a/, /ã/, /i/, /ĩ/, /u/, /ũ/) and Misumalpan (/a/, /i/, /u/). So far, this article has thus shown how a former state of affairs in a South American indigenous language, Nasa Yuwe in this case, can be reconstructed by comparison with other, not necessarily genealogically related or geographically close languages, such as, in this case, Andaqui from southwestern Colombia and the Misumalpan languages from Central America.

6. Outlook

Comparing the three language groups discussed here – Nasa Yuwe, Andaqui and Misumalpan – and reconstructing a partial, possibly relatively recent and sometimes ongoing sound change *a > *e* and similar vowels for Nasa Yuwe, several questions arise, which will be briefly discussed in this outlook section. The questions dealt with here arise directly from the data discussed above and should be addressed in detail in future studies.

6.1 Are there further sound changes in Nasa Yuwe that can be traced through juxtaposition of Nasa Yuwe with Misumalpan and Andaqui?

Some further sound changes in Nasa Yuwe may be traced through juxtaposition of this language with Misumalpan and Andaqui. A recurrent correspondence is that between Andaqui {*is, ĩs*} and Nasa Yuwe *us*. Some examples from Andaqui and Nasa Yuwe are shown in Table 18.

[22] What conditions the nasalization, aspiration and glottalization of vowels in Nasa Yuwe remains to be investigated in separate studies and is beyond the scope of this paper.

Table 18: Three parallels illustrating the correspondence of Andaqui {*is, ĩs*} and Nasa Yuwe *us*

English	Andaqui (Coronas Urzúa 1995)	Nasa Yuwe (Gerdel 2023)
'sand'	*mĩsa-ra*	*muse*
'rain'	*nisĩ-* 'to rain'	*nus* 'rain'
'morning'/'night', 'black'	*kisi-ku* 'in the morning'	*kus* 'night'[23]

A similar correspondence of Misumalpan *iC* and Nasa Yuwe *u(ʔ)C*, with *C* as a coronal consonant, is shown in Table 19. In Nasa Yuwe, the form in question often seems to be part of a doublet pair.

Table 19: Four parallels illustrating the correspondence of Misumalpan *iC* vs. Nasa Yuwe *u(ʔ)C*

English	Proto-Misumalpan, Proto-Sumalpan, Miskito[24]	Nasa Yuwe (Gerdel 2023)	
'wind', 'breath'	*win PM 'wind'	*wejxa* 'wind'	*ũũse* 'breath'
'new'	*bis PM 'new'[25]	-/-	*uʔse* 'new'
'worm', 'snake'	*bid PS 'worm' (no reflex in Miskito)	*wes* 'worm'	*ul* 'snake', *uʌ* 'worm'
'to cry'	*in-* Miskito 'to cry' (no reflex in Sumalpan)	*wej-* 'to shout, cry out'	*ũʔne-* 'to cry'

These examples suggest that Nasa Yuwe underwent a sound change and that Nasa Yuwe *u(ʔ)C* or *us* in Tables 18 and 19 is innovative whereas the Proto-Misumalpan and Andaqui forms are more conservative and document a former state of affairs.[26] The sound correspondence between Nasa Yuwe *u(ʔ)C* (with *C* as a coronal consonant) and Misumalpan *iC* or Andaqui *is*, shown in Tables 18 and 19, is not easy to bring in line with a recent borrowing scenario, given that there is no reason not to adopt Misumalpan and Andaqui *i* as *i* in Nasa Yuwe;[27] also, the sequence *is* is well attested in Nasa Yuwe as, for instance, in *isa* 'to count' and *kiis* 'to lift, raise' (Gerdel 2023).

[23] The semantic equation 'morning'/'night' is unexpected. A similar case may be attested in Aymara (ISO: aym; Glottocode: nucl1667, Aymaran language, central Andes) *aruma* 'night', *arumanti* 'morning'; the morpheme *-nti* has a meaning 'instrumental-comitative'. The meaning of Andaqui *-ku* in *kisiku* 'in the morning' is unknown.

[24] Sources: Proto-(Mi)sumalpan forms from Constenla Umaña (1987), except if indicated otherwise, Miskito form from Melgara Brown (2008).

[25] This form is only tentatively reconstructed here on the basis of Cacaopera <misinắn> 'new' (Lehmann 1920: 623), Ulwa *wisam* 'just now, recently' (Green 1999: 284) and Miskito *bisi* 'recently, some time ago' (Melgara Brown 2008: 272). If Constenla Umaña (1987) is right in stating that there is only *b, but not *p in Proto-Misumalpan, and that the reflex of *b is *p* in Miskito, Miskito *bisi* 'recently' must be a borrowing from a Sumalpan language.

[26] Considering Jolkesky's (2017) proposal of a remote genealogical connection between Nasa Yuwe and Zapotecan, it is interesting to compare the cases of Proto-Zapotecan *<nissa> 'water' : Nasa Yuwe *nus* 'rain' and of Proto-Zapotecan *<ke7sa> 'dust' : Nasa Yuwe *khuutʂ* 'ashes' (Kaufman 2016; Gerdel 2023).

[27] I am grateful to Fernando Carvalho for a discussion of this issue.

6.2 Do the lexical parallels discussed here help localize the homeland of Misumalpan, Nasa Yuwe, and Andaqui?

The parallels between Misumalpan, Nasa Yuwe, and Andaqui discussed in this paper raise the questions about possible, original homelands of the language groups in question, all the more since the Misumalpan area is geographically quite distant from southwestern Colombia, where Nasa Yuwe and Andaqui are/were spoken. For instance, the parallels discussed in this paper may reflect a homeland of Nasa Yuwe and Andaqui (or their ancestor language(s)) in the northwest (e.g., in Central America) or an origin or Pre-Proto-Misumalpan in the southeast (e.g., in northwestern South America).[28] If one maintains that Andaqui and Nasa Yuwe are genealogically unrelated, a southeastward migration of Pre-Andaqui and Pre-Nasa Yuwe has the disadvantage that this scenario is not very economical, with two ancestor languages moving. Another scenario, likewise quite uneconomical, would be that one of both South American languages (e.g., Pre-Nasa Yuwe) was a newcomer from the north and that the parallels with the other language (e.g., Andaqui) are the result of language contact in northwestern South America. By contrast, a northwestward migration of Pre-Proto-Misumalpan would imply that only one language migrated, that contact occurred in one area only (northwestern South America), and is a more economical and thus preferable scenario.

Further arguments for an original homeland of Pre-Proto-Misumalpan in northwestern South America are provided by the fact that besides with Andaqui and Nasa Yuwe, Misumalpan shares several non-basic vocabulary items with other languages of northwestern South America. A case in question is Cofán, a language isolate mentioned in 4.1 above and spoken in the Colombia–Ecuador border area, an area not too distant from the Nasa Yuwe and Andaqui areas. Some of these parallels are shown in Table 20.

Table 20: Lexical parallels of Misumalpan and Cofán

Set	English	Proto-(Mi)sumalpan[29]	Cofán (Borman 2023)
1	‘chili pepper’	*kuma (PM)	*kʰoma*
2	‘flea’	*bida ~ *bila ~ *bisa (PM)	*bĩʃi*
3	‘iron’	*jasama (PS)	*joʃaβa*
4	‘one’	*bas (PS)[30]	*ɸaʔe*
5	‘three’	<gŭatba>, <guatba> (Matagalpa)	*kʰoani- ɸaeʔ-kʰo*

Parallels in non-basic vocabulary such as those shown in Table 20, without further systematic correspondences in basic vocabulary items, are indicative of language contact; they do not suggest the existence of a (remote) genealogical relationship between Misumalpan languages and Cofán. Further lexical parallels of Misumalpan languages are found with other languages, all spoken in western South America. They are shown in Table 21. The asterisk

[28] In the context of his Zapotecan–Nasa Yuwe proposal, Jolkesky (2017: 60) suggests an original homeland of Pre-Proto-Zapotecan in northwestern South America rather than a Central or Mesoamerican homeland of Pre-Nasa Yuwe.

[29] Sources: Proto-Sumalpan and Proto-Misumalpan data from Constenla Umaña (1987), except in Sets 2 and 4, where the forms are reconstructed by the author.

[30] Reconstruction by the author, based on Ulwa *baːs* (Green 1999: 169), Matagalpa <bas> ‘one’ (Lehmann 1920).

indicates that the set in question has been previously discussed in Urban (2014), two asterisks indicate that it has been previously discussed by Adelaar & Pache (2022).

Table 21: Lexical parallels of Misumalpan with different languages of western South America (ISO and/or Glottolog codes in brackets if available)

Set	English	Misumalpan	South America
1	'salt'	<yabű̀la>, Matagalpa (Lehmann 1920: 600)	**jamuɾa* Proto-Kawapanan (Nikulin 2022: 4)
2	'earth'*	<durrú>, Cacaopera, <doyú>, Matagalpa (Lehmann 1920: 600; 614)	<dlurũm>, Colán, <durum>, Catacaos (Martínez Compañón 1782-90 [1985]); <dura> 'earth' Esmeraldeño (atac1235; Seler 1902: 55)
3	'fish'	Ulwa *bilam* (Green 1999: 171)	Movima (mzp; movi1243) *bi(:)law* (Haude 2006: 80-81); Otomaco <guiid> (otom1301; Rosenblat 1936 [1964]: 336); Panzaleo <pila> 'fish' (panz1235; Loukotka 1968: 246)
4	'worm', 'snake'**	Ulwa *bil* 'worm, snake' (Green 1999: 171)	Itonama (ito; iton1250) *biluwa* 'snake' (Key 2023); Mapudungun (arn; mapu1245) *piru* 'worm' and *filu* 'snake' (Augusta 1916: 48, 183); Otomaco <guiñea> 'worm' (Rosenblat 1936 [1964]: 340); Proto-Tucanoan *pidõ-rõ/pinõ-rõ 'anaconda' (Waltz & Wheeler 1972: 138)

A remarkable parallel shown in Table 21 is that between Ulwa *bilam* 'fish' and <pila> 'fish' in Panzaleo, also known as Latacunga or Quito, an extinct language of Ecuador, formerly spoken in the provinces of Cotopaxi, Pichincha, and Tunguragua (Loukotka 1968: 246). This language is classified as belonging to the "Páez group" by Loukotka (ibid.), however, without any further evidence discussed.[31] This and other lexical parallels between Misumalpan languages and languages of (north)western South America, illustrated in Table 21, likewise do not indicate a genealogical connection but rather suggest direct or, in the case of widespread *Wanderwörter* such as the terms for 'fish', 'worm', and 'snake', indirect language contact involving Proto-Misumalpan. Together with the lexical parallels discussed in Section 4 above, those shown in Table 20 and 21 also suggest an original homeland of Pre-Proto-Misumalpan in (north-)western South America. The exact point of time for an intercontinental migration reflected in the Misumalpan family, from northwestern South America to Central America and

[31] For a discussion of some toponyms of the Panzaleo area, see Floyd (2022).

presented here in terms of a working hypothesis, remains unknown. The migratory prehistory of western Central America suggests that it occurred before 800 AD, when Mesoamerican tribes migrated southwards, and before (Proto-)Misumalpan speakers migrated eastwards, to the Atlantic side of Central America (cf. Constenla Umaña 2002: 190). Such a northward migration into Central America and Mesoamerica is by no means an isolated phenomenon: On the eastern side of Central America, northwestward migrations are also reflected in the connection of the Chibchan language family with Macro-Jê languages (Pache 2018, 2023*a*) and by the presence of Arawakan and Carib-speaking groups of Lowland South American origin in the Caribbean. On the western side, influences from South America (e.g., Ecuador) in Central and Mesoamerica have been described in cultural terms, for metallurgy, shaft tombs and textiles (e.g., Meighan 1974; Hosler 1988; Anawalt 1992); for the Misumalpan area, possible cultural correlates with northwestern South America remain to be explored.

Finally, a relatively recent southward migration of Nasa Yuwe and Andaqui, from the Central American area, would be difficult to defend, given that both languages have some parallels in Otomaco–Taparitan, a small, extinct language family of the Venezuelian *Llanos*. Table 22 shows some correspondences of Nasa Yuwe with Otomaco.

Table 22: Some Nasa Yuwe–Otomaco lexical parallels

English	Nasa Yuwe (Gerdel 2023)	Otomaco (Rosenblat 1936 [1964])
‘fish’	*wed^{j}*	<guiid>
‘worm’/‘snake’	*wes* ‘snake’	<guiñea> ‘worm’
‘tobacco’	*wẽx^{j}*; *wãx^{j}*	<gui>, <güi>
‘plural’	*-weʔʃˊ* ‘plural’, e.g., in *iʔkweʔʃˊ* ‘you.PL’	<gui> ‘plural’ (attested in personal pronouns)

Among the lookalikes of Andaqui with Otomaco–Taparitan are those shown in Table 23.

Table 23: Some Andaqui–Otomaco lexical parallels

English	Andaqui (Coronas Urzúa 1995)	Otomaco (Rosenblat 1936 [1964])
‘ear’	*sũkwai*	<yumba>
‘to give’	*sãkwaa*	<yabo>
‘tongue’	*sunai*	<yonna>
‘mouth’/‘hole’	*suhii* ‘hole’	<yo> ‘mouth’

The Otomaco–Taparitan languages, in turn, likewise seem to be rooted in South America as suggested by several lexical parallels with Katembri, an extinct language isolate formerly spoken in the state of Bahía, in northeastern Brazil.[32]

[32]Otomaco–Taparita parallels with Katembri include: Katembri <ĩˈho> (B) ‘water, rain, wind’, Otomaco, Taparita <ía> ‘water’; K <iˈpɔ> ‘eye’ (B), O <ipã>, T <ipa> ‘forehead’; K <quifi> ‘hand’ (M), O <guibi>, T <g[u]epa> ‘arm’; K <miˈzã> ‘hand’ (B), T <meá> ‘hand, finger’; K <bebaˈia> ‘foot’ (B); <bebaá> ‘sole (of foot)’ (M), O <bavá> ‘leg’. An anonymous reviewer points out that some of the purported Katembri forms are clearly

In sum, all these additional parallels of Misumalpan, Nasa Yuwe, and Andaqui with other South American languages are in line with a geographic origin of all three language groups in South America.

Finally, I hasten to add that the inferences on linguistic migration made here refer to language only. Just as Portuguese and Spanish are Romance languages descended from Latin varieties and thus ostensibly have their original homeland in Lazio in Italy, this does not imply, of course, that Lazio is also the original homeland of all ancestors of native speakers of Portuguese, Spanish and other Romance languages. It goes without saying that the same lines of reasoning apply to the American indigenous languages discussed in this article, and we must carefully distinguish between the geographic origins of languages and peoples.

6.3 What are possible implications for the reconstruction of Proto-Misumalpan?

Further investigation of Nasa Yuwe, Andaqui and Misumalpan forms may also help to clarify matters in the Misumalpan family: As briefly mentioned in Subsection 2.3 above, the Miskito branch (represented by Miskito only) and the Sumalpan branch often diverge in their lexicon and it is difficult to know which of these two proposed branches innovated. In this context, Miskito or Sumalpan forms that have a parallel in Nasa Yuwe and/or Andaqui but no known cognate in the other branch of Misumalpan (Sumalpan or Miskito, respectively), may be considered to be inherited from Proto-Misumalpan under two scenarios: First, if the forms in question are borrowings and if the homeland of Proto-Misumalpan is northwestern South America indeed, this suggests that forms that can only be reconstructed for Proto-Sumalpan or only appear in one Misumalpan language, yet have a parallel in Nasa Yuwe and/or Andaqui, ultimately derive from Proto-Misumalpan, because it is neither plausible nor economical to postulate that both Proto-Misumalpan and, later, one of its daughter languages (Pre-Miskito or Proto-Sumalpan) both had contact, in South America, with Pre-Nasa Yuwe or Pre-Andaqui. Second, if the Misumalpan parallels in Nasa Yuwe and/or Andaqui reflect a genealogical connection between Misumalpan, Nasa Yuwe and/or Andaqui, forms that are only reflected in one Misumalpan branch or language yet have a counterpart in Nasa Yuwe and/or Andaqui must likewise be considered to have been present in Proto-Misumalpan and to have been lost in one branch at a later moment. That is, if Nasa Yuwe *thũʔwã*, *thũʔwẽ* ‘ear’ (Gerdel 2023) and Andaqui *sũkwai* ‘ear’ (Coronas Urzúa 1995: 95) have a parallel in Proto-Sumalpan, *tupal ‘ear’ (Constenla Umaña 1987: 157), but not in Miskito, where the word in question is *kiama* or *alkaika* (Melgara Brown 2008: 169), this suggests that the Miskito form is innovative, not the Proto-Sumalpan form, and that Proto-Sumalpan *tupal ‘ear’ derives, in fact, from a Proto-Misumalpan form for ‘ear’.

In this way, a comparison of the Misumalpan languages with the geographically distant Nasa Yuwe and Andaqui languages can also contribute to the study of Misumalpan and shed light on whether or not certain forms that are only attested in one of the two presumed main branches of Misumalpan can be traced back to Proto-Misumalpan.

6.4 Is there a genealogical connection between the three language families in question?

Questions of genealogical relationships between Andaqui, Misumalpan, and Nasa Yuwe, more or less implicitly or explicitly postulated by linguists in previous works (e.g., Rivet

representative of a Karirian language. The Otomaco–Taparitan forms are from Rosenblat (1936 [1964]) and presented in original orthography, Katembri forms are presented in the respective orthographies of Métraux (1952), and Bandeira (1972); these sources are indicated by (M) and (B), respectively. The parallels shown in this footnote were identified comparing a pool of some 150 Katembri forms with pools of some 350 Otomaco and 350 Taparita forms.

1924; Greenberg 1987), have intentionally remained open in this paper. A genealogical connection between Nasa Yuwe and Andaqui has been deemed possible in previous works already (e.g., Adelaar & Muysken 2004: 611) and is supported by the fact that the languages in question share, above all, several basic vocabulary items displaying recurrent sound correspondences (see Appendix 1). Also, sound correspondences attested in non-basic Nasa Yuwe and Andaqui vocabulary items seem to be somewhat different from those attested in Nasa Yuwe and Andaqui basic vocabulary: Andaqui *a* corresponds to Nasa Yuwe *a* or *a*$^{?}$ in the terms for 'cotton', 'sweet potato' and 'corn', that is, in terms for cultivated plants which are potential candidates for recent borrowings, whereas Andaqui *a* corresponds to Nasa Yuwe {*e*, *e*^{h}, *ẽ*} in shared basic vocabulary. Further evidence is provided by the observation that Andaqui has two distinct roots for the verb 'to come', *ju* and *kii* (Coronas Urzúa 1995: 112), the use of which depends on aspectual/tense notions and mood (Moens 2023: 44), and which has counterparts in Nasa Yuwe: /ju̯/- 'to come' (cf. Diaz Montenegro 2019: 136) and /kĩh/ 'to reach from above', Spanish "llegar desde arriba" 'to go down', Spanish "descender" (ibid.: 392; 401). Such a corresponding set may reflect a genealogical connection, too. Comparing the grammars of Nasa Yuwe (e.g., Diaz Montenegro 2019) and Andaqui (Moens 2023), only a few parallels can be found.[33] Yet, this negative evidence, according to an anonymous reviewer, is not necessarily a counterargument to the existence of a genealogical connection. This is all the more true as the Andaqui language is only relatively sparsely documented (see Moens 2023) and its grammar can only be partially compared with that of Nasa Yuwe.

The fact that the lexical parallels between Nasa Yuwe and Misumalpan are likewise from basic vocabulary suggests that there is room to hypothesize a genealogical connection between these two language groups, too. Yet, unless further evidence is found that helps to corroborate this hypothesis, Misumalpan–Nasa Yuwe must likewise remain what might be called a "dormant proposal". Recent borrowing as a source of parallels can at least be ruled out because of the geographical distance between the Misumalpan area and the area where Nasa Yuwe is spoken nowadays.

Given the transitive character of genealogical relationships (if language A is related to B, and if B is related to C, A is also related to C), and if it is possible to show a genealogical connection between Nasa Yuwe and Andaqui and between Nasa Yuwe and Misumalpan to everybody's satisfaction, this would also imply a genealogical connection between Misumalpan and Andaqui, a connection for which there is not much evidence.

As a matter of fact, demonstrating a relationship between language groups that are distributed in distant areas involves a certain paradox (Pache 2018: 545): there is a general tendency for languages that are related by contact or by a shared origin to be spoken in geographically close areas (e.g., Wichmann et al. 2010). Thus, the further apart the areas in which two languages are spoken, the more and better evidence would be necessary in order to make a connection between them plausible. However, the further apart the two areas in question are, the more time tends to have passed since the separation of the two ancestor languages in question; and the longer this time is, the more changes and lexical replacements may have taken place, blurring the possible evidence for a genealogical or contact connection. Thus, in order to demonstrate such a meaningful connection between two languages spoken in distant areas, more evidence would be needed, but less evidence is usually available (Pache 2018: 545). This paradox makes the Misumalpan–Andaqui–Nasa Yuwe case a tricky one: because both areas of distribution are distant, a connection is not plausible a priori, and better

[33] Among the few corresponding grammatical morphemes are, for instance, Andaki <ri-> and Nasa Yuwe *na*, both 'proximate demonstrative', or Andaqui <-zi> and Nasa Yuwe -*sa*, both deriving (headless) relative clauses. A major problem with grammatical morphemes is that they are very short, which makes it difficult to exclude chance similarities; so far, I could not identify any corresponding sets of grammatical morphemes in both languages.

evidence would be needed than if Misumalpan on the one hand and Nasa Yuwe and Andaqui on the other hand were spoken in contiguous areas.

There is no absolute threshold as to how many forms in which areas of the lexicon and grammatical morphemes must be shared in order to establish a genealogical link between two languages. But if a genealogical connection between the languages discussed here really exists, further search and the inclusion of additional data should reveal additional correspondence sets that also reflect the sound correspondences discussed here. Additionally, further investigation of the Misumalpan–Nasa Yuwe–Andaqui correspondences will also need to consider non-trivial scenarios such as language mixing, intertwining, and similar phenomena in order to explain the observed parallels. This is probably true not only for these three particular language groups, but also for several other cases in South America, where we can find numerous parallels between different languages – for instance, in the vocabulary, but not in grammar, or vice versa – and where no clear evidence of a genealogical relationship can be identified (cf., e.g., Jolkesky 2016, Pache 2023*b*). Future research will need to explore to what extent layering, creolization, mixing and intertwining play a role in the formation of indigenous South American languages in general, and can at least partly explain the remarkable linguistic diversity and diversification attested in this continent.

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Appendices

In Appendix 1 to 3, I provide some additional sets of parallels between the languages dealt with in this paper: Nasa Yuwe, Misumalpan and Andaqui, including sound correspondences. Seemingly non-matching segments are everything but unexpected in a comparison even of closely related languages, as illustrated in well-known instances such as English and German, or Spanish and French, where phenomena such as, for instance, mergers in one language have led to seemingly irregular sound correspondences in cognate forms.[34] Thanks to a much better documentation of Misumalpan languages and Nasa Yuwe, and, in particular, of their earlier stages, apparent inconsistencies in the correspondence sets may eventually be explained. A possible approach excluding chance as the only source of Misumalpan–Nasa Yuwe correspondences, but beyond the scope of this paper, would be to establish a baseline of how many and what kind of correspondences one might expect by chance between Misumalpan and Nasa Yuwe, and then show that the number of observed correspondences is significantly higher (cf., e.g., Oswalt 1970).

Appendix 1: Nasa Yuwe-Andaqui parallels

Table 24 below shows Nasa Yuwe–Andaqui parallels in the lexicon and grammatical morphemes. Sets that have first been published in another source are marked with one asterisk (Jolkesky 2016), two asterisks (Rivet 1924) and three asterisks (Adelaar & Muysken 2004). As discussed in the paper, some sets (e.g., Sets 19 to 21) probably reflect relatively recent borrowing, given that they show an Andaqui *a* : Nasa Yuwe {*a*, *aʔ*} correspondence, and given that these forms do not belong to basic vocabulary. Sets discussed in the main text of this paper are highlighted in grey. Morpheme analysis is mine, except if indicated otherwise, and preliminary.

Table 24: Sets of Andaqui–Nasa Yuwe lexical parallels

Set	English	Andaqui (Coronas Urzúa 1	Nasa Yuwe[35] 1995)
1	‘to sow’/‘to plant’*	*hu* ‘to sow’	*uh-* ‘to plant’
2	‘to come’	*ju*	*juh-*
3	‘puddle’/‘water’	*ju-hi* ‘puddle’	*juʔ* ‘water’
4	‘water’/‘lake’**	*hi-hi* ‘water’	*ĩkh wala* ‘lake’ (*wala* ‘large, big’)
5	‘ear’**	*sũkwa-i*	*thũʔwã, thũʔwẽ*
6	‘tongue’**	*suna-i*	*thune*
7	‘tail’*	*masĩ-kwa* ‘tail’	*mez* ‘tail’[36]

[34] Compare English *dear* [dɪə], *fear* [fɪə], *hear* [hɪə(ɹ)] with its German cognates *teuer* [ˈtɔɪ̯ɐ], *Ge**fahr*** [ɡəˈ**fa**:**ɐ̯**] (relevant parts in bold), *hör-* [ˈhø:ɐ̯], or English *nigh* [ˈnaɪ] and *high* [ˈhaɪ] with German *nah* [na:] and *hoch* [ho:x]. In French and Spanish, compare, for instance, French *bain* [bɛ̃], *main* [mɛ̃], *pain* [pɛ̃], *sein* [sɛ̃], *vin* [vɛ̃], with Spanish *baño* [ˈbaɲo], *mano* [ˈmano], *pan* [pan], *seno* [ˈseno], *vino* [ˈbino].

[35] Source: Nasa Yuwe data from Gerdel (2023), except if indicated otherwise.

[36] This term might be etymologically related to Nasa Yuwe *eʔs* ‘after, behind’ (cf. Gerdel 2023).

8	‘arm’/‘hand’**	*mĩ-kus-ua* ‘arm’[37]	*kuse* ‘hand’[38]
9	‘two’*	*n-ãsii-si*[39]	*eʔz*; *heʔz* ‘two’
10	‘stone’*	*kwat-ii*	*kwet*
11	‘head’/‘forehead’	*kina-hi* ‘head’	*knene* ‘forehead’
12	‘face’*	*ɣ̃ipi-na*	<dxi’p> (Diaz Montenegro 2019: 743)[40]
13	‘son’*	*ɣ̃i-kwa*	<dxikh> (Diaz Montenegro 2019: 313)[41]
14	‘sand’*	*mĩsa-ra* ‘sand’	*muse* ‘sand’
15	‘rain’	*nisĩ-* ‘to rain’	*nus* ‘rain’
16	‘morning’/‘night’, ‘black’	*kisi-ku* ‘in the morning’	*kus* ‘night’; *kʰũɣ̃* ‘black’
17	‘feminine’	*-kwa* ‘feminine’; e.g, *sasiha-kwa* ‘cousin (female)’ *sasiha-i* ‘cousin (male)’	*-kwe* in certain pronouns: *adʲ* (MASC); *ũʔkwe* (FEM) ‘I’; *idʲ* (MASC); *iʔkwe* (FEM) ‘you’
18	‘diminutive’**	*-kwa*, as possibly attested in *mikwai* ‘ocelot’ (compare *mihinai* ‘jaguar’)	*-kwe* ‘diminutive’
19	‘sweet potato’/‘potato’***	*kaka* ‘sweet potato’	*kaʔka*, *kaʔɣa* ‘potato’
20	‘cotton’**	*kwakwa*	*wawa*
21	‘grain’*	*mi-kahi* ‘roasted corn’[42]	*khaβj* ‘grain’

[37] Hyphenation is tentative and partly based on Rivet (1924: 101).
[38] Compare also *kuʔta* ‘arm’ in the Munchique variety (Diaz Montenegro 2019: 309).
[39] Hyphenation is tentative here and follows Jolkesky (2016).
[40] *dʲiʔp* (Gerdel 2023)
[41] *n-ɣ̃iʔk* ‘son’ (Gerdel 2023)
[42] Hyphenation is tentative and based on Jolkesky (2016: 539).

Table 25 illustrates the Ulwa–Nasa Yuwe sound correspondences found in the sets shown in Table 24.

Table 25: Andaqui–Nasa Yuwe sound correspondences from Table 24[43]

Set	Andaqui	Nasa Yuwe
19, 20, 21	*a*	*a, a^{ʔ}*
6, 7, 10, 11, 17, 18	*a*	*e*
5	*a*	*ã, ẽ*
9	*ã*	*e^{ʔ}*
4	*i*	*ĩ*
12, 13	*i*	*i, i^{ʔ}*
14, 15, 16	*ĩs, is*	*us*
5	*ũ*	*ũ^{ʔ}*
1, 2, 3, 8	*u*	*u, u^{ʔ}*
12	*p*	*p*
10	*t*	*t*
8, 11, 16, 19	*k*	*k*
21	*+k*	*#k^{h}*
4	*Ø#*	*k^{h}#*
10, 17, 18	*k^{w}*	*k^{w}*
20	*k^{w}*	*w*
7, 14	*m*	*m*
11, 15	*n*	*n*
5, 6	*s / __ {u, ũ}*	*t^{h} / __ {u, ũ^{ʔ}}*
7, 9	*s*	*z*
8, 14, 15, 16	*s*	*s*
1, 4	*#h*	*#Ø*
1, 2[44]	*Ø+*	*h+*
2, 3	*#j*	*#j*

[43] Symbols used: #, word boundary; +, morpheme boundary; Ø, zero.
[44] Alternatively, *h* refers to vowel aspiration in Sets 1 and 2.

Appendix 2: Nasa Yuwe-Misumalpan parallels

In order to illustrate regular sound correspondences between Nasa Yuwe and Misumalpan, I tentatively take a well-documented Misumalpan language as a proxy, given that only a few forms can be reconstructed for Proto-Misumalpan, and given that reconstructions can also be incorrect in some cases. The rationale behind this choice is the following: If the parallels between Pre-Nasa Yuwe and Proto-Misumalpan – be they due to contact or shared ancestry – are non-fortuitous and systematic, sound correspondences between the daughter languages (Nasa Yuwe and a Misumalpan language) should be systematic, too.[45] I will present Ulwa as a proxy here, given that among the languages of the Sumalpan branch, this language is particularly well documented. For the sake of transparency, the corresponding Proto-Sumalpan (PS) and Proto-Misumalpan (PM) forms, as far as available, are added in the last two columns of Table 26. Sets discussed in the main text of this paper are highlighted in grey.

Table 26: Sets of Ulwa–Nasa Yuwe lexical parallels

Set	English	Ulwa	Nasa Yuwe	PS	PM
1	'wind'	*wiŋ*	*wex^{j}a*	*win	*win
2	'fish'	*bilam*	*wed^{j}*	-/-	-/-
3	'worm'	*bil, biru*	*wes, uʌ́*	*bid	-/-
4	'just now'/'new'	*wisam*	*uʔse*	*bis	-/-
5	'woman'	*jal*	*wesa-kwẽ* 'girl'	*jwada	-/-
6	'to take'/'to buy'	*wat*	*wej*	*wa	*wa
7	'to fall'	*wauh, wauhda*	*wete*	*waw	*wakwa
8	'to want'	*wal*	*we^{n}d^{j}*	-/-	-/-
9	'tasty'	*walap*	*wẽt*	-/-	-/-
10	'locative'	*kau*	*k^{h}ẽ*	-/-	-/-
11	'blood'	*aː-was*	*ee*	*a	-/-
12	'red'	*pau-ka*	*beh*	*paw	*paw
13	'yellow'	*lalah-ka*	*lem-lem*	*lalah	*lalah
14	'green'	*saŋ-ka*	*ʦẽj*	*saŋ	*saŋ
15	'to hoard'/'to hold'	*apak*	*uwe*	*upak	-/-
16	'ear'	*tapa*	*thũʔwã, thũʔwẽ*	*tupal	-/-

Sources: Ulwa data from Green (1999), Nasa Yuwe data from Gerdel (2023), Proto-(Mi)sumalpan data from Constenla Umaña (1987).

[45] An example illustrating this principle in genealogically related languages is the regular correspondence between English #/d/ and French #/f/ (both from Proto-Indoeuropean *#d^{h}) in English *do* versus French *faire* 'to do', in *deer* versus French *fier* 'proud', or in *dust* versus French *fumée* 'smoke'. An example illustrating this principle in ancestor languages related by contact is the regular correspondence between the Basque and French rhotic in the Basque terms *gurutze* 'cross' and *liburu* 'book' versus French *croix* 'cross' and *livre* 'book'. In French, the terms in question derive from its ancestor language (Vulgar) Latin whereas in Basque, they were ultimately borrowed from Latin.

Table 27 illustrates the Ulwa–Nasa Yuwe sound correspondences found in the sets shown in Table 26.

Table 27: Nasa Yuwe–Ulwa sound correspondences from Table 26

Set	**Ulwa**	**Nasa Yuwe**
2, 4, 5, 6, 8, 11, 13	*a*	*e*
9, 14	*a*	*ẽ*
7, 10, 12	*au*	*e^{h}*, *e*, *ẽ*
1, 2, 3	*i*	*e*
15, 16	*apa*	*uwe, ũ^{ʔ}we*[46]
12	*p*	*b*
2, 3	*b*	*w*
1, 6, 7, 8, 9	*w*	*w*
16	*t*	*t^{h}*
6	*t*	*j*
10	*k*	*k^{h}*
9	*l*	*t*
2	*l*	*d^{j}*
8	*l*	*^{n}d^{j}*
3, 5	*l*	*s*
13	*l*	*l*
4	*s*	*s*
14	*s*	*ts*
13	*h*, *Ø*	*m*
7	*h*	*Ø*

[46] A similar correspondence of Nasa Yuwe *w* occurs in the case of Andaqui *hu-rapai* ‘lizard, caiman’ (Coronas Urzúa 1995: 84) versus Nasa Yuwe *lawetʃ* ‘lizard’ (Gerdel 2023).

Appendix 3: Andaqui-Misumalpan parallels

Table 28 below shows the Andaqui-Misumalpan lexical parallels identified by the author. It is remarkable that they are fewer than the parallels identified between Nasa Yuwe and Misumalpan. Sets discussed in the main text of the paper are highlighted in grey. Once more, Ulwa is taken as a proxy in the case of Misumalpan.

Table 28: Sets of Proto-Misumalpan–Andaqui lexical parallels

Set	English	Ulwa	Andaqui	PS	PM
1	'to catch'/'to take'	*wat*	*kwariĩ*	*wa	*wa
2	'to fall'	*wauhda*	*kwakakwa*	*waw	*wakwa
3	'flea'	*bilap, birau* '*Tunga penetrans*'	*bisatui*	*bida ~ bila	*bida ~ *bila ~ *bisa 'flea'
4	'water'/'to rain'	-/-	*nisĩ* 'to rain'	*li	*li 'water'
5	'to drink'	*di:*	*risi*	*di	*di
6	'ear'	*tapa*	*sũkwai*	*tupal	-/-

Sources: Ulwa data from Green (1999); Andaqui data from Coronas Urzúa (1995);
Proto-(Mi)sumalpan data from Constenla Umaña (1987), except in Sets 1 to 3 (reconstruction by the author).

Table 29 illustrates some Andaqui–Ulwa sound correspondences found in the sets shown in Table 28.

Table 29: Andaqui–Ulwa sound correspondences from Table 26

Set	Ulwa	Andaqui
1, 2, 3	*a*	*a*
3, 5	*i*, *i:*	*i*
6	*apa*	*ũkwa*
3	*b*	*b*
1, 2	*w*	*kw*
5	*d*	*r*

Appendix 4: Greenberg's 1987 Misumalpan–Nasa Yuwe parallels

Table 30 shows the Misumalpan–Nasa Yuwe lookalikes presented by Greenberg (1987).

Table 30: Greenberg's (1987) Misumalpan–Nasa Yuwe lookalikes

Set	English	Misumalpan	Nasa Yuwe
1	'bone' (109)	Miskito <dus>	<dith>, <dʲiʔtx>
2	'to burn' (115)	Sumu <buswi>	<apaz> 'to burn' (transitive)'[47]
3	'grandfather'/'adult' (117)	Miskito <dama> 'grandfather'	<tēē> 'adult'
4	'to see' (118)	Sumu, Ulua <tal>	<teng>
5	'to see'/'to appear' (118)	Cacaopera <bi> 'to see'	<βia> 'to appear'
6	'to dance'/'to sing' (119)	Miskito <nong> 'to dance'	<nemgaʔ> 'to sing'[48]
7	'skin' (119)	Cacaopera <k'uta> 'skin'	<kati> 'skin'
8	'tail' (120)	Ulua <umax-ka>, Sumu <mamaxne>	<menz>
9	'to untie'/'it is loose'	Miskito <lauks> 'to untie', Sumu <uluk-ta> 'to untie'	<lakjaʔ> 'it is loose'
10	'to bite'/'food' (193)	Sumu, Matagalpa <ka> 'to bite'	<koja> 'food'[49]
11	'to break' (198)	Miskito <kilkaja>	<kond> (Paez nd < *r)[50]
12	'to call' (201)	Miskito <paiu->	<paja>
13	'to wash'/'to caress, knead' (204)	Cacaopera <saka> 'to wash', Miskito <sik> 'to wash'	<søkak> 'to caress, knead'
14	'to cry' (209)	Miskito <ini>	<une>
15	'chest'/'liver' (240)	Sumu <pas> 'chest'	<meʔkʲ>, <meeki> 'liver'
16	'transitive'/'to make' (269)	Miskito <-ka> "ending for all transitive verbs"	<kɨ> 'to make'[51]

Page numbers of Greenberg (1987) are in brackets.

[47] *beh-* 'to burn (transitive)' (Gerdel 2021)
[48] *mem-* 'song', 'to sing.PFV' (Diaz Montenegro 2019: 435)
[49] *kuxʲa* 'soup' (Diaz Montenegro 2019: 170)
[50] <sxkade> 'to break (imperfective, transitive)' (Diaz Montenegro 2019: 687)
[51] *ka-* 'causative' (Diaz Montenegro 2019: 504)

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